Information Manager Administration Guide

Configuring and Administering Information Manager Applications

InQuira Version 8.1.2

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Contents

Preface About This Guide

This guide is intended for technical staff who are responsible for administration and configuration of InQuira Information Manager.

This preface includes information on:

- The general organization of this guide
- The support services available from InQuira Customer Support
- The available product documentation

Contacting InQuira

You can contact InQuira by mail, telephone, fax, and email.

Address:	851 Traeger Ave. Suite 125 San Bruno, CA 94066

Telephone:	(650) 246-5000
InQuira Customer Support Hotline:	(888) 947-8324 NOTE: See *InQuira Customer Support* on page 3 for more information on reporting incidents to InQuira Customer Support.
Fax:	(650) 264-5036
Email:	For sales information, send email to sales@inquira.com. For product support, send email to support@inquira.com.
World Wide Web:	Learn more about InQuira products, solutions, services, and support on the world wide web at: www.inquira.com.

InQuira Customer Support

InQuira Customer Support is available from 6:30 am to 4:30 pm PST, excluding InQuira holidays.

For Priority 1 incidents, such as when a production system hangs or crashes, or when continued use of the product is impossible, please use the support hotline: (888) 947-8324.

IMPORTANT: We accept Priority 1 requests only by telephone. We recommend that you send a follow-up email for Priority 1 requests after contacting InQuira Customer Support using the support hotline.

For Priority 2, 3, and 4 incidents, as described below, please contact InQuira Customer Support by email at: support@inquira.com.

Incident response times are determined by the following priority definitions:

Priority	Contact	Response Time	Definition
1	The InQuira Customer Support hotline: (888) 947-8324	1 business hour	A production system hangs or crashes, or continued use of the product is impossible.
2	support@inquira.com	8 business hours	The product is usable with major restrictions on functionality.
3	support@inquira.com	16 business hours	The product is usable with minor restrictions on functionality.
4	support@inquira.com	3 business days	You have a question or an enhancement request pertaining to the software or the documentation.

InQuira Product Documentation

InQuira documentation is available only to licensed users of our software products and may not be redistributed in any form without express permission from InQuira, Inc.

The InQuira documentation is available in PDF format. It is packaged in the `/docs` directory, within the `/inquira` directory, for example:

<InQuira_install_dir>/inquira/docs

NOTE: You need a PDF reader application installed on each processor on which you plan to view the InQuira product documentation. The Adobe Acrobat reader is available from Adobe Systems at: http://www.adobe.com.

Detailed information about each product document set is available in:

- *Intelligent Search Documentation* on page 5
- *Intelligent Search Analytics Documentation* on page 6
- *Information Manager Documentation* on page 7
- *Contact Center Documentation* on page 8

If you encounter a problem, need help using the documentation, or want to report an error in the content, please contact InQuira Customer Support as described in *InQuira Customer Support* on page 3.

If you need help obtaining InQuira product documentation, or want to obtain permission to redistribute a portion of the contents, please contact your InQuira account representative.

Intelligent Search Documentation

Intelligent Search is distributed with the following documentation.

Document	Number	Description
Intelligent Search Installation Guide	IS80-IG-00	This guide is intended for technical staff who are responsible for installing InQuira 8.1. It provides detailed information on installing InQuira 8.1 and configuring the application on a single processor using the Installation Configuration Environment facility.
Intelligent Search Administrator's Guide and Reference	IS80-CA-00	This guide is intended for system and application administrators who need to configure an InQuira 8.1 application in an enterprise environment. It describes InQuira 8.1 integration, development, configuration, and maintenance processes and tasks.
Intelligent Search Language Administration Guide	IS80-LA-00	This guide is intended for business users and subject matter experts who need to create and maintain the language processing elements of a InQuira 8.1 application using the System Manager. This book provides usage information about the System Manager, conceptual information about the InQuira 8.1 language objects, and task information about the process of managing the user experience provided by the InQuira 8.1 application.
Intelligent Search Tuning Guide	IS80-LD-00	This guide is intended for application developers who need to create and maintain advanced InQuira 8.1 language-processing elements using the Dictionary and other InQuira Language Workbench applications.
Optimizing InQuira Intelligent Search	IS80-AG-00	This guide is intended for application developers who need to implement InQuira 8.1 advanced features, including Personalized Navigation and Process Wizards.
Intelligent Search Application Developer’s Guide	IS80-API-00	This guide provides information about integrating and customizing the InQuira 8.1 Personalized Response User Interface.

Intelligent Search Language Reference	IS80-LRG-00	This guide is for language developers implementing InQuira 8.1 applications that utilize the intent libraries and advanced language processing functions. These guides are published as separate documents that provide reference information for each industry-specific intent library. Each reference also contains complete descriptions of InQuira Match Language and Variable Instantiation Language.
Intelligent Search User Interface Guide	IS80-UI-00	This guide is intended for application developers who need to customize the InQuira 8.1 Personalized Response User Interface, and integrate it with a production web application. It contains information about the elements and features of the User Interface, and provides guidelines for integrating it into an enterprise web architecture, customizing its appearance and functionality, and implementing various special features.

Intelligent Search Analytics Documentation

Intelligent Search Analytics is distributed with the following documentation.

Document	Number	Description
InQuira Analytics Installation Guide	IA80-IG-00	This guide is intended for technical staff who are responsible for installing Intelligent Search Analytics. It provides detailed information on installing and configuring the Intelligent Search Analytics product for use with an InQuira 8.1 application.
Analytics User Guide	IA80-CA-00	This guide is intended for systems and application administrators who need to configure the Intelligent Search and Information Manager Analytics components to report on InQuira 8.1 application performance.

Information Manager Documentation

InQuira Information Manager is distributed with the following documentation.

Document	Number	Description
Information Manager Installation Guide	IM80-IG-00	This guide is intended for technical staff who are responsible for installing InQuira Information Manager. It provides detailed information on installing and configuring the Information Manager product.
Information Manager Administration Guide	IM80-CA-00	This guide is intended for systems and application administrators who need to configure and administer an InQuira Information Manager application, and integrate it with an InQuira 8.1 application. It also contains information for general business users who need to use the Information Manager to create and manage content.
Information Manager Content Authoring Guide	IM80-AG-00	This guide is intended for technical staff who are responsible for authoring content in InQuira Information Manager. It provides detailed information on creating content and managing workflow tasks in the Information Manager console.
Information Manager Developer's Guide	IM80-WSR-00	This guide is intended for application developers who need to integrate Information Manager content, content category, and user and security functions with external applications. It contains reference information and examples for all packages, classes, methods, and interfaces of the Information Manager Web Services API.

Contact Center Documentation

The InQuira 8.1 contact center products are distributed with the following documentation.

Document	Number	Description
Contact Center Advisor Integration Guide	CA80-IG-00	This guide is intended for application developers and systems administrators who need to plan for and integrate the InQuira Contact Center Advisor with an InQuira application and a supported CRM application.
Intelligent Search Siebel Integration Guide	CAS80-IG-00	This guide is intended for application developers and systems administrators who need to plan for and integrate InQuira 8.1 with Siebel 7 Enterprise Applications using the Siebel Adapter for InQuira 8.1.

Screen and Text Representations

The product screens, screen text, and file contents depicted in the documentation are examples. We attempt to convey the product's appearance and functionality as accurately as possible; however, the actual product contents and displays may differ from the published examples.

References to World Wide Web Resources

For your convenience, we refer to Uniform Resource Locators (URLs) for resources published on the World Wide Web when appropriate. We attempt to provide accurate information; however, these resources are controlled by their respective owners and are therefore subject to change at any time.

Chapter 1 Introduction to InQuira Information Manager

InQuira Information Manager is a full-featured content management system that provides a workflow-driven content authoring, editing, review, and publishing environment to support the entire document lifecycle. It integrates easily with existing InQuira 8.1 applications to enable organizing and sharing of any type of enterprise information among contact center agents, partners, and customers.

Information Manager provides a central point of control for web content publishing that includes:

- A powerful document management framework to capture the business requirements of your document, including support for any document types, as well as feedback from end users
- Workflow processes that generate tasks and email notices to track the creation, management, and deployment of documents by various functional team members
- Role-based user security to control access to administrative and document management functions, and published web content
- Flexibility in document deployment and re-use, so that a single repository can publish to any number of sites, using many different presentation styles

Information Manager Content Management Components

Information Manager is designed to separate the logical requirements of creating and managing content from the physical requirements of formatting and presenting the information for end users.

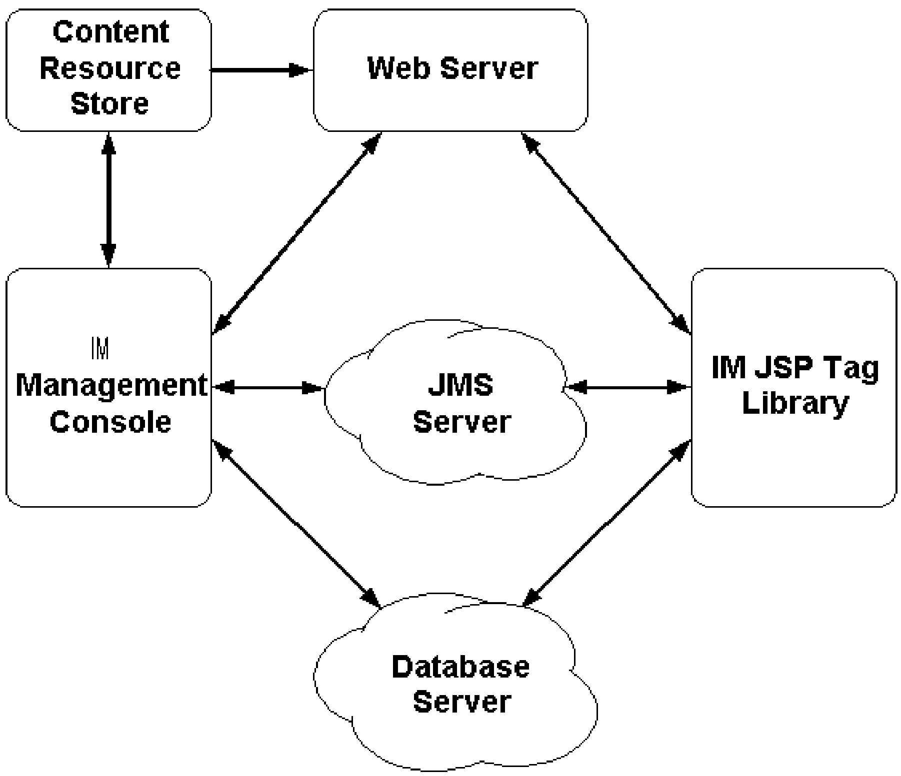
Information Manager's content management framework consists of a set of flexible objects and relations to address a wide variety of business publishing requirements:

Content Repositories	Repositories contain the content records (including translations), user and security information, workflow processes, and other information objects that you create for your application, as described in *Chapter 3, Content Repositories*.
Content Channels	Channels describe the various types of content (document types) used within the application, as described in *Chapter 5, Content Channels*.
Content Categories	Categories enable you to organize application content by any characteristic or business requirement, such as product and model, as described in *Chapter 4, Content Categories*.
Content Records	Content records are the individual documents that you publish. Each content record is of a particular type, for example customer support case or press release, which is defined by the channel in which it is created. See *Chapter 2, Working with Information Manager Content* in the *Information Manager Content Authoring Guide* for more information.
Users, Security Roles, and User Groups	Users, security roles, and user groups enable you to control access to administrative and content management functions as described in *Chapter 6, Managing Users*.
Workflow Processes	Workflow processes are sequences of steps, such as create, edit, translate, review, and approve, that you can define to enforce specific content management procedures for your organization as described in *Chapter 7, Workflow Processes*.

Tasks and Notifications	Information Manager's task management facility creates tasks based on workflow processes and other application events, and notifies authorized users of available tasks based on security role definitions. Authorized users can also assign tasks to other users. See *Chapter 3, Working with Tasks* in the *Information Manager Content Authoring Guide* for more information.

Information Manager Application Components

An Information Manager application uses the following components, which are installed and configured in the standard installation process. You can configure Information Manager components on a single server or distribute them throughout a network. The following diagram illustrates the relationships between the logical application components:



Component	Description

Java Messaging Server (JMS)	Information Manager uses a JMS server to publish database changes from the Management Console. JSP Tag Library applications are subscribers to the JMS changes. The JMS server can publish changes to multiple Information Manager applications in a network.
Information Manager Tag Library Web Applications	Information Manager uses a J2EE servlet container supporting Java 1.4.x JSP tag libraries to distribute Information Manager application content.
Web Server	You can integrate the web server for an Information Manager application into the servlet container or configure it as a standalone server. The web server is the only component that must be exposed to end users. The web server supports most servlet containers including Tomcat, WebLogic, WebSphere, Jboss, and JRun.
Information Manager Content Resource Store	The Information Manager Content Resource Store stores resources (files) that are attached to content records in the application. The content resource store is a directory on a file system that is accessible to the Management Console and the application web server. It can be located on the same server as the Management Console, or on a network file system. You can configure Information Manager to maintain separate staging and production resource stores. Resources can be served by separate web servers or configured to use resource caching services (such as Akamai). The content resource store stores XML versions of content records used for search indexing, and tracks all versions of content records and attached resources.
Management Console	The Management Console is a web-based user interface to all content creation and management functions. The Management Console can be replicated on multiple servers. Management Consoles publish changes to the JMS.
Database Server	The Information Manager database stores the Information Manager content management objects. The installation process automatically creates the required tables in a specified database.

Information Manager Web Services	Information Manager now provides an open set of web services to support adding and modifying content, content categories, and user information from external applications.

Chapter 2 Getting Started

The initial tasks performed by an administrator to install and configure Information Manager include:

- Install and configure the Information Manager, as described in the *Information Manager Installation Guide.*
- Log into the management console, as described in *Start the Management Console* on page 16.
- Configure a repository, as described in *Configuring a Demo Repository* on page 29.

The Management Console

The Information Manager installation and configuration process described in the *Information Manager Installation Guide* installs and configures the Management Console web application. The Management Console is the primary tool used to create and manage content and perform administrative tasks.

The Management Console provides facilities for administrative tasks such as:

- Creating repositories
- Registering web applications
- Defining and managing content channels and content categories
- Defining and managing workflow processes
- Specifying user roles and privileges

The Management Console also provides facilities for creating and managing the content pages, FAQs, forms, surveys, and other information that you publish on your site.

You can access the Management Console as an administrator, or as a general user, depending on your role within the organization. Initial access to the Management Console must be performed by an administrator as described in *Start the Management Console* on page 16.

IMPORTANT: The Management Console does not automatically save data as you edit fields. You must save your work by completing the edit process for the page. If you select a different task or navigate to another page prior to saving your work, you will lose any unsaved data.

Start the Management Console

The standard Information Manager installation process installs and configures an application server and starts the Information Manager application as a service. You can start the Management Console using the shortcut created by the standard installation process:

- Select **Start -> Programs -> InQuira_8.1 -> Information Manager**

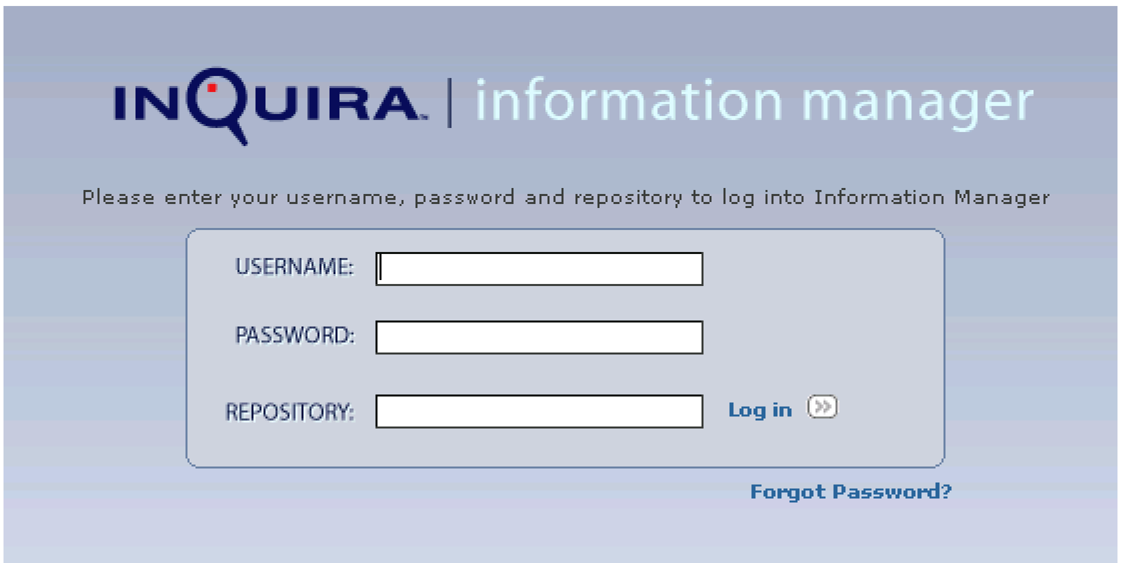
The Management Console opens in the local system's default browser. The default URL for the Management Console is:

http://<host_name>:<port>/InfoManager/WebObjects/InfoManager.woa

where:

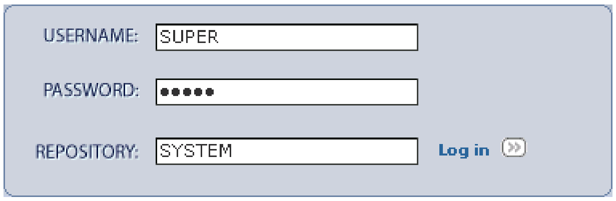
`host_name`	specifies the hostname for the system on which the application is installed, for example `localhost`, if applicable
`port`	specifies the port designated for the Management Console application during the installation process. The default is `8226`.

The Management Console login page displays:



Logging on as the Super User

To log onto the Management Console as the system-defined super user, specify the following:

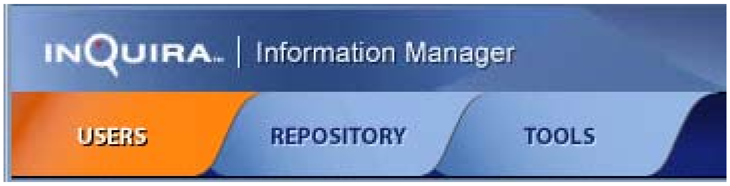


IMPORTANT: The login page fields are case-sensitive.

Field	Value
User Name:	Specify SUPER to log on as the system-defined super user, which has authority to access and execute all Management Console functions.
Password:	Specify the system-defined password for the super user, `admin`. IMPORTANT: We recommend that you change the password for this user immediately after logging in, as described in *Changing the Super User Password* on page 20.
Repository:	Specify the system-defined master repository, SYSTEM.

The SYSTEM Repository

When you are logged onto the SYSTEM repository as the SUPER user, the Management Console displays a navigation bar containing the following options:



Option	Description
Users	This option displays the **User and Security Management** page, which provides access to user management, user group, and security role functions. See *Chapter 6, Managing Users* for more information.
Repository	This option displays the **Repository Management** page, which provides access to repository and web site properties. See *Chapter 3, Content Repositories* for more information.
Tools	This option displays the **Administration** page, which provides access to advanced administrative functions and resources, including the full text search index, application log files, advanced configuration, and data import and export functions. See *Chapter 9, Tools Menu* for more information.

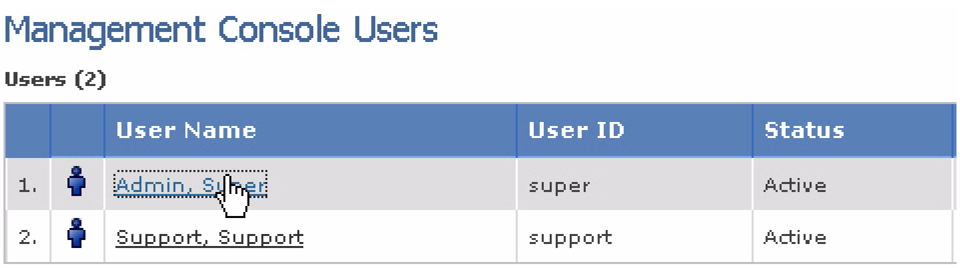
NOTE: The Management Console displays additional options when you are logged onto the repository created specifically for your organization as described in *An Administrator's View of a Content Repository* on page 22.

Changing the Super User Password

We recommend that you change the system-defined super user password immediately after logging onto the Management Console. To change the Administrator password:

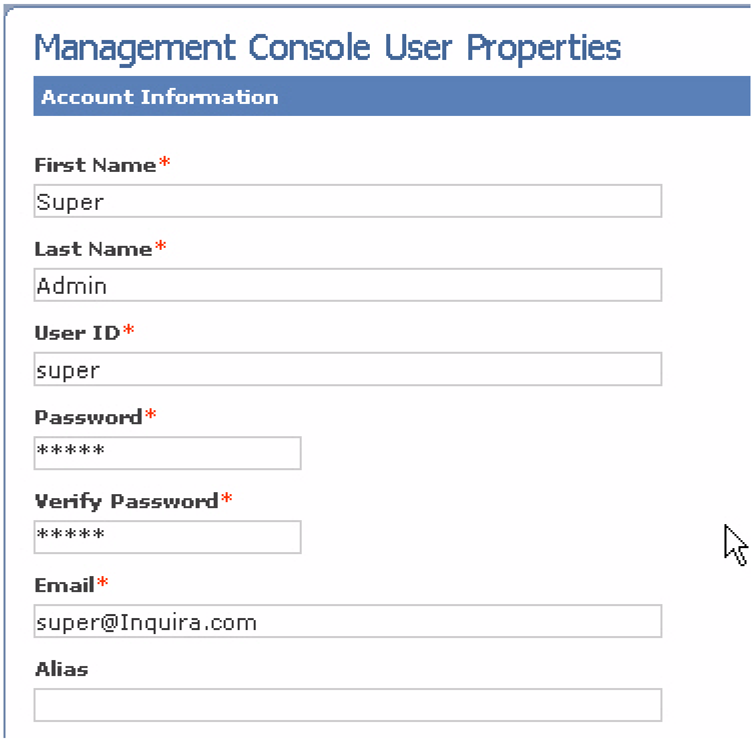
- Go to the Users Tab.
- Under Super Users, select **List**:

- Edit the Super Admin account:



The Management Console displays the Management Console User Properties page.

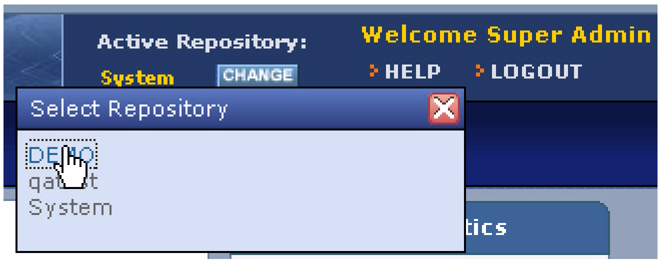
- Enter and verify the new password (retain the additional default settings as appropriate) and save your changes by selecting **Save User Properties**



NOTE: See Information Manager Users for more information on user account management functions.

An Administrator's View of a Content Repository

After you have created a content repository, as described in Creating Content Repositories, you can make the content repository the active repository by selecting **Change** in the upper right hand corner of the Information Manager page and then selecting the content repository:



When you have changed your active repository to a content repository, the Management Console display looks like that shown below for the Demo repository. The INBOX, SEARCH, CONTENT, and FEEDBACK pages are described in *An Author's View of the Management Console* in the *Information Manager Content Authoring Guide*. The focus of this guide is on the USERS, REPOSITORY, and TOOLS pages. This section provides a brief summary of the features on each page and directs you to the sections that describe how to use the features.

Option	Description
Inbox	This option displays the **Tasks** page, which displays available and assigned tasks, which are generated by the application in response to content creation, management, and delivery activities. See *Chapter 3, Working with Tasks* in the *Information Manager Content Authoring Guide* for more information.
Search	This option provides access to an optional configured Intelligent Search application that you can use to locate Information Manager content, as well as content from any other data sources configured for the Intelligent Search application. See *Searching for Content* in the *Information Manager Content Authoring Guide* for more information.

Content	This option displays the **Content** page, which provides access to content records, which are the units of content that you create, edit, approve, and publish. See *Chapter 2, Working with Information Manager Content* in the *Information Manager Content Authoring Guide* for more information.
Feedback	This option displays the **Collaboration and e-Marketing** page, which provides access to discussion forums, content ratings, FAQs and other collaborative and marketing features that you can create for your application as described in *Chapter 8, Feedback and Collaboration Features*.
Users	This option displays the **User and Security Management** page, which provides access to user management, user group, and security role functions. See *USERS Page* on page 24 for more information.
Repository	This option displays the **Repository Management** page, which provides access to repository and web site properties. See *REPOSITORY Page* on page 26 for more information.
Tools	This option displays the **Administration** page, which provides access to advanced administrative functions and resources, including the full text search index, application log files, advanced configuration, and data import and export functions. See *TOOLS Page* on page 27 for more information.

USERS Page

The USERS page enables you to control which users can access which content and perform which tasks in the repository. Repository users are discussed in Information Manager Users and User Groups, Security Roles and Views describes how the various user configuration parameters impact user access to content and tasks.

Below is a view of the USERS page for the Demo repository

The USERS page displays the following information:

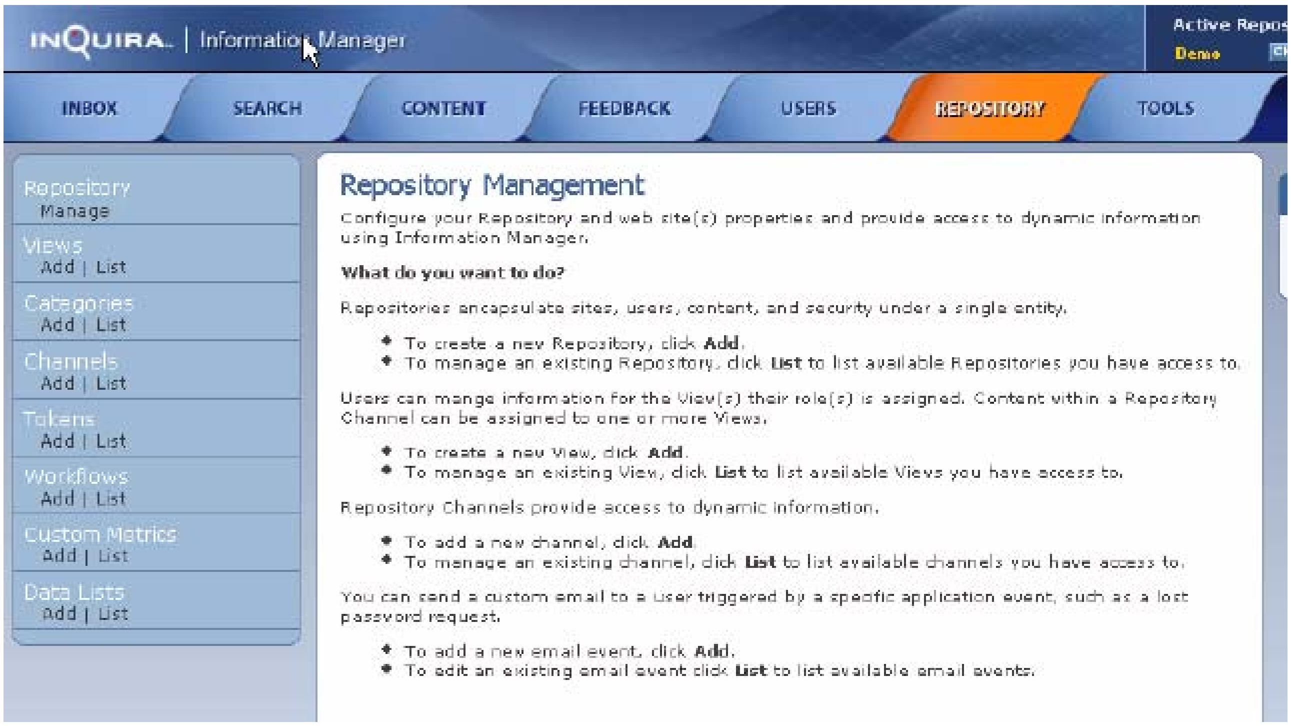
Console Users	Enables you to add, find, and list users who can view Information Manager documents in an Information Manager client; view, create and modify documents in the Information Manager repository; participate in workflows, and configure the Information Manager environment.Console users are assigned one or more console roles and views. See *Defining Management Console Users* on page 162 for more information.

Console Roles	Enables you to add, find, and list security roles for console users. Console roles assign document access through the Information Manager client for console users in the same manner a web role assigns document access for web users. A console role also assigns permissions to a console user for viewing, creating and modifying content in the Information Manager repository; participating in workflows, and configuring the Information Manager environment. See *About Console Roles* on page 143 for more information.
Web Users	Enables you to add, find, and list users who can view Information Manager documents in an Information Manager client. Web users are assigned one or more of web roles. See *Defining Web Users* on page 169 for more information.
Web Roles	Enables you to add, find, and list security roles for web users. A web role is basically a container for one or more user groups. A web user is assigned one or more web roles to control the content that can be viewed by that user through the Information Manager client. See *About Web Roles* on page 140 for more information.
User Groups	Enables you to add, find, and list user groups that control what documents can be viewed by a either a web or console user from the Information Manager client. When an Information Manager document is created, it is assigned to one or more user groups to control which groups of users can view the document in an Information Manager client. See *About Web Roles* on page 140 for examples.
Work Teams	Enables you to add, find, and list work teams to group task assignment and reporting by users organized into teams. See *Defining Work Teams* on page 177 for more information.
User Reputations	Enables you to add, find, and list user reputation models for the current repository. See *Configuring User Reputation Levels* on page 183 for more information.

REPOSITORY Page

The REPOSITORY page enables you to create and manage views, categories, channels, tokens, workflows, metrics and data lists for the active repository. See Content Repositories for more information.

Below is a view of the REPOSITORY page for the Demo repository



The REPOSITORY page displays the following information:

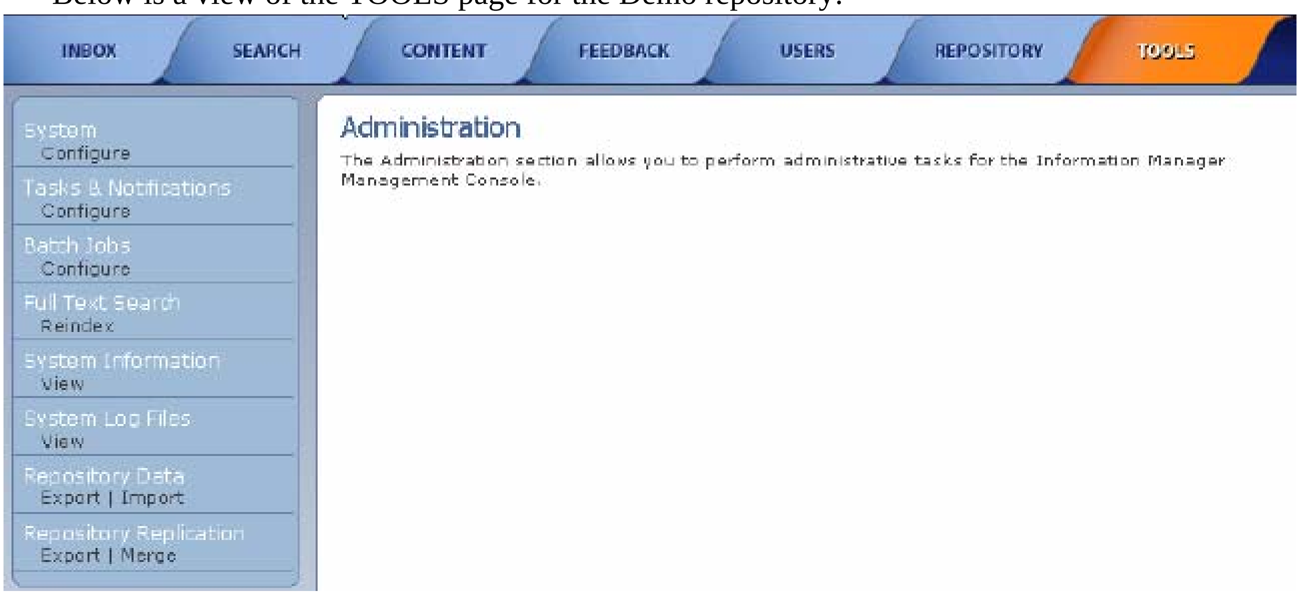
Repository	Enables you to modify the user and repository schemas, register web clients, and edit the properties of the active repository. See *Chapter 3, Content Repositories* for more information.
Views	Enables you to add and list the console views that can be assigned to a console user. See *About Views* on page 141 for more information.
Categories	Enables you to add and list the categories that can be assigned to content and users. See *Chapter 4, Content Categories* for more information.
Channels	Enables you to add new channels to the repository and list the existing channels. See *Chapter 5, Content Channels* for more information.

Tokens	Enables you to add and list replacement tokens that represent a standard term or other reusable content. See *Defining Replacement Tokens* on page 72 for more information.
Workflows	Enables you to add and list workflow processes that manage publishing lifecycles for records in this content channel. See *Chapter 7, Workflow Processes* for more information.
Custom Metrics	Enables you to add and list custom metrics within a repository to track specific activity associated with content records. See *Defining Custom Metrics for a Repository* on page 76 for more information.
Data Lists	Enables you to add and list data lists of consistent data items for common user choices. See *Defining Data Lists* on page 78 for more information.

TOOLS Page

The TOOLS page allows you to configure system parameters, tasks and notifications, batch jobs, search parameters; view system and log information, and export, import and merge repository data. See Tools Menu for more information.

Below is a view of the TOOLS page for the Demo repository:



The TOOLS page displays the following information:

System	Enables you to configure: • The default methods and locations for storing and accessing Information Manager content as described in Configuring Content Resource Access and Storage • LDAP (external security) integration as described in Integrating Information Manager with External LDAP Security • The default email settings as described in Managing Email Settings • The default paths to sample site templates and code as described in Code Generation Configuration • The location of a InQuira 8.1 application to use for search within your Information Manager application as described in Integrating an Intelligent Search Application
Tasks & Notifications	Enables you to view, enable or disable, and edit notifications for the tasks that Information Manager can generate as described in *Configuring Tasks and Task Notifications* on page 292.
Batch Jobs	Enables you to define, modify, and view batch jobs for the application repository, as described in *Scheduling Batch Jobs* on page 297.
Full Text Search	Enables you to index the content channel or forms data within an application repository to rebuild damaged or corrupted indexes, if necessary. See *Indexing Data for Full Text Search* on page 242 for more information.
System Information	Enables you to view detailed information about the Information Manager system.
System Log Files	Enables you to locate, view, and download application log files for use in diagnosing problems. See *Viewing and Downloading Log Files* on page 245 for more information.
Repository Data	Enables you to import and export data to and from the repository, as described in *Chapter 10, Importing and Exporting Data*.

Repository Replication	Enables you to back up and restore the repository data while maintaining its data relationships from the same or another instance of Information Manager. See *Backing Up and Restoring Information Manager Data* on page 341 for more information.

Configuring a Demo Repository

This section walks through the basic steps for creating a repository and populating it with a channel, categories, users, and a workflow. The procedures in this section step you through the basic Information Manager configuration procedures to help you gain hands-on experience setting up the Information Manager environment. The following chapters in this guide provide more detail on each configuration procedure.

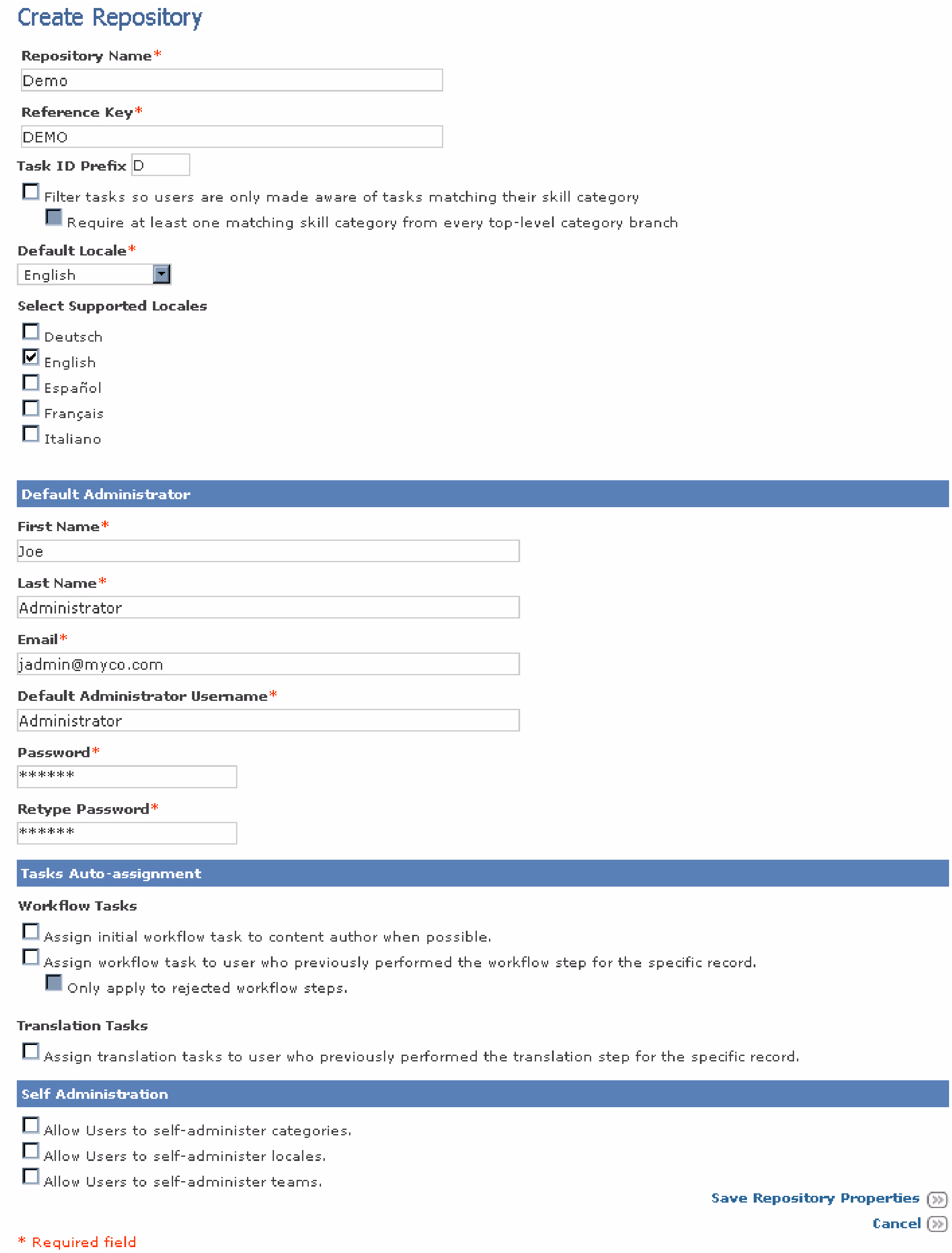
The procedures described in this section are:

Create a Repository

While logged in as Super to the System repository, create a new content repository called Demo:

- Select **Repository** from the navigation area. The Management Console displays the Repository Management page.
- Select the **Add** option under Repositories:

The Management Console displays the Create Repository page. Specify the Demo repository properties in a manner similar to that shown below:

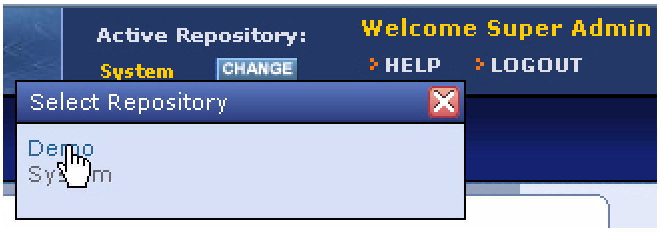


See *Chapter 3, Content Repositories* for more information on creating repositories.

Create a Channel

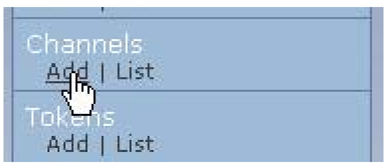
After creating the Demo repository, create a content channel, named Solutions, in the Demo repository.

- Select Active Repository **Change** in the upper right-hand portion of the screen and pick **Demo** from the drop-down menu:

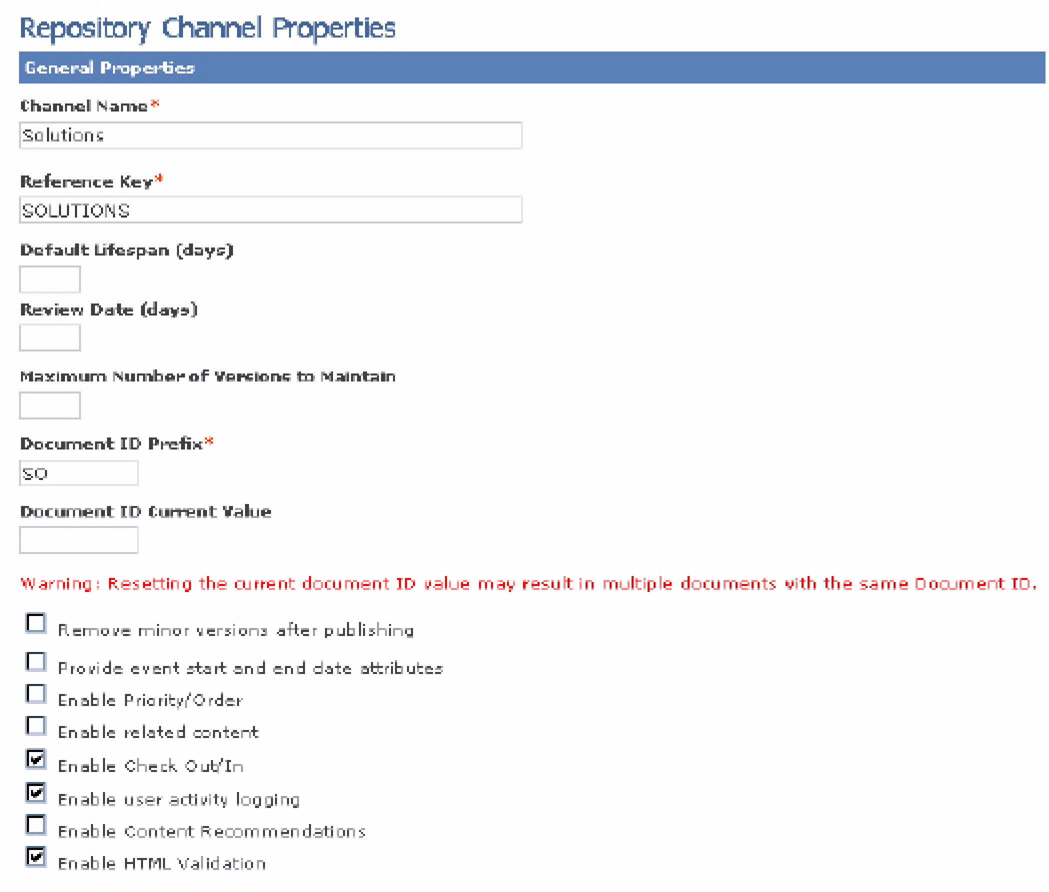


- Select **Repository** from the navigation area:

- Select the **Add** option under Channels:



The Management Console displays the Repository Channel Properties page. Specify the Solutions channel properties in a manner similar to that shown below:



Maintain the default settings for the rest of the fields until you get to the **Security Role Privileges** and configure as shown below:

Select **Save Channel Properties** to create the channel.

See *Chapter 5, Content Channels* for more information on creating content channels.

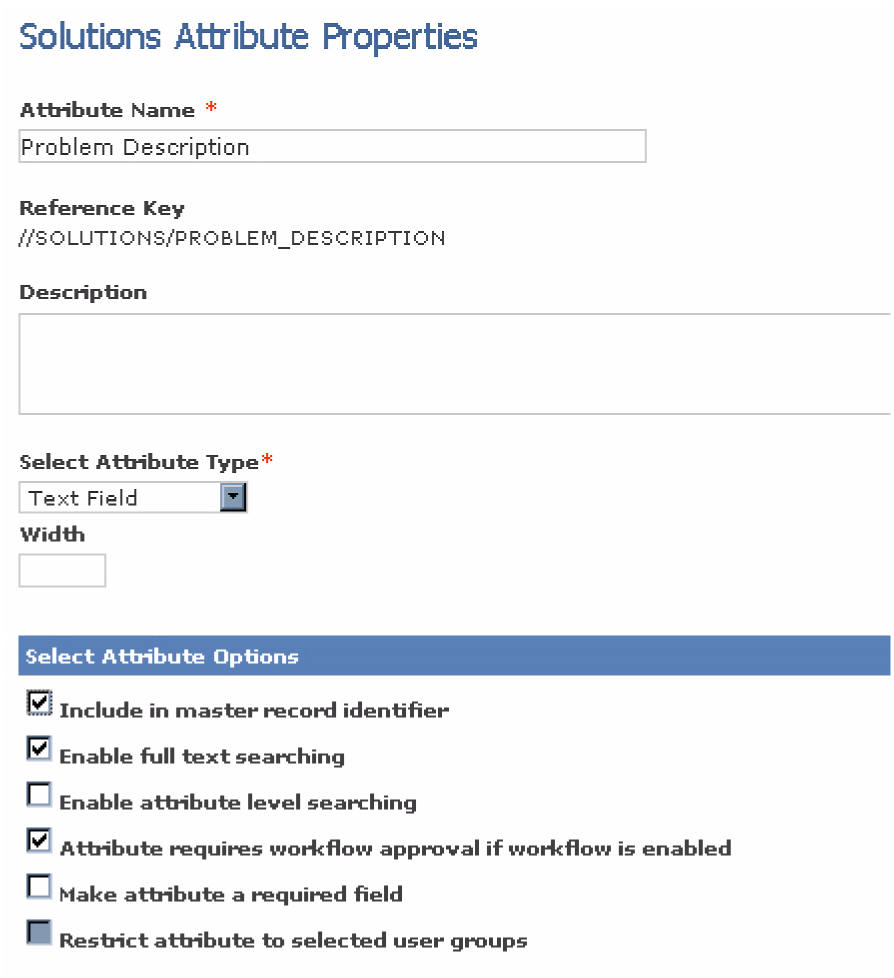
Configure the Channel Schema

After creating the Solutions channel, configure the channel's schema to define the look and feel of the channels authoring page.

- Select the Solutions channel **Schema** option:

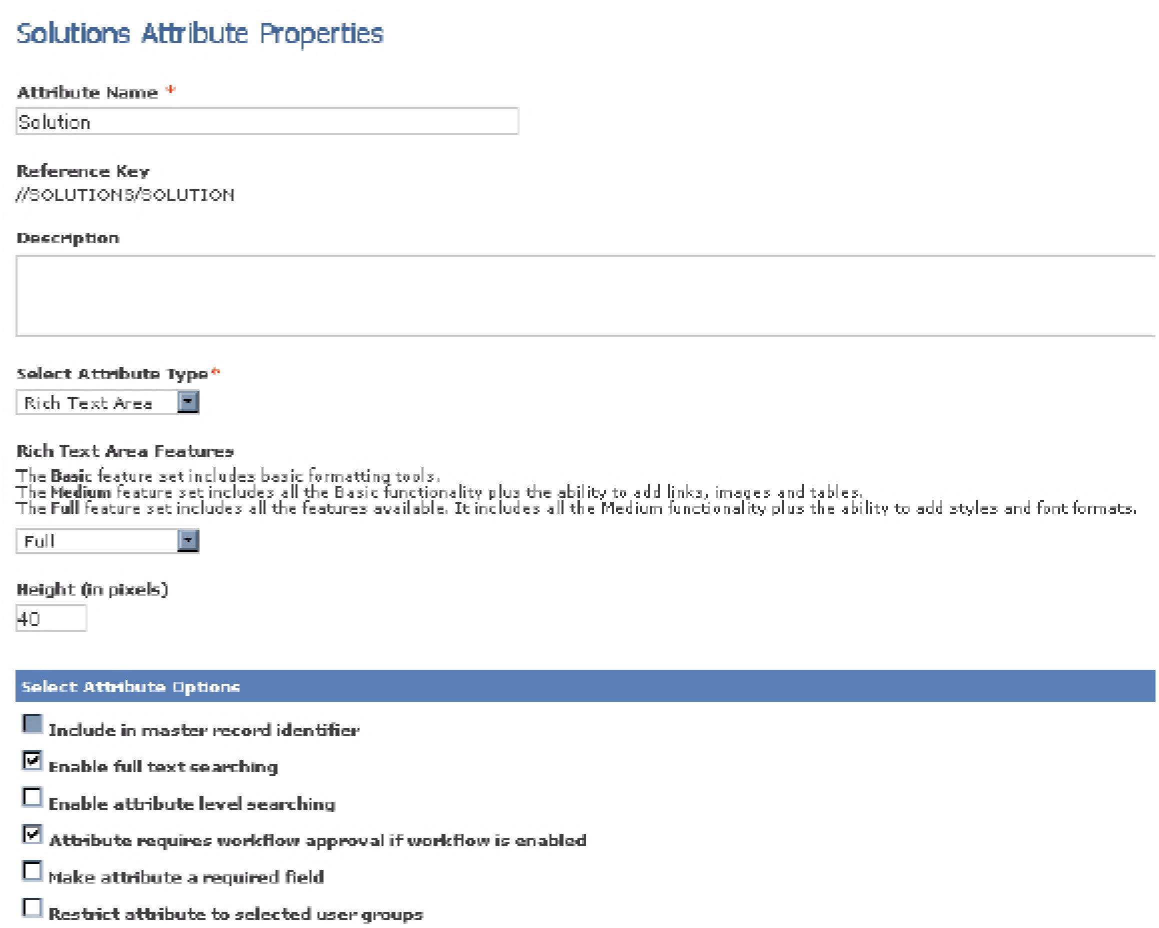
- Select **Add Attribute** in the Schema Properties page:

- Define a new attribute, named 'Problem Description,' set the attribute type to Text Field, and select the **Include in master record identifier** option:



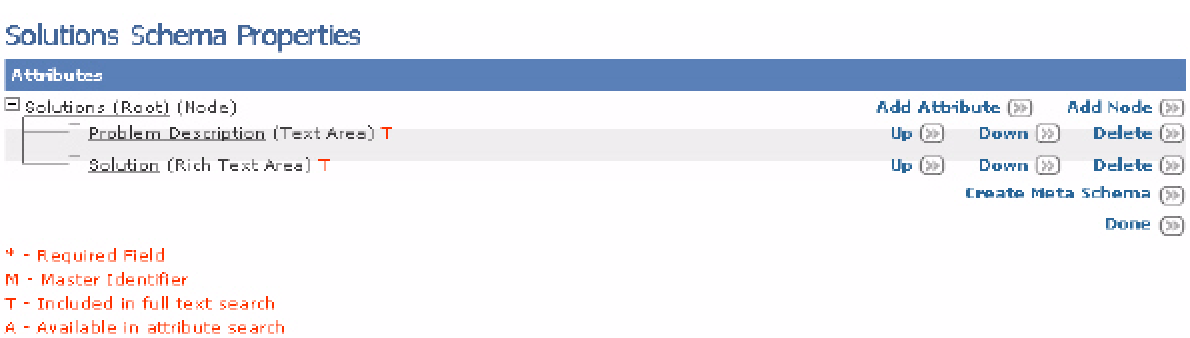
- Select **Save Attribute Properties** to save the attribute.

- Define another attribute, named 'Solution,' and set the attribute type to **Rich Text Area** with **Full** features:



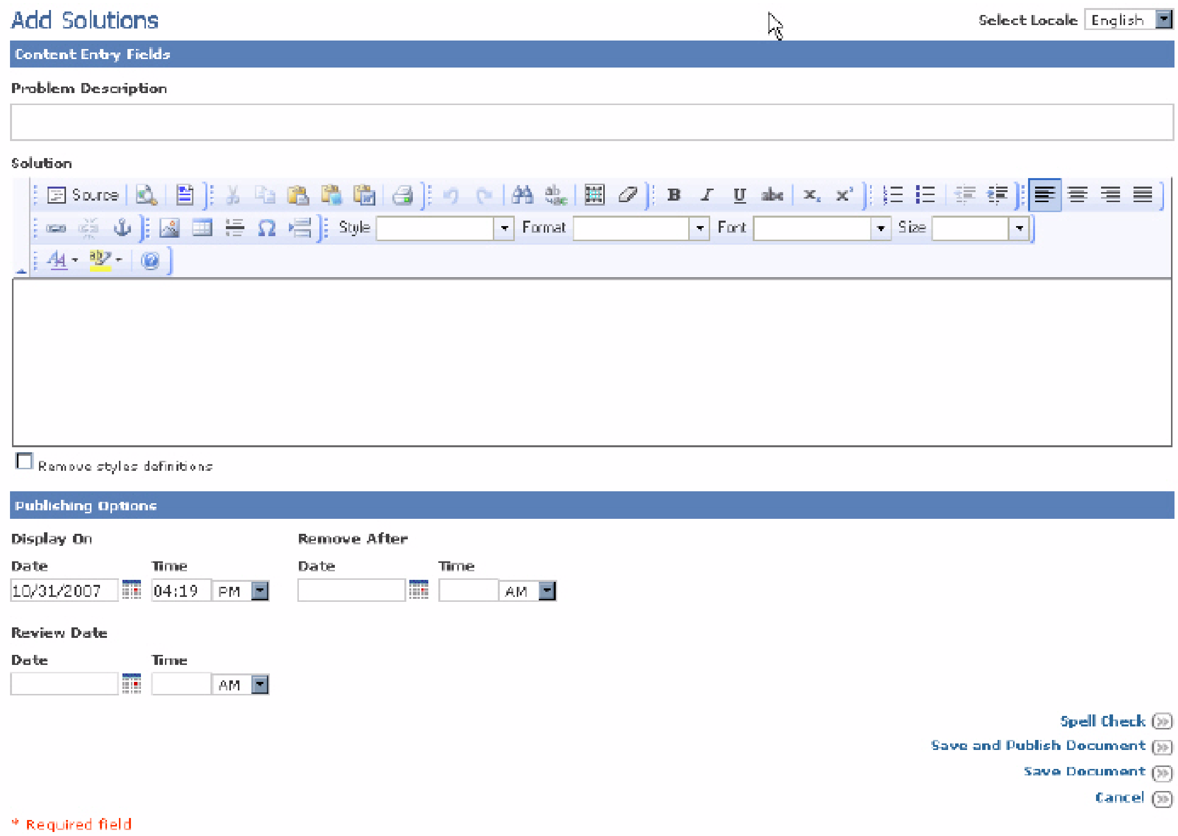
- Select **Save Attribute Properties** to save the attribute.

When you are done, the schema definition will look like:



You can check the results of your schema configuration by navigating to the **Content** tab and selecting **Add** under the Solutions channel:

The authoring page will look like:

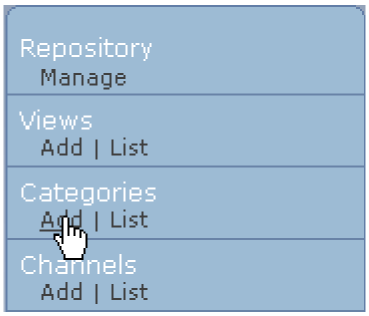


See *Specifying a Channel Schema* on page 120 for more information on configuring a channel schema.

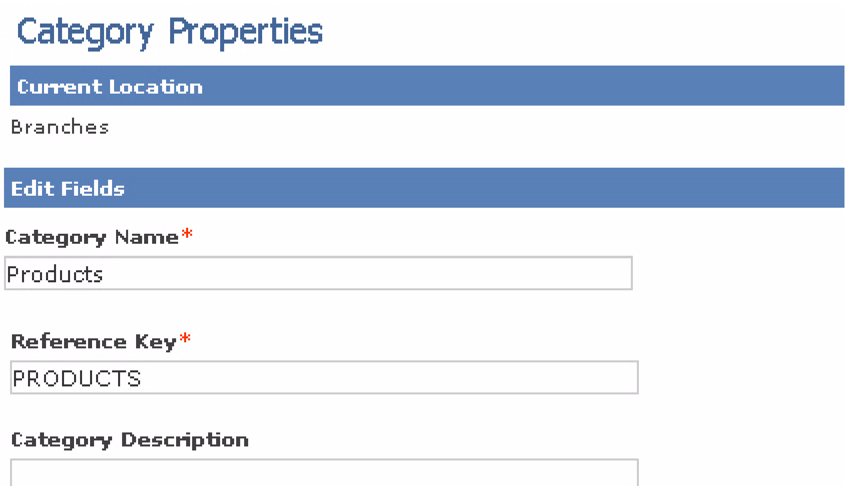
Create Categories

This section describes how to create a main category, named Products, that contains three subcategories, named Wood, Glass, and Bricks.

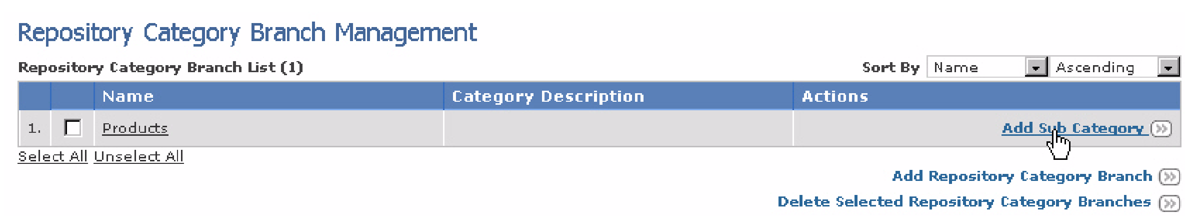
- Select the **Repository** tab and select the **Add** option under Categories:



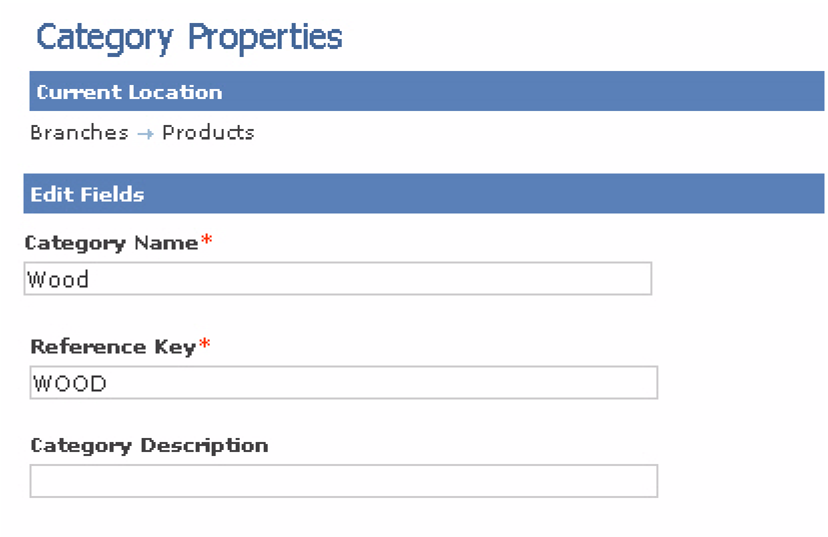
The Information Manager console displays the content category screen:



- Select **Save Category Properties**.
- Add subcategories by selecting the Products **Add Sub Category** option:

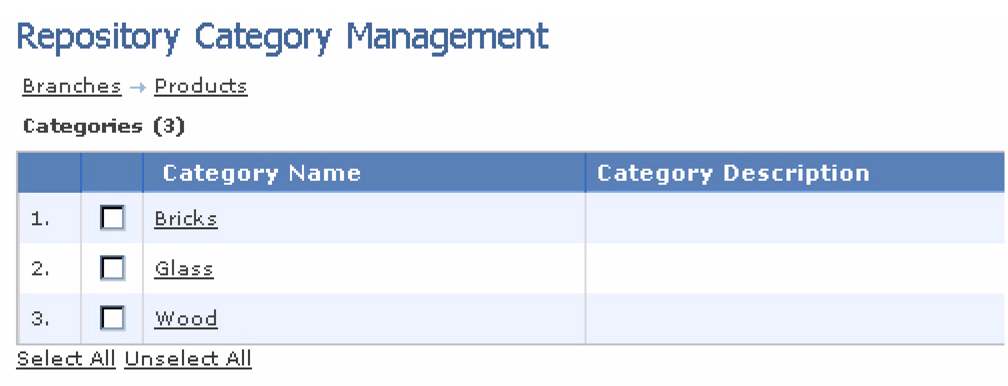


- Define the Wood subcategory:



- Select **Save and Add Another** and add the 'Glass' and 'Bricks' subcategories:

When all of the subcategories have been added, the Repository Category Management page will display:



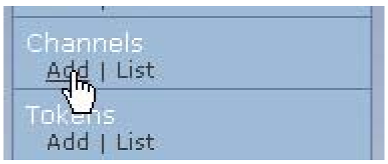
See *Chapter 4, Content Categories* for more information on creating categories.

Define a Workflow

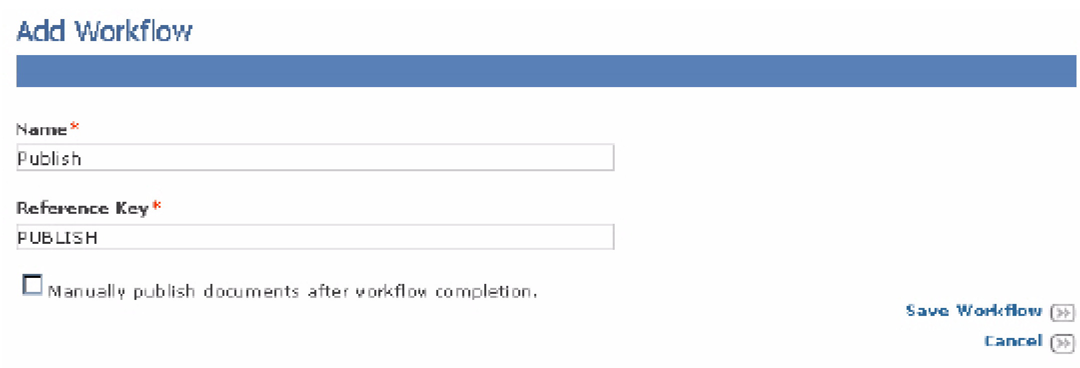
Create a workflow called Publish.

- Select **Repository** from the navigation area:

- Select **Add Workflow**:

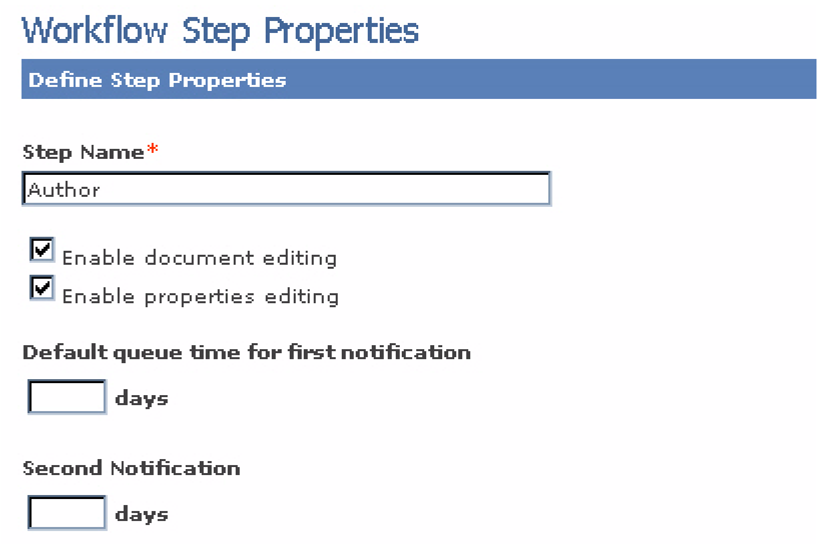


- Fill in the fields as shown:

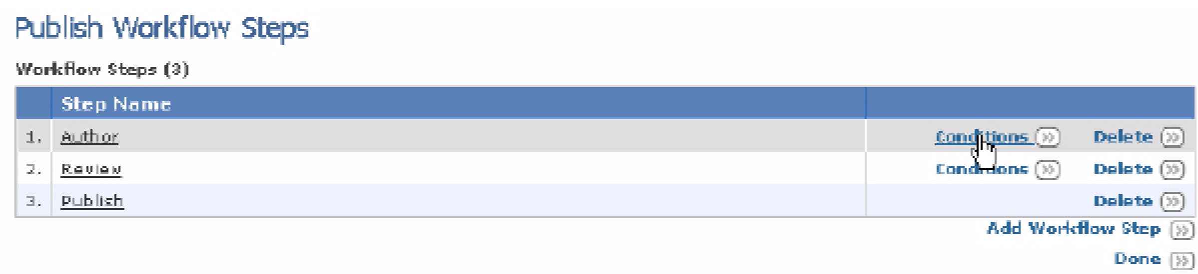


- Select **Save Workflow**.
- In the Workflow Management page, select **Steps** next to the Publish workflow:

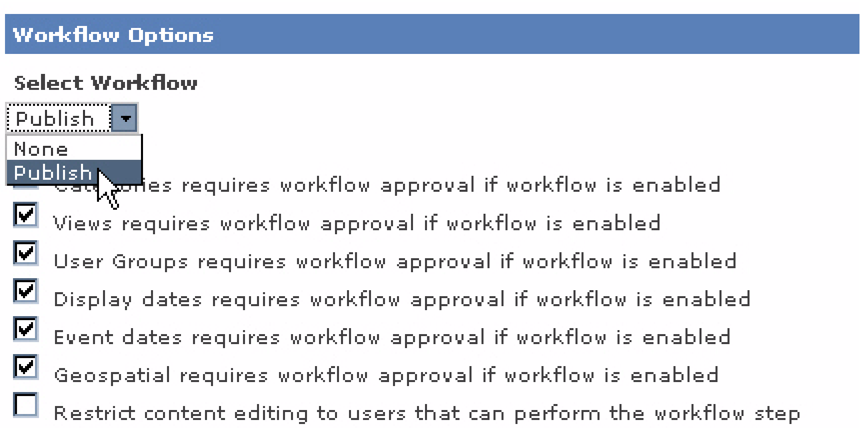
- Select **Add Workflow Step** and define an Author step, as shown below:



- Select **Save Workflow Step** and add two more steps, 'Review' and 'Publish' in the same manner as the 'Author' step. When complete, your workflow steps will look like:



Edit the Solutions channel, created in *Create a Channel* on page 32, and select **Publish** under **Select Workflow**:



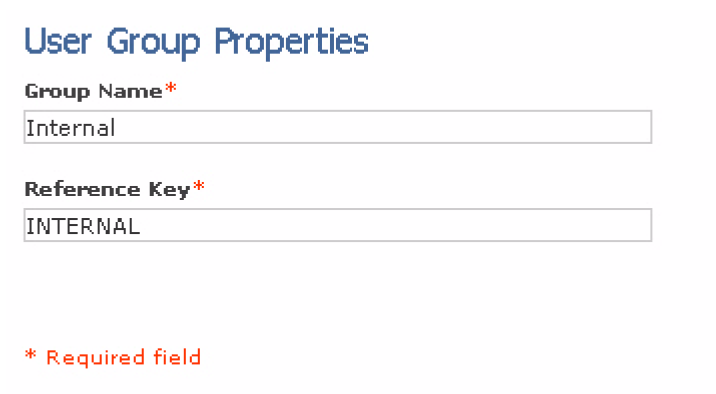
See *Chapter 7, Workflow Processes* for more information on creating workflows.

Define User Groups

Define two user groups, named Internal and Customer.

- In the Users Tab, select **Add** User Groups:

- In the User Group Properties page, define an Internal user group:

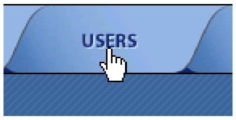


- Create another user group, named Customer. See Defining User Groups for more detail on creating user groups.

Define a Console Role

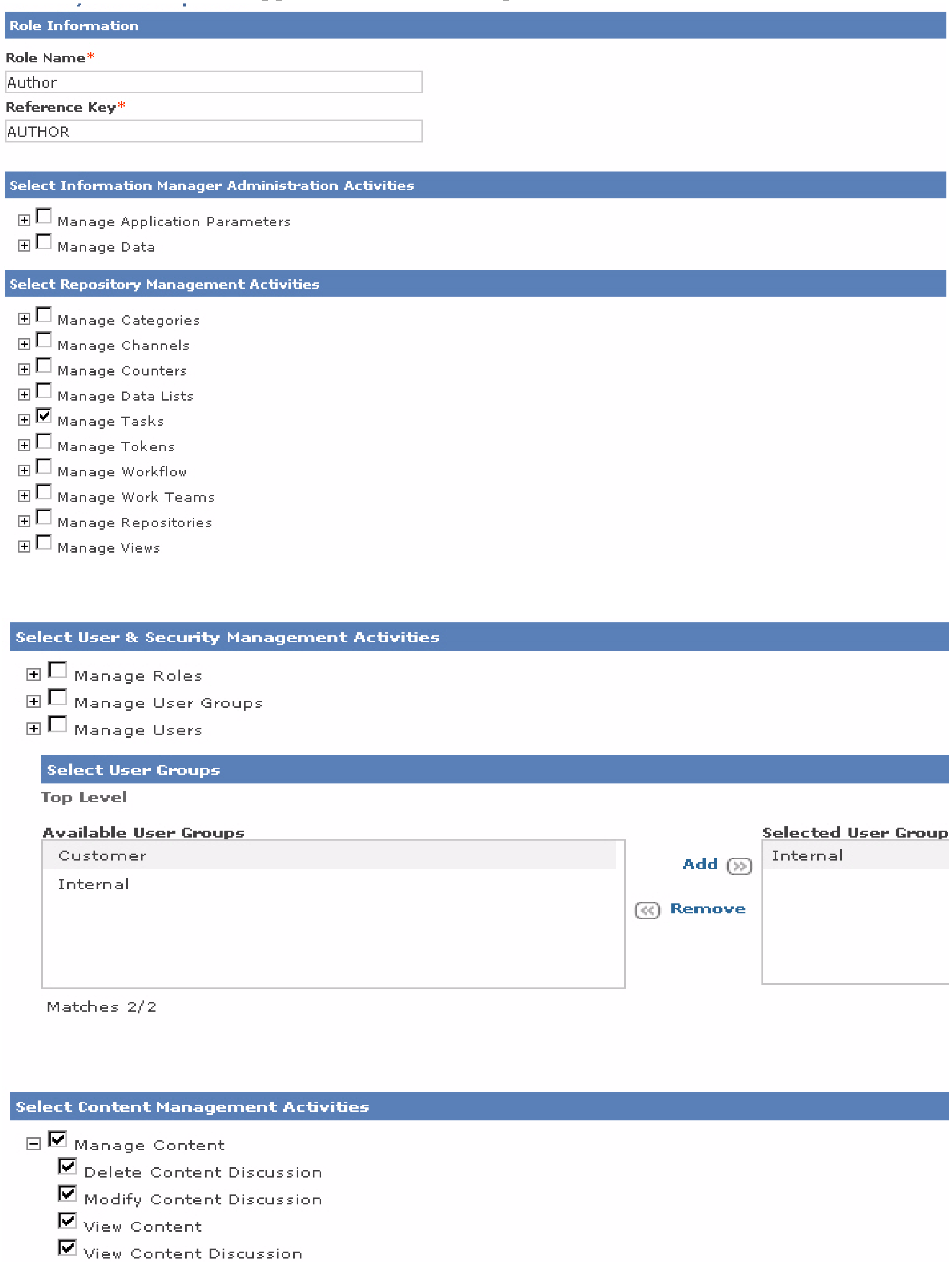
Define a Console Role, named 'Author':

- Select **Users** from the navigation area:



- Select the **Add** option under Console Roles:

The Management Console displays the Security Roles Properties page. Fill in the fields as shown below to create a security role, called Author, that is part of the Internal user group and provides permissions to view and manage tasks; view, modify, and import records in the Solutions channel, and approve the Author step in the Publish workflow:

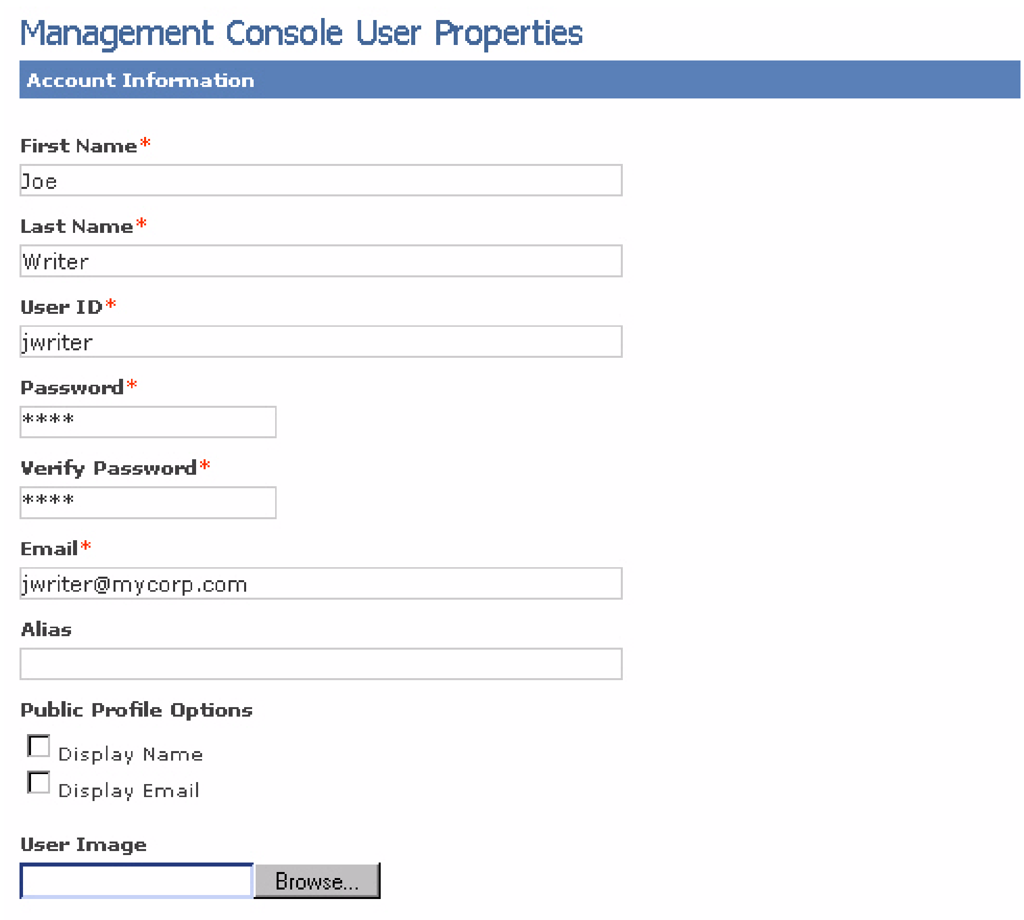


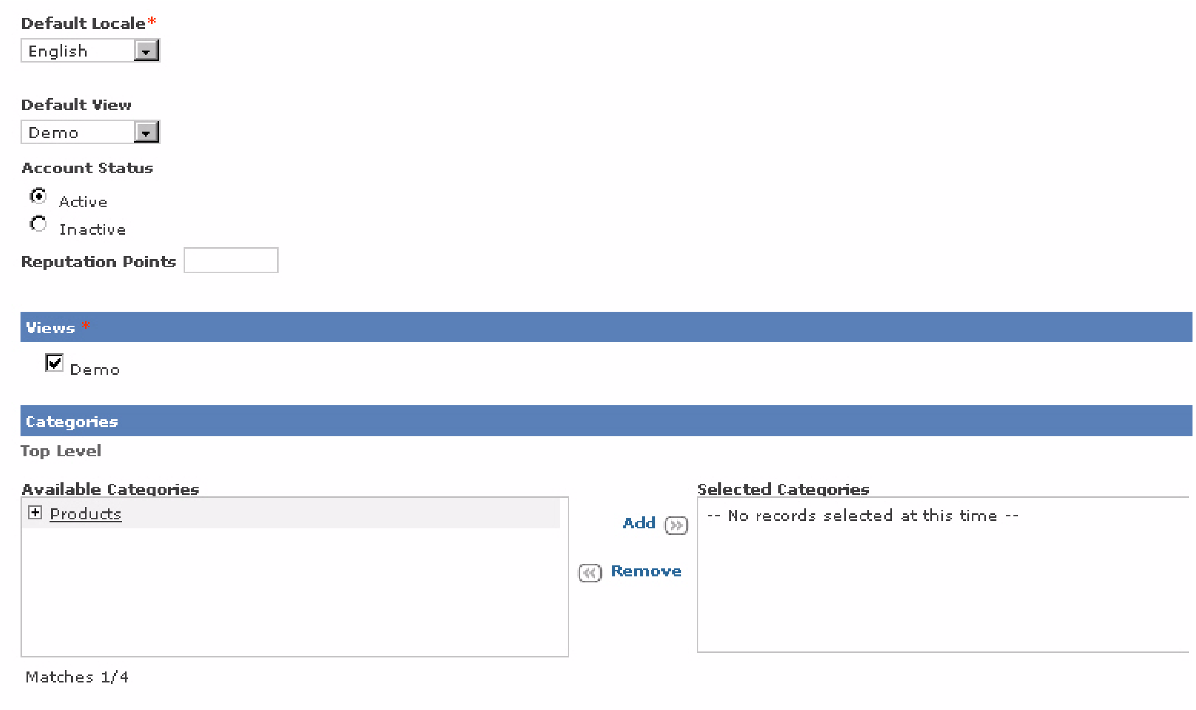
See *Managing Security Roles* on page 145 for more information on creating security roles.

Add a Console User

Under Console Users, select **Add.**

Fill in the fields as shown below to add a new Console User, named Joe Writer, and provide him with the Author security role defined in *Defining Security Roles* on page 147:





See *Defining Management Console Users* on page 162 for more information on creating users.

Register an InfoCenter Web Client

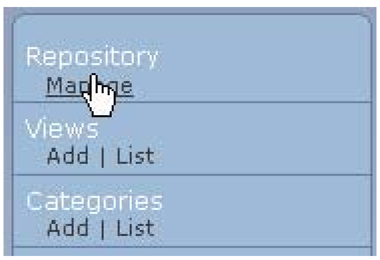
Register an InfoCenter web application for the Demo repository.

NOTE: This procedure assumes you have already created an InQuira instance, named Demo, as described in *Chapter 4, Configuring InQuira Instances* in the *Intelligent Search Installation Guide*.

- Locate the \appserverim\webapps folder for your instance. In this example, the pathname to the webapps directory for the 'Demo' instance is:

  C:\InQuira_8.1\instances\Demo\appserverim\webapps

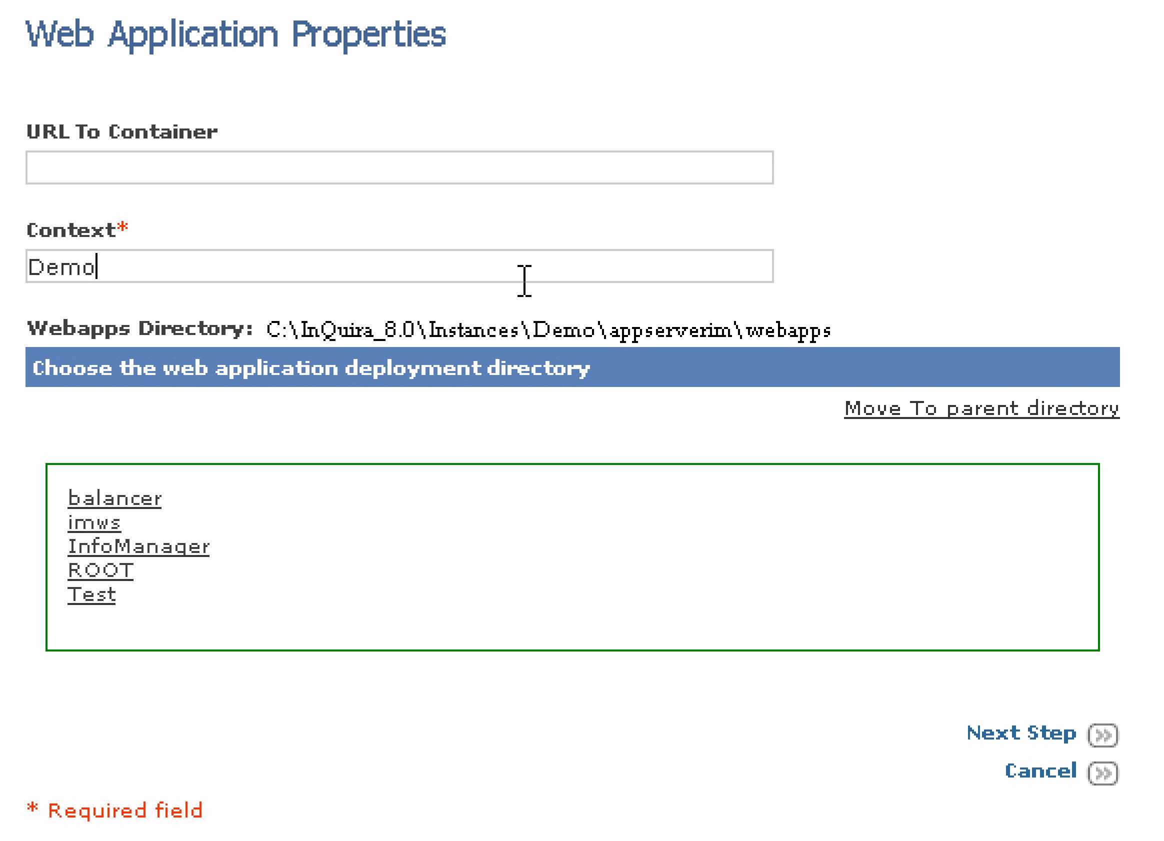
- Create a new directory, named Demo, in the webapps directory.
- Open the **Repository** tab and select **Manage** Repository:



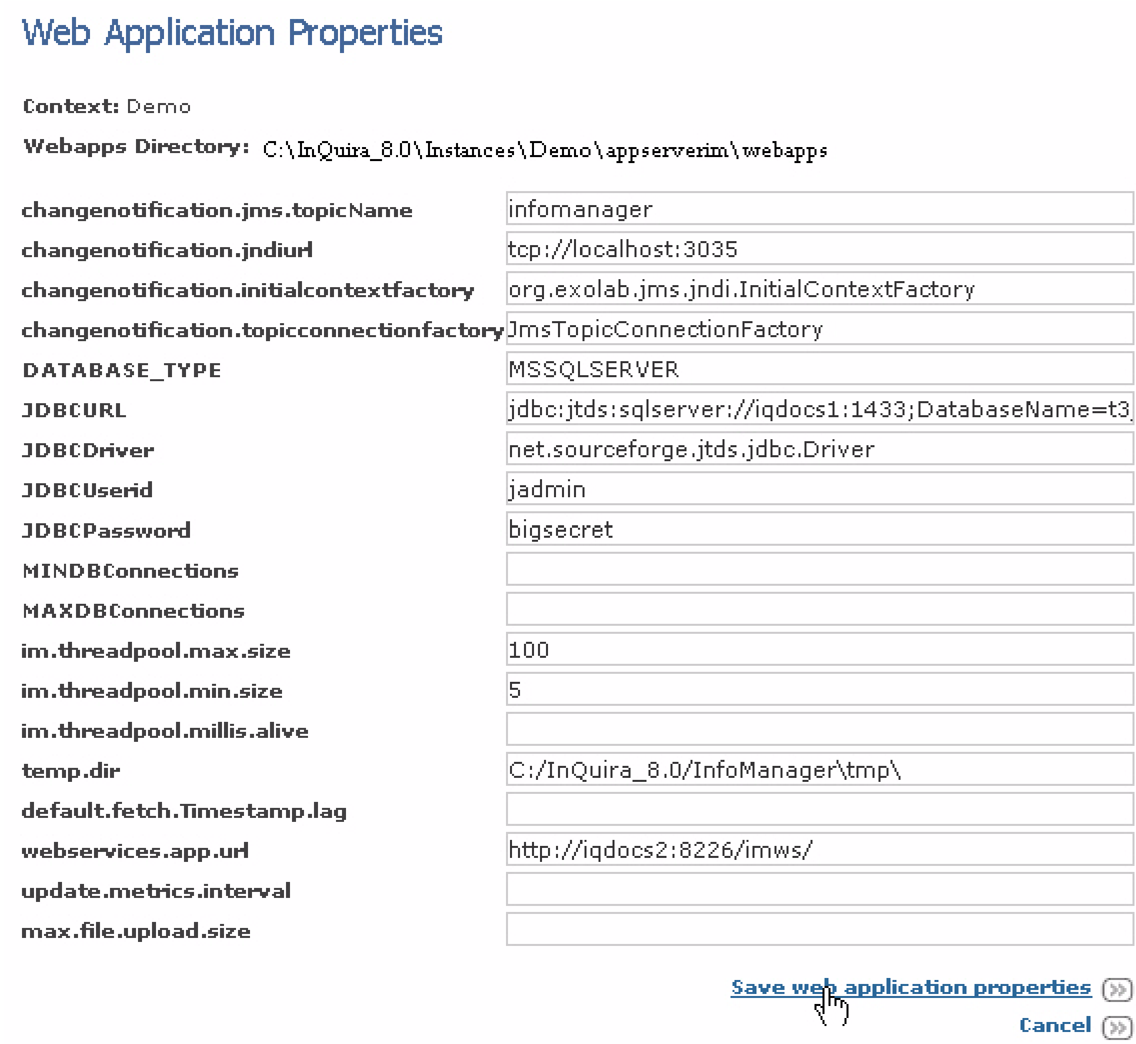
- In the Repository Properties page, select **Web Applications** from the Properties section:

- In the Web Application Management page, select **Register new web application**:

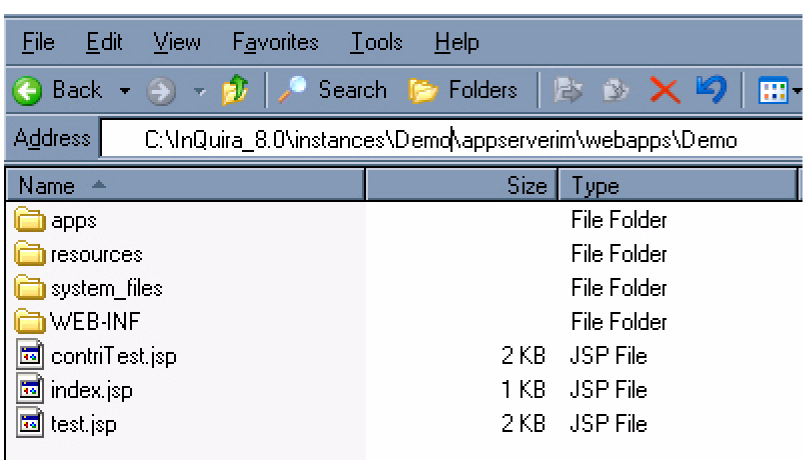
- Specify 'Demo' as the Context, and set **Webapps Directory** to point to the webapps directory for the Demo instance (leave the **URL To Container** field empty):



- Select **Next Step** and confirm the properties are correct:



Information Manager populates the Demo folder with the web client files:



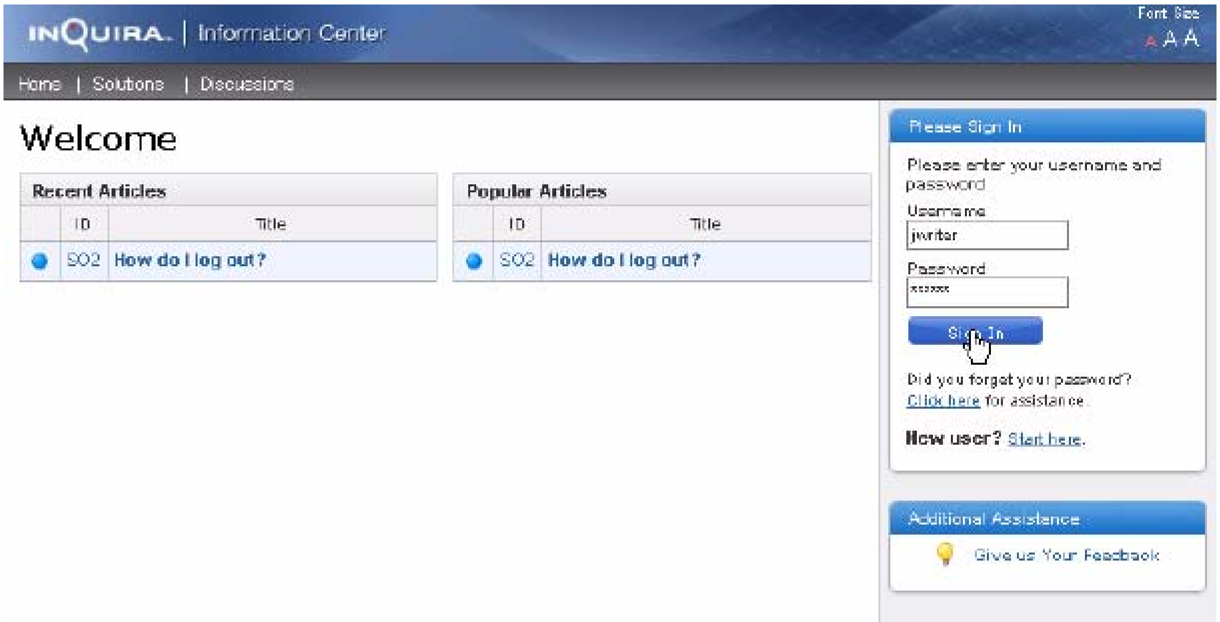
- Open a browser and go to the web client URL using the form:

http://<host>:<port>/<context>/index?page=home

In this example, it is:

http://iqdocs2:8226/Demo/index?page=home

- Log into the Information Center client as jwriter:



See *Chapter 3, Configuring a Web Application* in the *Information Manager Installation Guide* for more information on registering web clients.

Restart the Information Manager Service

You must restart the Information Manager service to apply your configuration changes to the Information Manager web applications.

When you install and configure InQuira 8.1 and Information Manager, the installation program places Installation Configuration Environment items in the Microsoft Windows Start menu for each defined instance.

To restart the Information Manager service:

- Select the Installation Configuration Environment item for the desired instance:

  Start => Programs => InQuira 8.1 => <application_name> development=>Indexing Environments => <application_name> Environment

- Enter the following command from the Installation Configuration Environment prompt:

  inquiraim restart

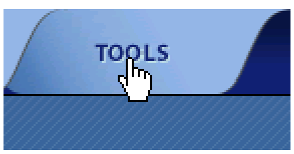
Enable InfoCenter Search

In order to enable the InfoCenter search feature, a repository needs to be configured to connect to an Inuira search instance.

IMPORTANT: Before you enable search, make sure you have created a runtime instance of your application, as described in *Creating the Remote Request Processing (Runtime) Instance* in the *Intelligent Search Installation Guide* and have successfuly crawled your content, as described in *Chapter 2, Configuring Content Acquisition* in the *Intelligent Search Administration Guide*.

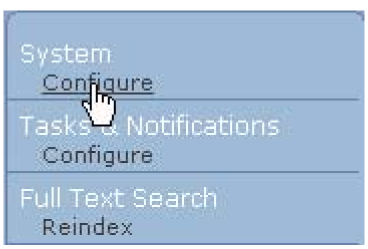
You can enable search at the SYSTEM level for all repositories or at the repository level. This section describes how to enable search at the repository level for the Demo repository.

- In the Demo repository, select **Tools** from the navigation bar:

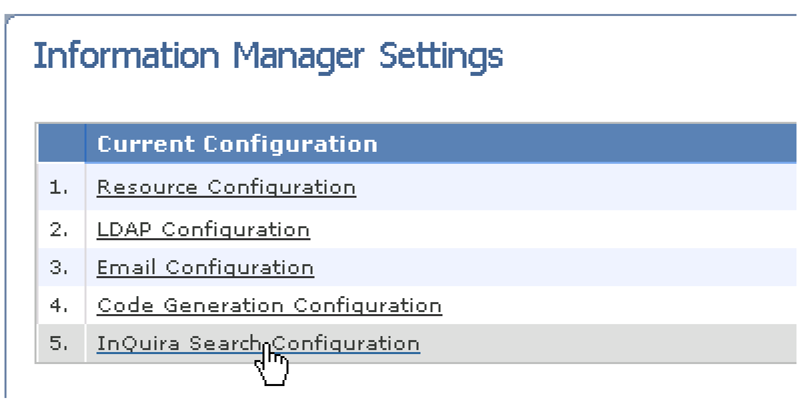


The Management Console displays the Administration page for the Demo repository.

- Select **Configure** under System:



- Select **InQuira Search Configuration**:

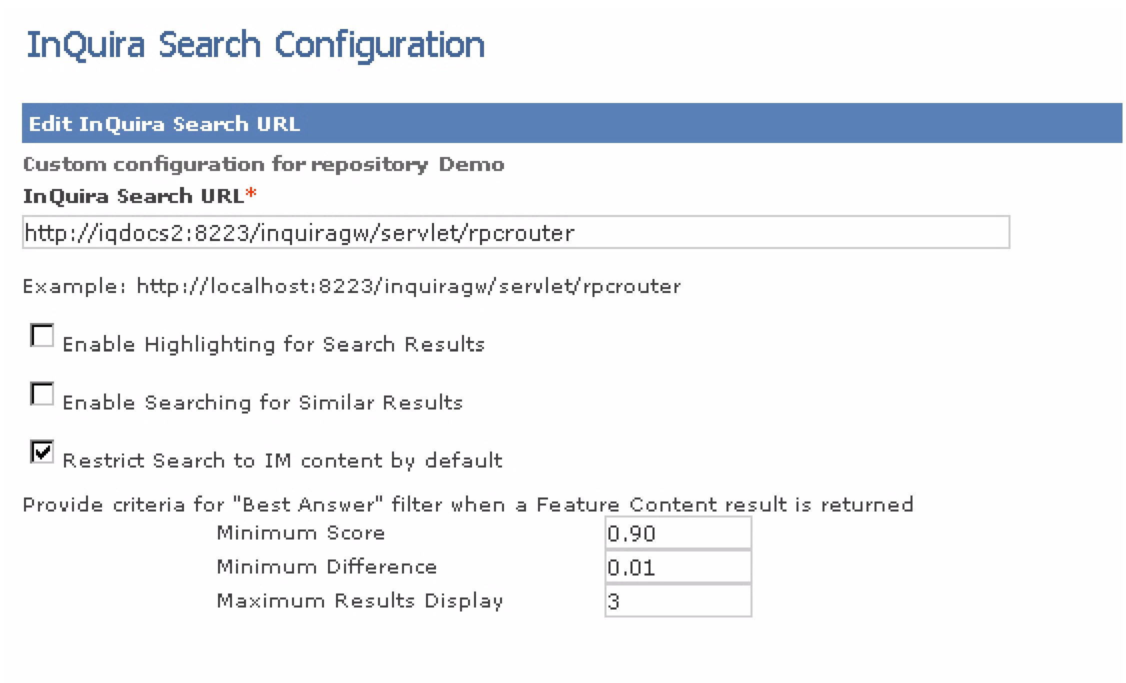


The Management Console displays the InQuira Search Configuration page:

The InQuira Search Configuration page indicates whether the configuration is inherited from the SYSTEM repository (default), or is specific to the current repository.

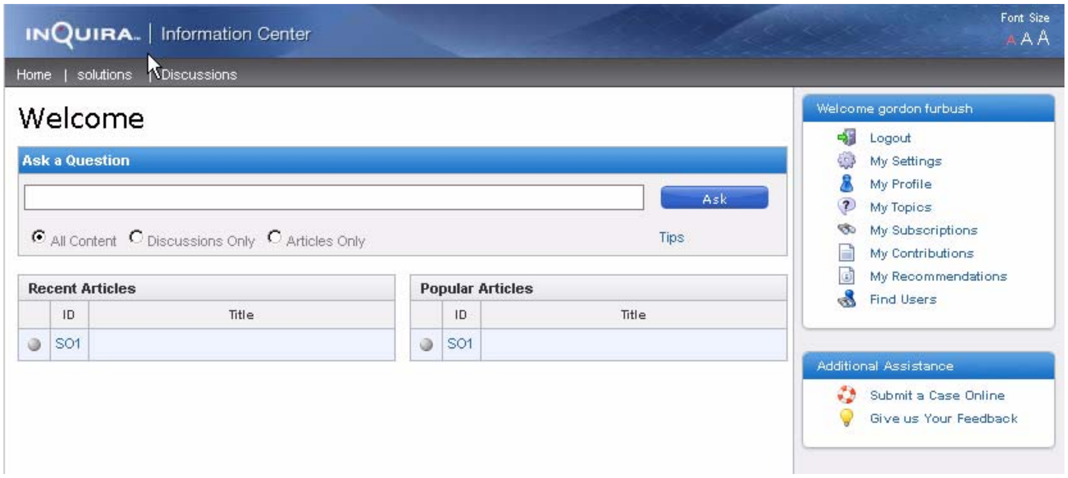
- Select **Override default configuration**
- Enter the URL of the servlet for the InQuira 8.1 search application. For example, if Information Manager is running on a server named iqdocs2, then the Search URL would be:

  http:/iqdocs2:8222/inquiragw/servlet/rpcrouter



- Select **Save**

- In your InfoCenter web client, log out and back in and confirm the search box appears:



See *Integrating an Intelligent Search Application* on page 275 for more information on enabling search.

Chapter 3 Content Repositories

A *repository* is a logical container for the content records, user and security information, workflow processes, and other information objects that you create for your application. A single repository can contain data for multiple applications, and can serve content concurrently to any number of publishing domains (web sites).

You can create multiple repositories within a single Information Manager installation. In most organizations, the privilege of creating repositories is restricted to administrators.

NOTE: Information Manager stores repository data in a database that you configure as part of the installation process described in the *Information Manager Installation Guide*.

Information Manager is installed with a system-defined repository, named System. The System repository provides access to the repositories and data lists used by your content management applications, as well as administrative user data and tools as described in System Repository.

Managing Content Repositories from the SYSTEM Repository

You can perform most repository management tasks within the content repository; however, you can perform the following tasks from the SYSTEM repository:

- View the list of all content repositories.
- Add and delete content repositories, as described in *Creating and Configuring Content Repositories* on page 58.
- View and modify custom repository schema properties for a selected repository as described in *Defining Custom Properties for Repository Information* on page 63.
- View and modify custom user profile properties for a selected repository as described in *Defining Custom User Information Properties* on page 84.

Creating and Configuring Content Repositories

You create Information Manager repositories using the Repositories section of the Management Console to:

- Specify basic repository properties as described in *Specifying Repository Properties* on page 60.
- Define custom properties to store specific user and repository information for your application as described in *Defining Custom User Information Properties* on page 84 and *Defining Custom Properties for Repository Information* on page 63.
- Associate optional XSL stylesheets with the repository as described in Assigning XSL Stylesheets to a Repository
- Define optional views and virtual repositories as described in *Defining Repository Views* on page 70
- Associate the repository with one or more web applications as described in *Chapter 3, Configuring a Web Application* in the *Information Manager Installation Guide*.

Creating a Repository

You can create an application repository while logged in as Super to the System repository.

To create a repository for your application:

- Select **Repository** from the navigation area. The Management Console displays the Repository Management page.
- Select the **Add** option under Repositories:

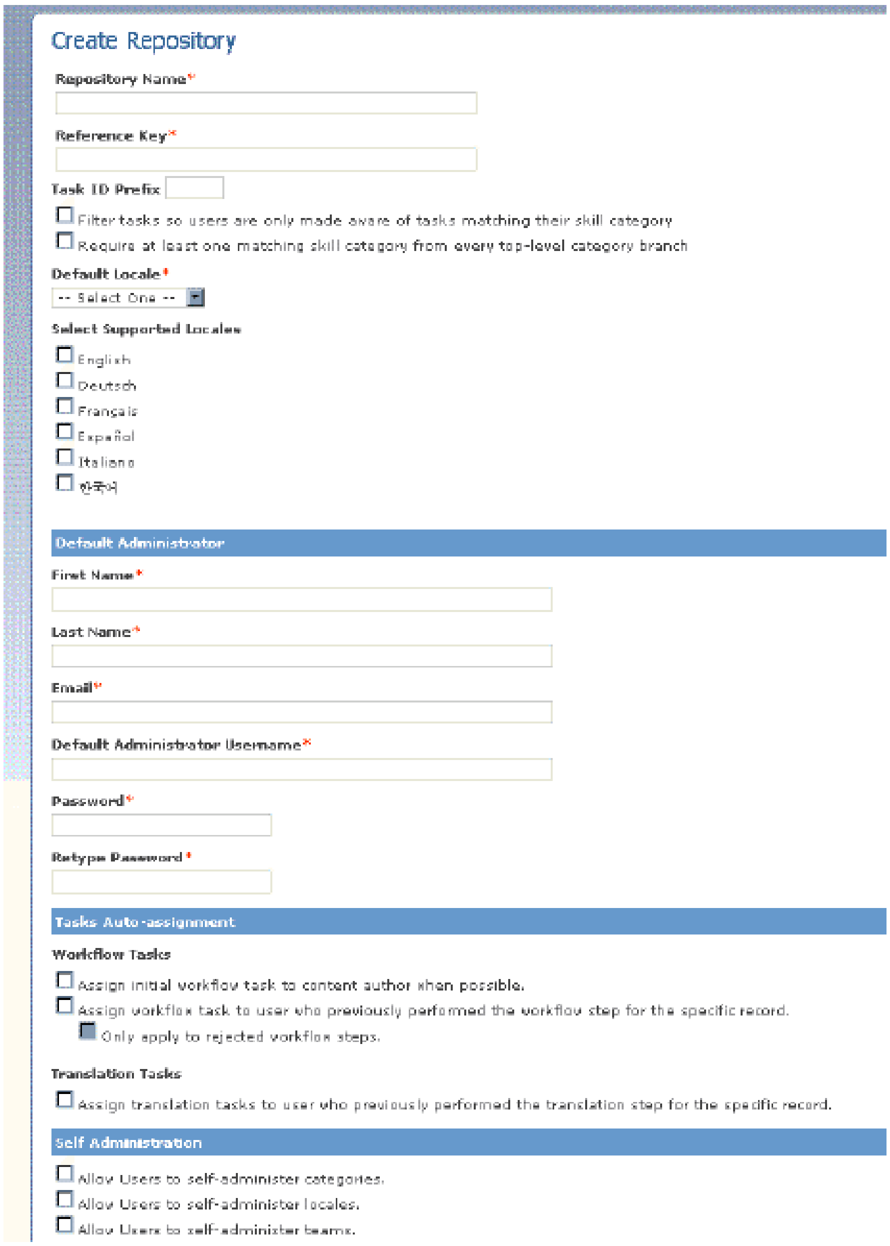
The Management Console displays the Create Repository page.

- Specify repository properties as described in *Specifying Repository Properties* on page 60

Specifying Repository Properties

You create a repository by specifying the following properties:

NOTE: If you are creating a repository as part of the initial Information Manager configuration, you may find it convenient to complete only the required fields, then specify additional properties as needed.



Property	Description
Repository Name	Specify a name for the repository.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys and how they are used in Information Manager.
Task ID Prefix	Enter a value (character string) to be used to preface task IDs in the inbox. This prefix is used only for consistency for document IDs in the channel and has no other system meaning.
Filter tasks so users are only made aware of tasks matching their skill category	Specify whether to filter tasks based on the presence of category expertise information specified in user profiles. See *Specifying Management Console User Properties* on page 164.
Require at least one matching skill category from every top-level category branch	Specify whether a task should be assigned to a user based on their skills. NOTE: If there are two branches (for example, "Products" and "Departments"), the user must have a user skill in both branches for the task to be assigned to them.
Default Locale	Specify the locale (language) that will be used as the default. The default locale is considered to be the base language for the repository. See *Chapter 11, Managing Information Manager Applications in Multiple Languages* for more information.
Supported Locales	Specify optional supported locales for the repository. The default list of supported locales is defined in the System repository. You can modify the list of supported locales using the Locale Management facility as described in *Managing Supported Locales* on page 309.
Default Administrator	Define a default administrator for this repository. The Information Manager will add this user as a console user having the pre-defined Default Administrator security role. See *Chapter 6, Managing Users* for more information on users and security roles.
Workflow Tasks	Specify whether to auto-assign tasks based on workflow attributes to help manage the task list and prevent tasks from being left unassigned.

Translation Tasks	Specify whether to auto-assign tasks based on the previous translator of the record for the task for any new changes or modifications to the master document.
Self Administration	Check these options to allow console users to join work teams, change their own skills (categories), and change the locales they can translate records for. This would normally be managed by the repository administrator.

Select **Save Repository Properties**

The Management Console displays the new repository on the Manage Repositories page.

If you are configuring your initial application repository, you can now register a web application as described in *Registering Web Applications for a Repository* on page 98.

A Note On Reference Keys

The Information Manager uses arbitrary text strings, called Reference Keys, as internal identifiers for the various objects in the system. Many of the tags in the JSP tag library use reference keys to retrieve data.

Reference keys are locale independent; the reference key name does not change for an object supported in multiple languages (locales).

When you create a new object, the Management Console automatically assigns the name of the new object as the default reference key. You can accept the default, or change the value. When you save the object, the Management Console will display an error message if the specified reference key is already in use.

IMPORTANT: You must specify a unique reference key for each object in the Information Manager instance; for example, if you have multiple repositories defined for your organization, reference keys must be unique among all of the repositories.

Defining Custom Properties for Repository Information

You can define custom properties to store additional repository information, such as meta-tags, keywords, headers, footers, copyright notices, or any other information that you want to use throughout your application. Once defined, you can use supplied JSP tags to access the custom properties for use in your application's page templates.

For example, you could define a copyright property text field and use the field to specify a copyright statement for your application. You could then use JSP tags to access the copyright statement for use within your application's display templates. You could also define custom repository properties to create meta-tags to improve search engine results placement.

NOTE: You can also define similar custom user properties to capture attributes such as user address, phone number, or other personal information as described in *Chapter 3, Defining Custom User Information Properties*

Custom repository properties also extend to any defined repository views; each view inherits the extended properties of the base repository. You could define custom properties for internal department information, such as department name, contact information, manager name, etc. (Attributes for these fields are available in the JSP tag library.) If you define a View for each department, each view would then contain department-specific values for these custom properties.

Custom Repository Property Nodes and Attributes

You define custom repository properties by specifying nodes and attributes. An attribute is an individual item, such as a copyright statement. A node is a heading for one or more attributes that share some common characteristic; for example, a Copyright node might group together attribute fields to store copyright statements, reproduction restrictions, and trademark and service mark information. (In database terms, attributes are columns in a database table, whereas nodes are 1-M related tables.)

NOTE: Information Manager supports complex schema to reflect virtually any type of data structure; however, we recommend using simple data schema to simplify the process for content providers.

When you define custom repository properties, the nodes and attributes display on the Repository Preview page.

You can access custom repository properties:

- From the application repository, using the Manage option under Repository

  or

- From the SYSTEM repository using the List option under Repository

Defining Custom Repository Properties

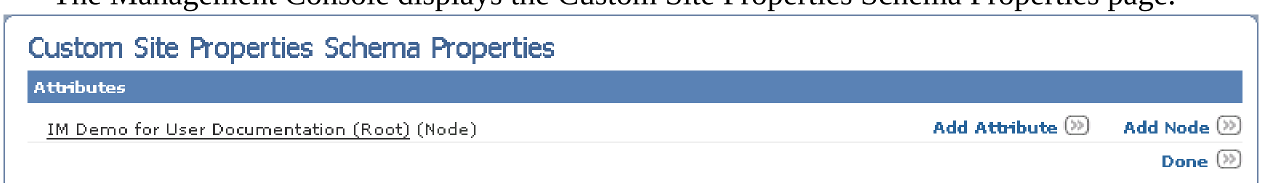
To define custom properties for an application repository:

- Log onto the application repository, and select the **Repository** tab

- Select the **Manage** option under Repositories:

- Select the **Repository Schema** item from the Properties section of the repository preview page:

The Management Console displays the Custom Site Properties Schema Properties page.

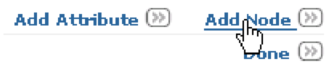


- Select **Add Attribute** to specify schema attributes as described in *Specifying Custom User Property Attributes* on page 89, or select **Add Node** to specify schema nodes as described in *Specifying Custom User Property Nodes* on page 87.

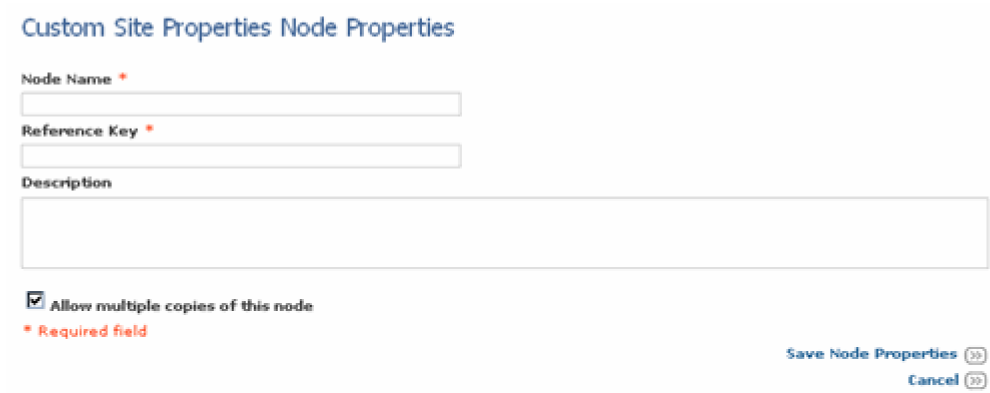
Specifying Custom Site Property Nodes

To specify custom site property nodes:

- Select **Add Node** from the Custom Site Properties Schema Properties page:



The Management Console displays the Custom Site Properties Node Properties page:



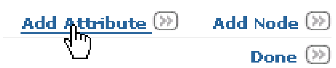
- Specify the following node properties:

Property	Description
Node Name	Specify the name for the node, which will display on the repository definition page.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify an optional description for the node which will display on the repository definition page.
Allow multiple copies of this node	Specify to allow multiple copies of this node. For example, you could define a node to accept information about multiple contributors to an article.

Specifying Custom Site Property Attributes

To specify attributes for custom site properties:

- Select **Add Attribute** from the Custom Site Properties Schema Properties page:



The Management Console displays the Custom Site Properties Attribute Properties page:

- Specify the following attribute properties:

Property	Description
Attribute Name	Specify the name for the attribute, which will display on the repository definition page.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify an optional description for the attribute, which will display on the repository definition page.
Attribute Type	Select an attribute type from the drop-down menu, as described in *Specifying Attribute Types* on page 90. The attribute type determines the type of field (such as radio buttons or text area) for the attribute.
Make attribute a required field	Specify whether this attribute will be required for the repository definition.

Specifying Attribute Types

You can specify the following types of attributes for custom repository, custom user, and content channel document properties. The Management Console uses the attribute name and description to label the resulting attribute field:

Attribute Type	Description
Check Box	Use this type to add a checkbox. For example, you could create a Subject Matter Expert node with checkbox attributes for each subject matter area, and select those that are relevant when you define a new user.
Counter	Use this type to increment a value for each instance of the attribute that you define, based on a specified prefix and start number. This is most commonly used for user and channel schema. For example, you could define a user attribute to assign an incremental value to each defined user based on the prefix `IQ` and the starting number `1000`. As users are defined, the application will automatically increment and assign the values `IQ1001`, `IQ1002`, and so on.
Date	Use this type to add a date field and calendar selector.
DateTime	Use this type to add a combined date and time field.
File	Use this type to add a file input field and a file browser that you can use to locate files. When you select the File option, the Management Console displays the Secure Resource field, as described in *Securing Documents that are Attached to Content Records* on page 69: 
Float	Use this type to add an input field to accept floating point values of a specified number of places.
Integer	Use this type to add an input field to accept integer values of a specified number of places.

List	Use this type to add one of the following types of data lists: • check box • drop-down • multiselect browser • radio button **Note:** You must specify an existing data list. See *Defining Data Lists* on page 78 for more information.
Rich Text Area	Use this type to add a text input field of a specified height having either basic, medium, or full sets of text editing functionality as described in *Working with Rich Text Area Fields* on page 93.
Text Area	Use this type to add a file input field with a browse function to locate files.
Text Field	Use this type to add a text input field having a specified number of characters.
Time	Use this type to add date and time fields labeled with the attribute name and optional description.

Securing Documents that are Attached to Content Records

You can secure access to documents that are attached to content records and stored in the Information Manager Content Resource Store. Securing these attributes ensures that requests for an attached document will only be satisfied when made from an authorized IP address.

You specify secured attributes within the file attribute schema as described in *Specifying Attribute Types* on page 90.

The Information Manager Content Resource Store stores secured files in separate secure directories. When a user requests access to a secured document, Information Manager performs a set of security checks to ensure that the request is from an authorized session.

Defining Repository Views

Repository views provide a means of segregating repository records into discrete groups that correspond to various aspects of an organization, such as departments or business units. You can define groups of users so that they have access only to specific repository views.

You can define multiple levels of sub-views within repository views to represent any organizational structure. The multiple levels of views form a hierarchy, such that higher-level views have access to lower level views, and lower-level views inherit properties from parent views.

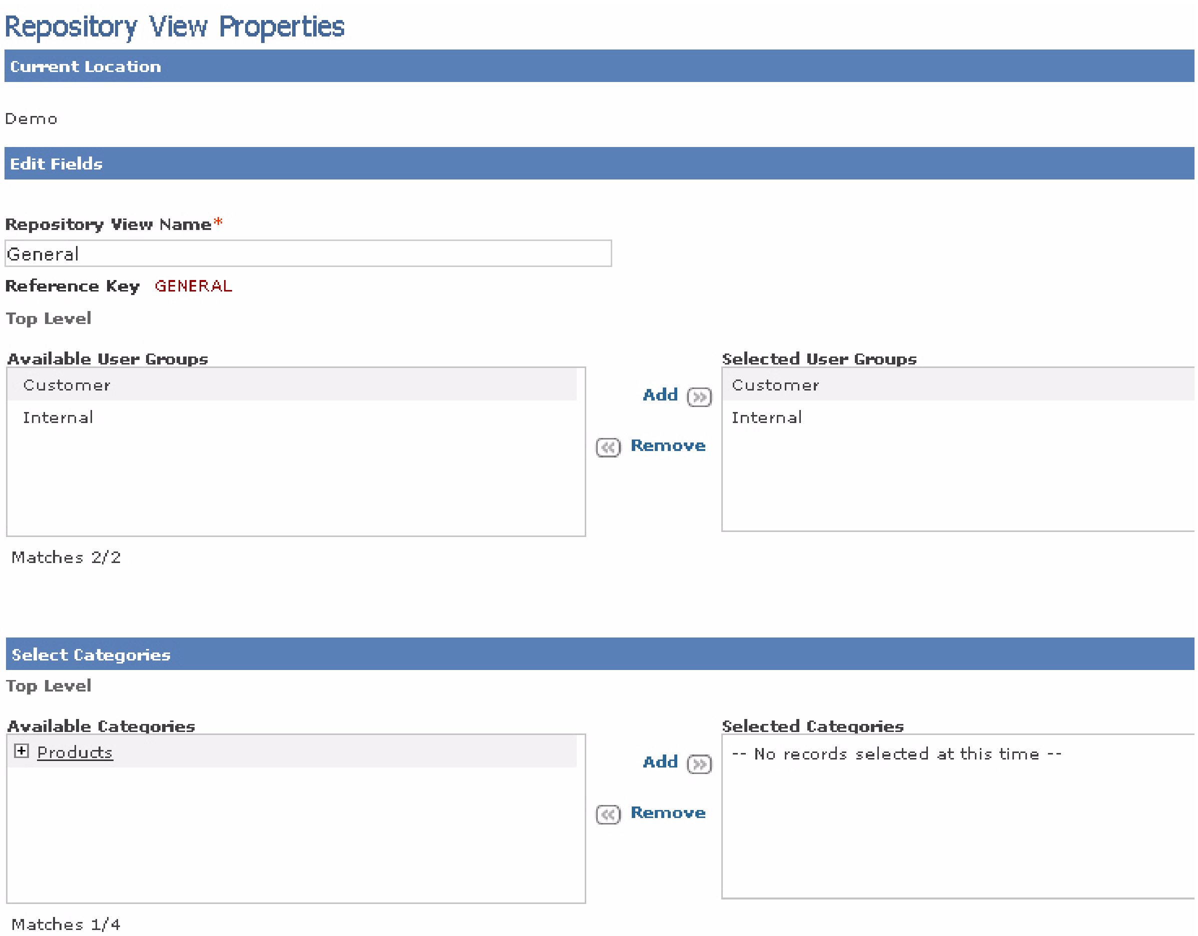
See *About Views* on page 141 for details.

Creating Repository Views

To create a repository view:

- Select **Repository** tab from the navigation area
- Select the **Add** option under Views:

The Management Console displays the Repository View Properties page:



- Specify the following repository view properties:

Property	Description
Repository View Name	Specify the name of the repository view.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Available User Groups	Select which user groups are to be associated with this view. Content associated with user groups not listed under **Selected User Groups** cannot be seen by users with this view. Another way to assign user groups to a console user is by means of a console role, as described in *Defining Management Console Users* on page 162. The user groups available to a console user is the combination of those specified in both the views and console roles that are assigned to the console user.
Select Categories	Select currently defined content categories to include in the repository view. See *Chapter 4, Content Categories* for more information on content categories. NOTE: The categories shown above are examples, not default settings.

Defining Replacement Tokens

You can define replacement tokens for use in content within Information Manager objects.When replacement tokens are published, Information Manager replaces the token (a short, manageable string) with the specified content, such as a word or phrase of standardized terminology, or a larger block of reusable content.

Replacement tokens enable you to:

- Re-use content, such as product names, in a standardized form
- Create complex content, such as integrated text and images, once and store it for re-use in multiple documents
- Manage standardize content from a single resource

You use replacement tokens by:

- Defining a replacement token using the Replacement Tokens option of the Repository Management page, as described in *Defining a Replacement Token* on page 73.
- Referring to the variable within content record text fields, as described in *Using Replacement Tokens* on page 75.

Replacement tokens are available for use in all content channels defined within the repository.

Defining a Replacement Token

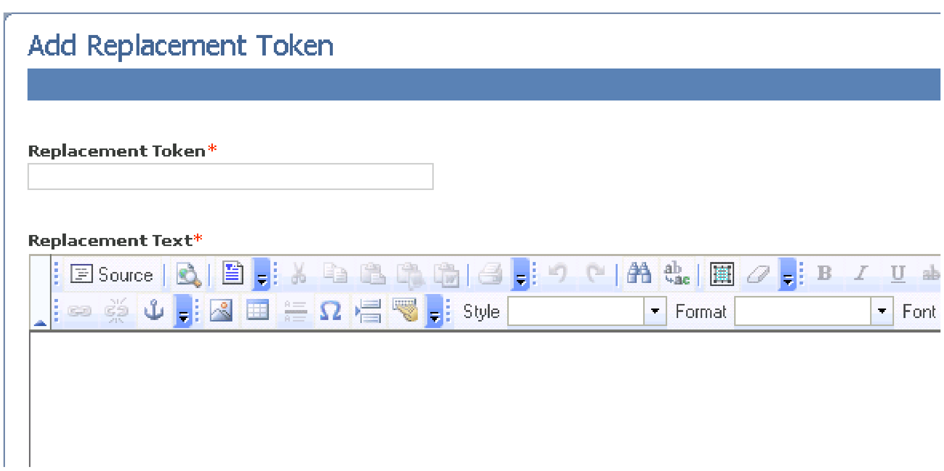
You define replacement tokens using the Tokens option of the Repository Management page. Replacement tokens consist of:

- A string or token
- The associated text and/or images that will replace the token when the content is published

To define a replacement token:

- Select the **Add** option under Tokens on the Repository Management page:

The Management Console displays the Add Replacement Token page



- Specify the following replacement token parameters:

Field	Description
Replacement Token	Specify an alpha-numeric string having no spaces or special characters. **Note:** The Management Console will capitalize the token, however, references to tokens will resolve regardless of case.
Replacement Text	Specify text and/or images that you want to be displayed when this variable (token) is used in content records. **Note:** You can use the complete set of rich text editing features to format the replacement content. See *Working with Rich Text Area Fields* on page 93 for more information on the available rich text editing features.

Using Replacement Tokens

You can use replacement tokens that you have defined within any content record text fields. Replacement tokens defined in your repository are valid in all content channels.

To use a replacement token:

- Edit a content record by any of the usual means

You can view the available replacement tokens using the **View Replacement Tokens** option in the upper right portion of the Edit content page:

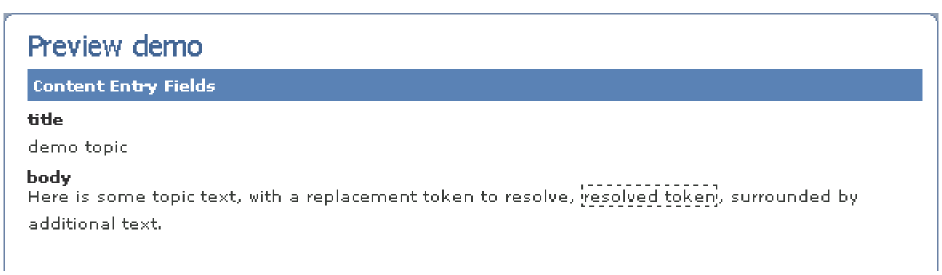
The Management Console displays the currently defined replacement tokens in a separate window:

- Specify the variable name in any field that accepts text. You specify a replacement tokens in the following format:

  {TOKEN}

  where the defined variable name is enclosed within curved braces.

You can view the resolved variable in the content preview page. The Management Console displays the replacement content within dashed lines; for example:



Defining Custom Metrics for a Repository

You can define custom metrics within a repository to track specific activity associated with content records. For example, you could define a custom metric to record the number of times end-users selected the "print-friendly" version of a content display, indicating that they wanted to print the content.

Information Manager contains a default metric that counts the total number of times that a record is accessed on a detail page (by the get.channel.data tag or by the document ID or guid).

You use custom metrics by:

- Defining the custom metric as described in *Defining a Custom Metric* on page 77
- Assigning the custom metric to a channel as described in *Specifying Feedback Options for a Channel* on page 116
- Implementing the update.content.metric jsp tag to update the value of the custom metric, for example, within the jsp page that presents the "print-friendly" version of the content

The Management Console displays custom metric information for content records on the Feedback tab of the document preview page.

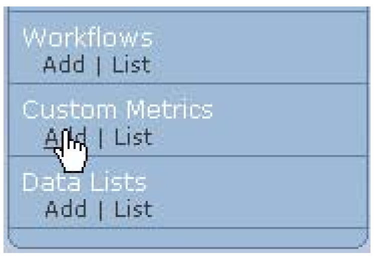
Defining a Custom Metric

You define custom metrics on the Custom Metrics Properties page in the Repository Management area.

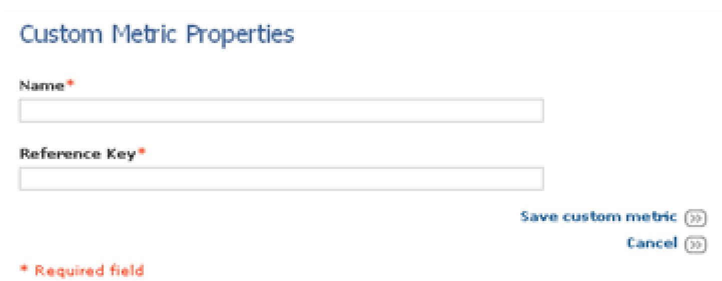
To define a custom metric:

- Select **Repository** from the navigation area

- Select **Add** under Custom Metrics:



The Management Console displays the Custom Metric Properties page:



- Specify the following custom metric properties:

Property	Description
Name	Specify the name of the metric.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys and how they are used within the Information Manager.

Defining Data Lists

Data lists provide a method to re-use common lists of items that you want to present as choices, such as lines of business or geographic locations. Data lists provide a mechanism to ensure consistent data for common user choices. You can use data lists within objects that contain properties defined as attributes, such as content channels, user schema, repository schema, and data forms.

You can create data lists as:

- Static lists of items that change infrequently, such as lists of U.S. states as described in *Creating Static Data Lists* on page 79
- Dynamic lists generated from content channel attributes as described in *Creating Channel Data Lists* on page 82

You use data lists by defining an attribute as a List, and specifying its presentation format.

Creating Static Data Lists

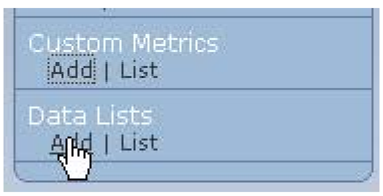
You create static data lists on the Data List Properties page of the Repository area.

NOTE: The Information Manager stores the list information as strings; however, you can store any primitive type of data as the value attribute of a list item.

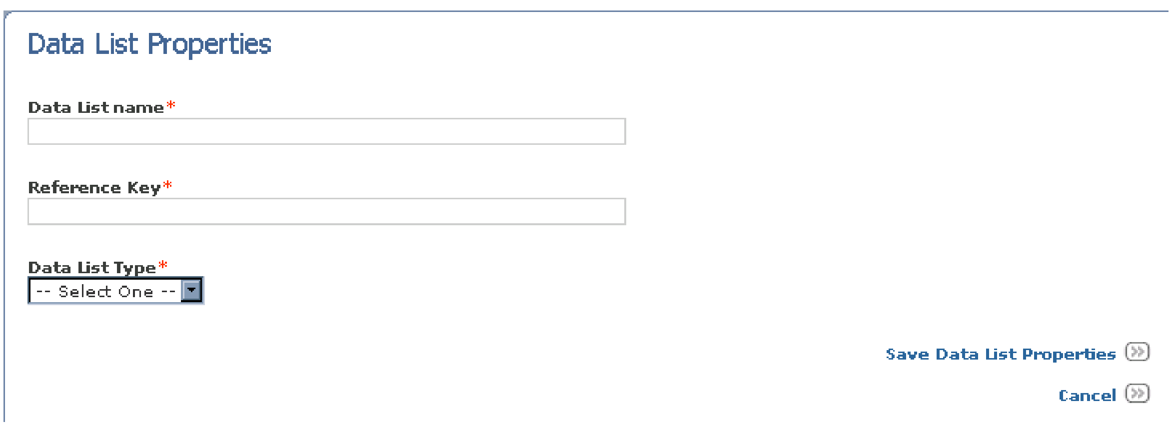
To create a static data list:

- Select **Repository** from the navigation area

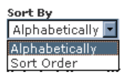
- Select the **Add** option under Data Lists:



- The Management Console displays the Data List Properties page.



- Specify the following parameters:

Parameter	Description
Data List name	Specify a name for the data list.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *Specifying Repository Properties* on page 60 for more information on reference keys.
Data List Type	Select **Static** from the drop-down list. The Management Console displays the Sort by and Data List Items fields.
Sort by	Specify to sort list items alphabetically, or in the order they are that they are listed on the Data List Properties page. 
Data List Items	Select **Manage Data List Items** to add items to the list as described in *Defining Static Data List Items* on page 80. 

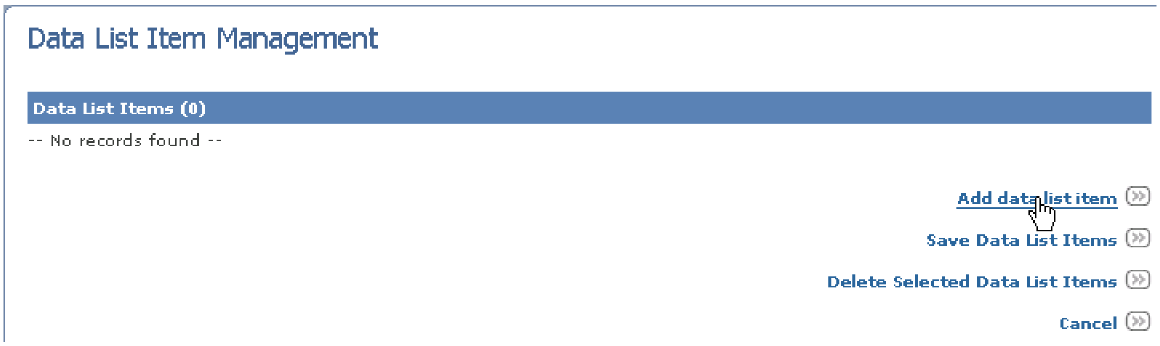
Defining Static Data List Items

To create list items for a static data list:

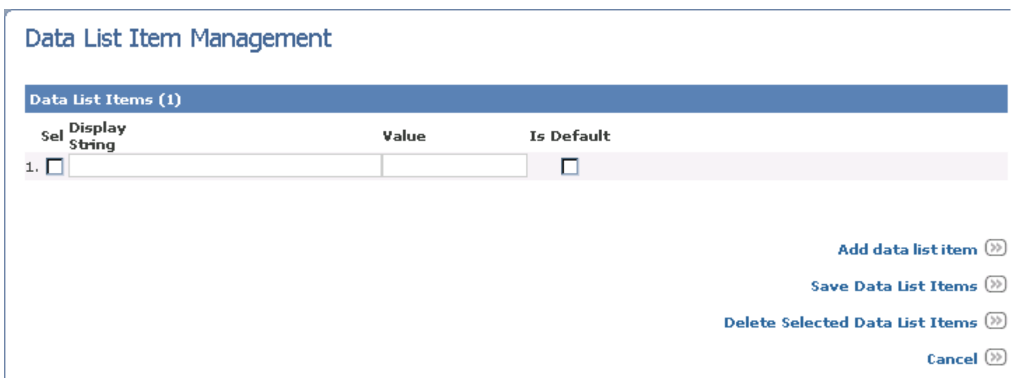
- Select **Manage Data List Items** on the Data List Item Management page

The Management Console displays the Data List Item Management page

- Select **Add Data List Item**



The Management Console displays the Data List Item Management page:



- Specify the following properties to define each list item:

Property	***Description***
Display String	Specify the string to display to end users.
Value	Specify the value of this string; which can be literal, or any primitive type of data.
Is Default	Specify whether this item will be pre-selected by default.

NOTE: You can use the **Sel** field to select items for other operations, such as Delete, and the Up and Down controls to change the order of list items.

Creating Channel Data Lists

You can create dynamic data lists based on channel attributes. Dynamic data lists provide the means to link data from one channel to another channel.

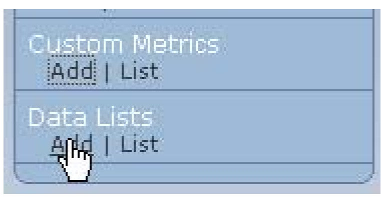
For example, you may have a channel that contains employee demographic data, which includes postal zip code information for each employee. You can create a dynamic data list of the zip codes in which employees live by referencing the zip code attribute of the employee data channel. The dynamic list will automatically update with additional zip codes (attribute values) as more employee data is added to the channel.

You can define channel lists to display as checkbox lists, radio button lists, and multi- and single-select list boxes within content channels and data forms.

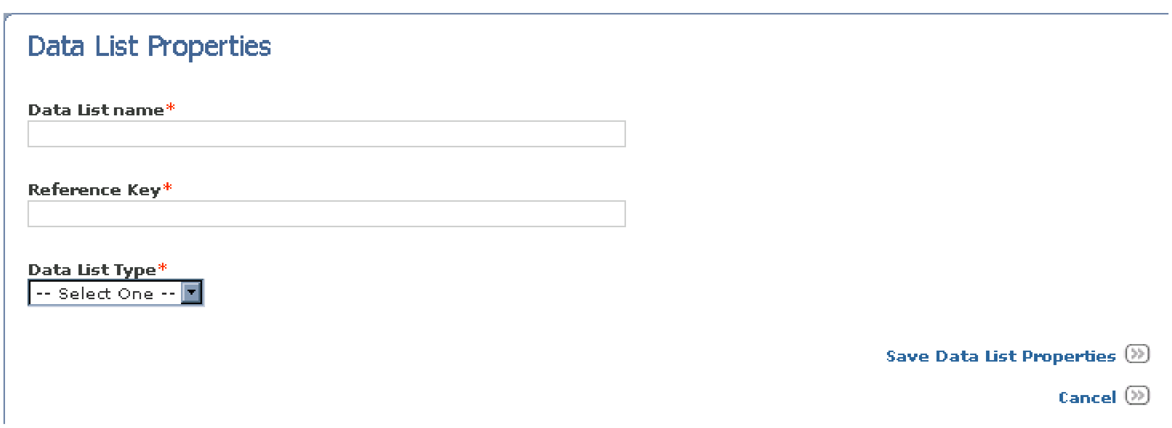
To create a channel data list:

- Select **Repository** from the navigation area

- Select the **Add** option under Data Lists:



The Management Console displays the Data List Properties page.



- Specify the following parameters:

Parameter	Description
Data List name	Specify a name for the data list.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Data List Type	Select **Channel** from the drop-down list. The Management Console displays the Content Channel, Display Source, Value Source, Sort Source, and Default Values Source fields.
Content Channel	Select the channel that contains the attribute you want to reference.
Display Source	Select the display value of the desired attribute from the list of attributes defined for the selected channel.
Value Source	Select the associated code for the selected display value from the list of attributes defined for the selected channel.
Sort Source	Select the attribute that you want to sort by from the list of attributes defined for the selected channel.
Default values source	Specify the attribute value to use as the default value for the list. For example, specify `//ADDRESS/ST=CA` to specify that CA will be pre-selected as the default value.

Defining Custom User Information Properties

You can define custom properties to record additional user information for your application, such as contact information, department, picture, or other personal information to be included in the user profile. The custom properties will display on the user properties pages when you define Management Console and web users as described in *Chapter 6, Managing Users*. You can then use the supplied JSP tags to access custom user properties for use in your application's page templates.

Custom user properties also extend to any defined repository views; each view inherits the extended properties of the base repository.

NOTE: You can also define custom properties to capture additional repository information, such as meta-tags, keywords, headers, footers, or copyright notices for use throughout your application as described in *Defining Custom Repository Properties* on page 65.

Custom User Property Nodes and Attributes

You define custom user properties by specifying nodes and attributes. An attribute is an individual item, such as an email address. A node is a heading for one or more attributes. (In database terms, attributes are columns in a database table, whereas nodes are 1-M related tables.)

Nodes provide a convenient method of grouping together attributes that have:

- Multiple instances of an attribute; a user may have multiple email addresses
- A common characteristic; a phone number node might group together attribute fields to store business, home, and mobile phone numbers

For example, you could create standalone attributes to store:

- An email address
- A phone number

for each user.

However, you may find that you need to store multiple email addresses and phone numbers. You could then create:

- An email address node containing a repeatable email address attribute
- A phone number node containing:
    - A business phone number attribute
    - A mobile phone number attribute
    - A home phone number attribute

See *Example Custom User Properties Schema* on page 92 for an example of schema that captures this information.

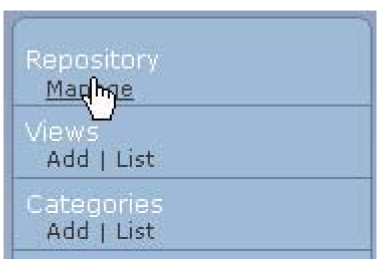
Defining Custom User Properties

To define custom user properties:

- Log onto your application repository, or the System repository, and select **Repository** from the tool bar:

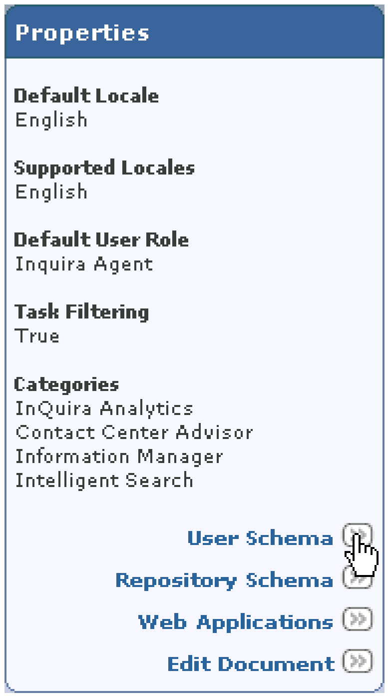
The Management Console displays the Repository Management page.

- Select the **Manage** option for the application repository, or the **List** option for the SYSTEM repository:



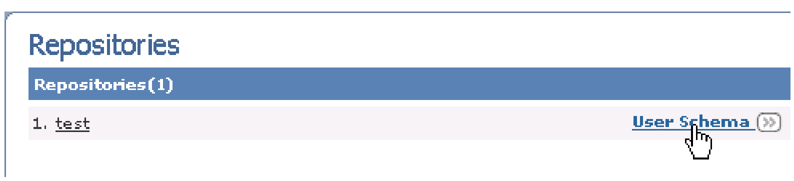
In the application repository, the Management Console displays the Repository Preview page.

- Select the **User Schema** item from the Properties area:

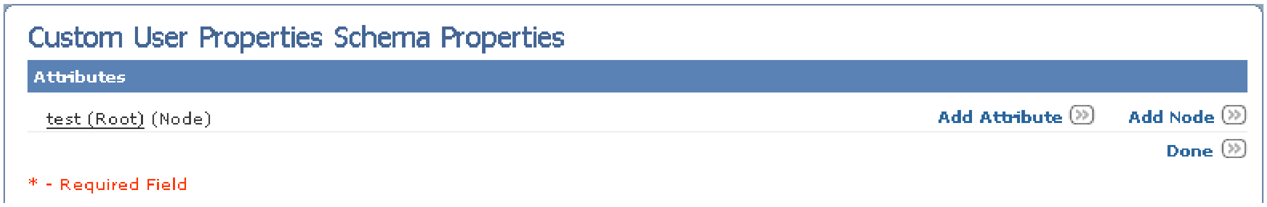


In the SYSTEM repository, the Management Console lists the available repositories.

- Select the **User Schema** item for the repository to which you want to add a custom property:



The Management Console displays the Custom User Properties Schema Properties page:



- Select **Add Node** to specify user property nodes as described in *Specifying Custom User Property Nodes* on page 87, or select **Add Attribute** to specify user property attributes as described in *Specifying Custom User Property Attributes* on page 89.

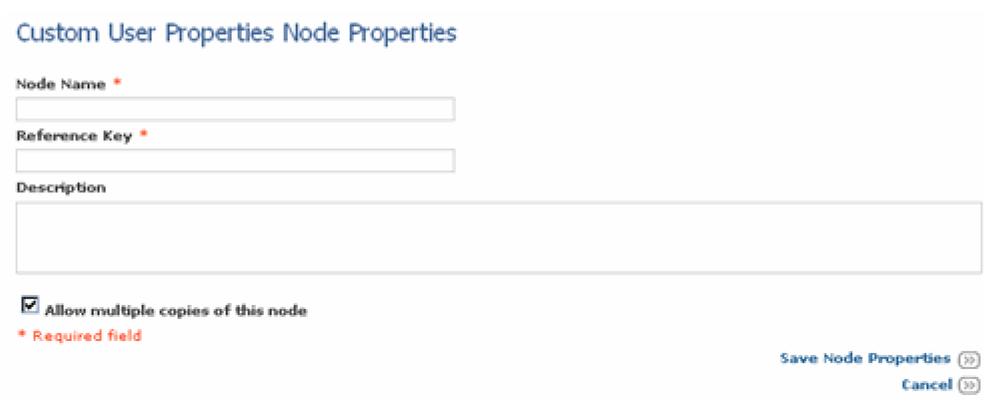
Specifying Custom User Property Nodes

User property nodes are headings for groups of attributes (or a single attribute). User property nodes provide a convenient method of creating a collection of attributes that have some common characteristic, or multiple instances of a single attribute.

To specify custom user property nodes:

- Select **Add Node** from the Custom User Properties Schema Properties page:

The Management Console displays the Custom User Properties Node Properties page:



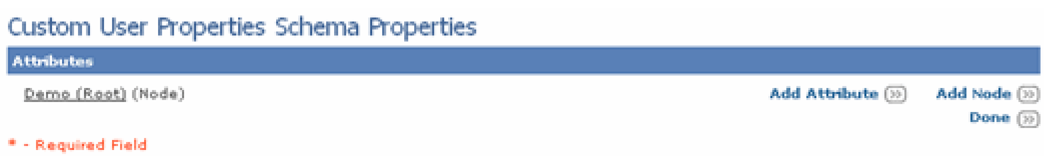
- Specify the following node properties:

Property	Description
Node Name	Specify the name for the node, which will display on the console or web user properties definition pages described in *Specifying Management Console User Properties* on page 164 and *Specifying Web User Properties* on page 170.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify an optional description for the node, which will display on the console or web user properties definition pages described in *Specifying Management Console User Properties* on page 164 and *Specifying Web User Properties* on page 170.
Allow multiple copies of this node	Specify whether to allow multiple copies of this node within a single user definition. For example, you could allow multiple copies of a Certification node to record multiple certifications as appropriate for each support agent that you add as a user.

Specifying Custom User Property Attributes

To specify custom user attributes:

- Select **Add Attribute** from the Custom User Properties Schema Properties page:



The Management Console displays the Custom User Properties Attribute Properties page:

- Specify the following attribute properties:

Property	Description
Attribute Name	Specify the name for the attribute, which will display on the console or and web user properties definition pages described in *Specifying Management Console User Properties* on page 164 and *Specifying Web User Properties* on page 170.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify an optional description for the attribute, which will display on the console or and web user properties definition pages described in *Specifying Management Console User Properties* on page 164 and *Specifying Web User Properties* on page 170.

Attribute Type	Select an attribute type from the drop-down menu, as described in *Specifying Attribute Types* on page 90.
Make attribute a required field	Specify that this attribute will be required for repository user definitions. Administrators will be required to specify a value for this attribute for each user.

Specifying Attribute Types

You can specify the following types of attributes for custom repository, custom user, and content channel document properties. The Management Console uses the attribute name and description to label the resulting attribute field:

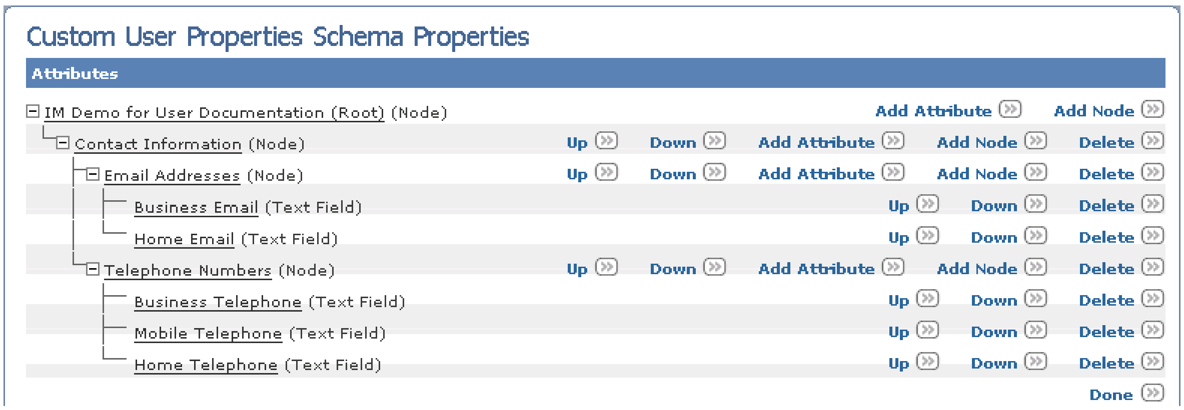
Attribute Type	Description
Check Box	Use this type to add a checkbox. For example, you could create a Subject Matter Expert node with checkbox attributes for each subject matter area, and select those that are relevant when you define a new user.
Counter	Use this type to increment a value for each instance of the attribute that you define, based on a specified prefix and start number. This is most commonly used for user and channel schema. For example, you could define a user attribute to assign an incremental value to each defined user based on the prefix `IQ` and the starting number `1000`. As users are defined, the application will automatically increment and assign the values `IQ1001`, `IQ1002`, and so on.
Date	Use this type to add a date field and calendar selector.
DateTime	Use this type to add a combined date and time field.
File	Use this type to add a file input field and a file browser that you can use to locate files. When you select the File option, the Management Console displays the Secure Resource field, as described in *Securing Documents that are Attached to Content Records* on page 69: 

Float	Use this type to add an input field to accept floating point values of a specified number of places.
Integer	Use this type to add an input field to accept integer values of a specified number of places.
List	Use this type to add one of the following types of data lists: • check box • drop-down • multiselect browser • radio button **Note:** You must specify an existing data list. See *Defining Data Lists* on page 78 for more information.
Rich Text Area	Use this type to add a text input field of a specified height having either basic, medium, or full sets of text editing functionality as described in *Working with Rich Text Area Fields* on page 93.
Text Area	Use this type to add a file input field with a browse function to locate files.
Text Field	Use this type to add a text input field having a specified number of characters.
Time	Use this type to add date and time fields labeled with the attribute name and optional description.

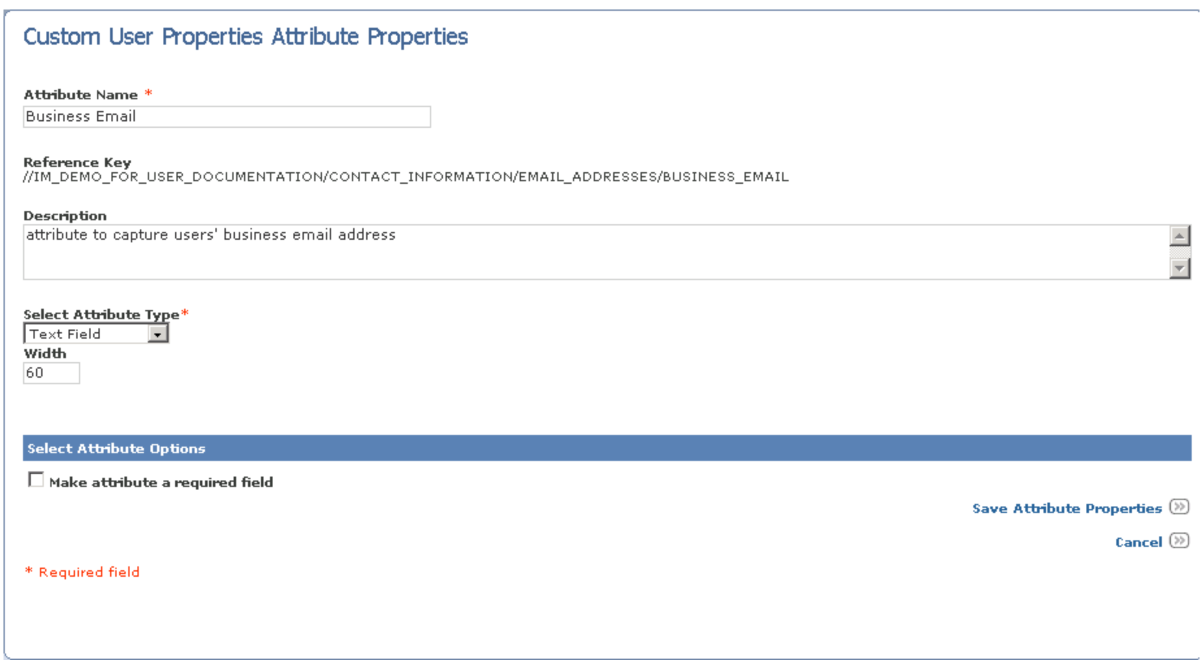
Example Custom User Properties Schema

The following examples display a schema of email address and telephone number nodes and attributes organized under a high-level Contact Information node.

The Custom User Properties Schema Properties page displays the node and attribute items that define the schema:

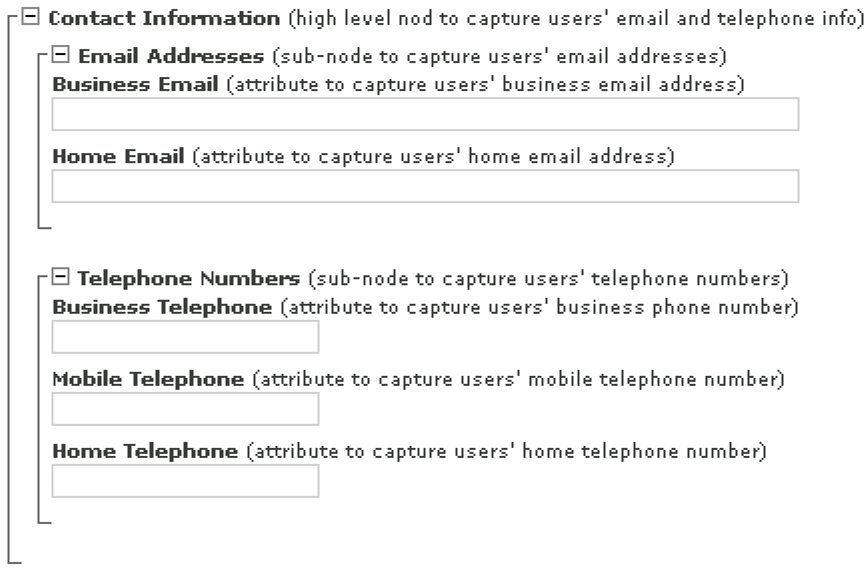


You can add, modify, and delete schema properties using the functions of the Custom User Properties Schema Properties page. The following Custom User Properties Attribute Properties page shows the properties of the Business Email attribute:



The custom schema nodes and attributes that you define display as input fields on the Management Console User Properties page when you define users for your application.

The following excerpt from the Management Console User Properties page displays the input fields defined by the attributes and nodes shown above:



Working with Rich Text Area Fields

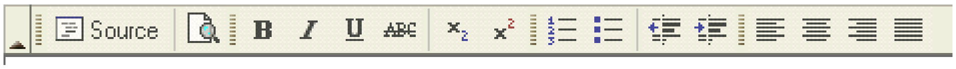
You can specify input fields that accept rich text. The rich text editor provides content authors or editors with the ability to format text as they input. Information Manager preserves the text formatting when the content is displayed to end users.

You define a rich text area by specifying:

- The text editing feature set (basic, medium, or full)
- The height of the input field:

Basic Rich Text Editing Features

The following text editing features are included in the Basic Rich Text Editor feature set:



Feature	Description
Source	Toggles the field between source (for example, html tags) and rendered (wysiwyg) display
Preview	Displays the field contents in a separate browser window
Character Effects	Applies an effect to the selected characters: • Bold • Italic • Underline • Strike Through • Subscript • Superscript
List	Adds or applies a numbered or bulleted list
Indent	Increases or decreases the level of indent
Justify	Justifies selected text to: • left margin • right margin • center (ragged edges at margin) • block (straight edges at margin)

Medium Rich Text Editor Features

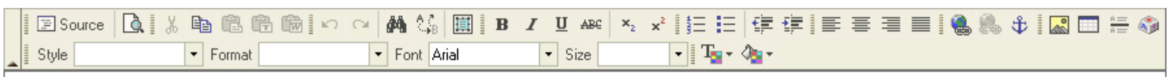
The following text editing features are included in the Medium Rich Text Editor feature set:

Feature	Description
Source	Toggles the field between source (for example, html tags) and rendered (wysiwyg) display
Preview	Displays the field contents in a separate browser window
Cut	Removes selected text and enables pasting
Copy	Retains selected text and enables pasting
Paste	Places cut or copied text at the current cursor position. You can paste as plain text or retain formating from a Word document.
Find	Finds text within the field
Find and Replace	Finds and replaces text within the field
Select All	Selects all contents of the field for an edit action
Character Effects	Applies an effect to the selected characters: • Bold • Italic • Underline • Strike Through • Subscript • Superscript
List	Adds or applies a numbered or bulleted list
Indent	Increases or decreases the level of indent
Justify	Justifies selected text to: • left margin • right margin • center (ragged edges at margin) • block (straight edges at margin)

Link	Insert or remove a hypertext link
Anchor	Insert or edit an anchor
Image	Insert or edit an image
Table	Insert or edit a table
Horizontal Line	Insert a horizontal line
Text Color	Change the color of selected text
Fill Color	Change the background color of a selected region

Full Rich Text Editing Features

The following text editing features are included in the Full Rich Text Editor feature set:



Feature	***Description***
Source	Toggles the field between source (for example, html tags) and rendered (wysiwyg) display
Preview	Displays the field contents in a separate browser window
Cut	Removes selected text and enables pasting
Copy	Retains selected text and enables pasting
Paste	Places cut or copied text at the current cursor position. You can paste as plain text or retain formating from a Word document.
Undo	Removes the most recent edit and restores the contents to their previous state
Redo	Re-applies the most recent edit after an Undo action
Find	Finds text within the field
Find and Replace	Finds and replaces text within the field
Select All	Selects all contents of the field for an edit action

Character Effects	Applies an effect to the selected characters: • Bold • Italic • Underline • Strike Through • Subscript • Superscript
List	Adds or applies a numbered or bulleted list
Indent	Increases or decreases the level of indent
Justify	Justifies selected text to: • left margin • right margin • center (ragged edges at margin) • block (straight edges at margin)
Link	Insert or remove a hypertext link
Anchor	Insert or edit an anchor
Image	Insert or edit an image
Table	Insert or edit a table
Horizontal Line	Insert a horizontal line
Special Characters	Insert special characters
Style	Apply styles to selected text
Format	Apply formatting to selected text
Font	Change the font of selected text
Size	Change the size of selected text
Text Color	Change the color of selected text
Fill Color	Change the background color of a selected region

Registering Web Applications for a Repository

You can register one or more Web applications with your repository to facilitate the creation and updating of your sites.

The registration process:

- Copies all of the necessary files from the supplied Information Manager tag library location `(<IM_home>/install/taglib)` to the specified location of your servlet container
- Builds the necessary configuration files

  and
- Registers an existing Web application for use with the Information Manager

Registering a Tag Library Web Application

You can register a Tag Library web application for use with a specified Information Manager repository using the Tag Library pages, which are accessible from the Repository page of the Management Console. The Information Manager is installed with a Tag Library web application that you can use to provide content to a configured InQuira application, as described in *Configuring Content Acquisition from Information Manager Repositories*.

URL To Container	Specify the URL that the application will be available at when fully deployed.
Context	Specify the name of the folder under the webapps directory where the InfoCenter template files will be copied to.
Webapps Directory	Navigate to the appserverim/webapps folder where other IM apps are deployed. You navigate by selecting the directory in the box below. Use **Move to parent directory** to navigate up to the parent directory.

When you register a new Tag Library-based Web application, the Information Manager:

- Copies the Web application files from the directory $IM_HOME/install/taglib to a specified servlet deployment directory specified from the multi-step form page. Normally the deployment directory should point to a folder such as $INQUIRA_ROOT/instances/<INSTANCE NAME>/appserverim/webapps. The context is the name of the sub-folder under the location specified in the first step where the files will be copied to.
- Creates and deploys application-specific files and generates and stores a new repository.properties file in the <NEW_APPLICATION>/WEB-INF/ folder. This file will have a minimum of the following properties added:
    - domain.name=<REPOSITORY REFERENCE KEY>
    - instance.number=<numeric value> representing each instance in the network. Each deployed copy of this Web application must have a unique instance number. For a single server this number is auto-incremented. For multiple network servers the combination of the hostname and instance number must be unique. This value is used to label all corresponding log files.
- Generates a new application.properties file containing the JDBC and JMS connection information from the Information Manager Management Console (retrieved from $IM_HOME/config/IMADMIN/application.properties). The new file is stored in $IM_HOME/config/<REPOSITORY REFERENCE KEY>/application.properties
- Registers the application in an XML file called registeredapps.xml located in $IM_HOME/config folder. This file stores the location of each deployed Information Manager application on a server instance. Each time the application starts up, this file is loaded with the latest deployment information. This information is used by the Information Manager upgrader to distribute new software to each deployed application.

Once the new Tag Library Web application is configured and installed on the server, you can create and deploy new JSP pages using the standard JSP development process for your organization.

NOTE: You'll need to re-start the Information Manager applications in order for the newly deployed application to be available.

After deploying the new application it will be available at the URL:

http://<host>:<port>/<context>/index?page=home

NOTE: For this example we've used "home" as the landing page; other applications may use a different initial landing page.

Associating the Tag Library Web Application with a Repository

You associate a Tag Library Web application with a specific repository using the /WEB-INF/repository.properties file. Set the domain.name property to the reference key of the repository. The value of the domain.name property corresponds to a specific directory under $IM_HOME/config. The reference key will be represented in all capital characters.

When the Tag Library Web application starts, it binds to the specified repository.

NOTE: Any changes to the association between the application and the repository will take effect only after you re-start the web application.

Registering Additional Tag Libraries

You can incorporate additional Tag Libraries by registering the libraries in the JSP pages and copying the associated JAR files into the /WEB-INF/lib directory. If you register an existing Tag Library, no additional files will be copied from the $IM_HOME/install/taglib directory. This assumes that the initial required Tag Library files are already installed and properly configured as described previously in this section.

Chapter 4 Content Categories

Content categories provide the mechanism to organize application content by any characteristic or business requirement, such as product and model, so that related content can be managed and presented in similar fashion.

NOTE: Content channels differ from content categories. Content channels provide the mechanism to organize your content by document type, such as FAQ or news article. See *Chapter 5, Content Channels* for more information.

You can create hierarchies of content categories to reflect the organizational structure of any aspect of your content as described in *Content Category Hierarchies* on page 102.

You use content categories within Information Manager by:

- Enabling content categories for a channel by assigning categories within content channel definitions as described in *Adding a Content Category* on page 102. Content creators will then be able to associate content records with one or more content categories that you have enabled for the channel.
- Identifying users' skill sets by assigning content categories to individual user profiles. You can then specify that content tasks will be available for assignment based on skill, which is when the categories associated with the content match those associated with

the user. See *Filtering the Task List* in the *Information Manager Content Authoring Guide* for more information.

Content Category Hierarchies

You can define multiple levels of categories and sub-categories to represent any content structure within your organization. The multiple category levels that you define form a hierarchy, such that higher-level categories include lower level categories, and lower-level categories inherit properties from their parents.

The highest level categories are referred to as branch categories. Each branch category can have a complete tree defined below it. The trees are hierarchical; if you search for content within a specified category, the search will automatically extend to the children of the specified category.

For example, a branch category named Technology might include sub-categories called Hardware and Software. In this scheme, any content in the Hardware category also belongs to the parent category, Technology; a request for Technology content will also return any content assigned to Hardware and Software.

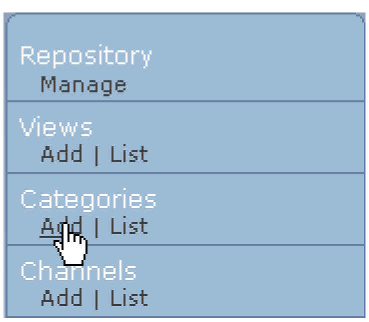
You can add new branch categories at any time; you may find it useful to create a branch category for each functional area of your site.

Adding a Content Category

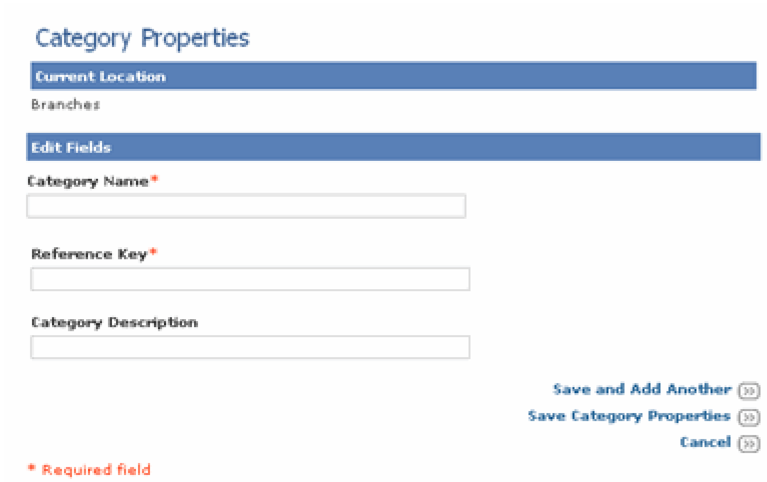
You create content categories using the Repository Categories option of the Repository Menu.

To add a content category:

- Select the **Add** option under Repository Categories:



The Information Manager console displays the Category Properties screen:



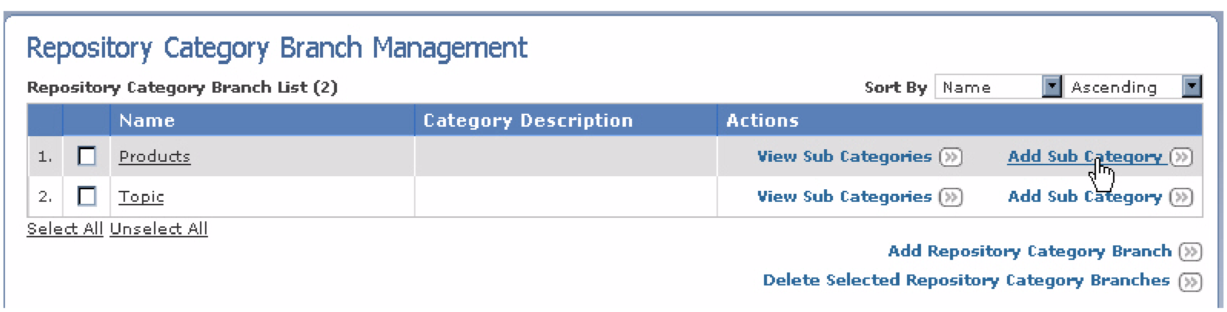
- Specify the category name
- Specify the reference key (see *A Note On Reference Keys* on page 62 for more information)
- Add an optional description for the category
- Select **Save Category Properties**

Adding a Content Sub-Category

To add a content category as a child of an existing category:

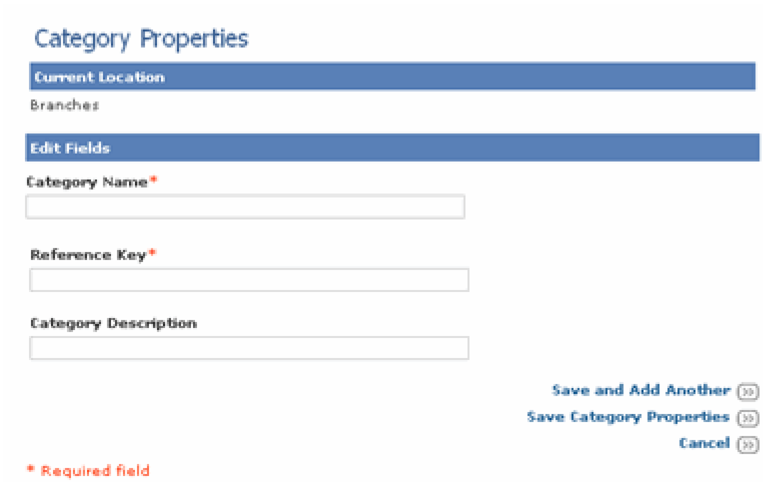
- Select the **List** option under Repository Categories

  The Repository Category Branch Management page lists the currently defined categories:



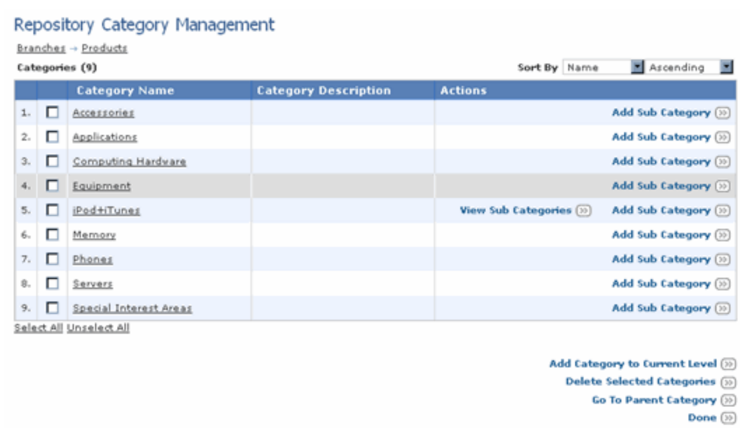
- Select **Add Sub Category** for the desired category

The Category Properties page displays fields to define a category under the current location (selected category). The Categories at Current Level area displays any currently defined sibling categories.



- Specify the category name
- Accept or specify the reference key
- Add an optional description for the category
- Select **Save Category Properties** or **Save and Add Another**, if appropriate

The Repository Category Branch Management page displays the new sub-category:



NOTE: The navigation path below the page title indicates the position of the category within the hierarchy. You can navigate up the hierarchy by selecting an item in the navigation path.

Using Information Manager Response Channel Schema

Information Manager Intent Response content records are based on content channel schema that you define in the Information Manager repository.

Response Schema are the basis for formatting Responses in the User Interface. Every Response must conform to the requirements of the Response schema, and every Answer Purpose used in the User Interface must be associated with a specific Response schema.

Response Schema specify the layout and content type for the parts of a Response. For example, the schema for a Response that will appear in a Promotions User Interface portlet might contain fields that define:

- A title
- An image
- A link
- Some descriptive text

You can create and configure a Response channel schema that specifies these fields, so that any Response based on the schema will conform to the desired format.

Creating and Modifying Response Schema

You can create and modify Response schema using the same process as you would for any Information Manager content channel schema. See the *Information Manager Configuration and Administration Guide* for more information on creating and modifying content channel schema.

When you have defined the schema, you must then configure it for use by the Intelligent Search application by associating the schema with the desired Answer Purpose as described in *Configuring Answer Purposes* in the *Intelligent Search Application Development Guide*.

Chapter 5 Content Channels

Content channels correspond to the various types of content (document types) that you need to support within your organization. A channel definition serves as a template for a particular type of document. You can define content channels for any number of document types (including digital media) having different requirements for:

- Content attributes (document structure), such as titles, customer and case IDs, and product categories
- Workflow processes to enforce a managed sequence of authoring, editing, and approval steps
- Publishing lifecycle, such as revision tracking, review, and publish dates
- Display features, such as layout and color schemes

Before you define content channels, you should determine the content attributes (structure), publishing process (workflow and lifecycle), and appearance (presentation) requirements for the types of documents you will use in the application. Once you have identified your content requirements, you can then:

- Define content channels for each type of content that you will support
- Add content to the application using the defined channels, as described in Working with Information Manager Content

Channel Definition Overview

You define content channels in the Repository section of the Management Console. You create a channel by specifying:

- General properties as described in *Specifying General Channel Properties* on page 112
- The workflow process required for content in this channel as described in *Specifying Workflow Options for a Channel* on page 114
- The types of feedback that users will be able to provide as described in *Specifying Feedback Options for a Channel* on page 116
- The content categories that documents can be assigned to as described in *Specifying Content Categories for a Channel* on page 117
- Which user groups will have access to the document as described in *Specifying User Group Options for a Channel* on page 118
- Which privileges users of each security role will possess as described in *Specifying Security Roles and Privileges for a Channel* on page 119

When the basic definition is complete, you can define:

- The fields within the content template, such as title and text areas, for the document type as described in *Specifying a Channel Schema* on page 120
- An optional URL to preview documents belonging to this channel

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NOTE: You can modify channel definitions after content has been added; see *Modifying Existing Document Types* on page 109 for more information.

Modifying Existing Document Types

You can modify channel definitions after content has been added, if necessary, without affecting the content assigned to the channel; however, it is usually more efficient to analyze your content requirements and define the channel properties as thoroughly as possible.

If you add a field to a channel, existing records in the channel will then contain an empty field. You can edit existing records to add content to a new field.

If you remove a field from a channel, existing records in the channel will still contain the field and data; however, users will not be able to modify data within deleted fields. New records added after the change will not contain the deleted field.

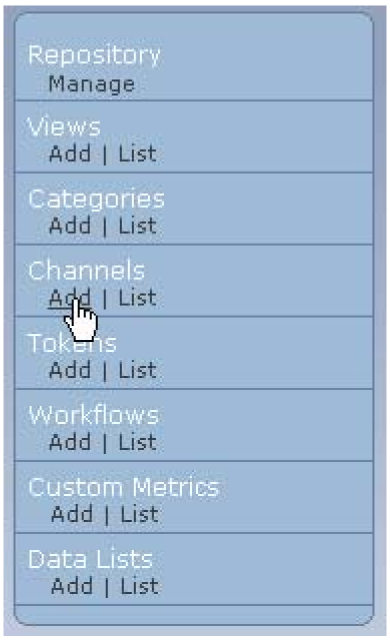
NOTE: If you need to modify data associated with a deleted field, you must add the attribute to the channel definition again using the original reference key.

Defining Content Channels

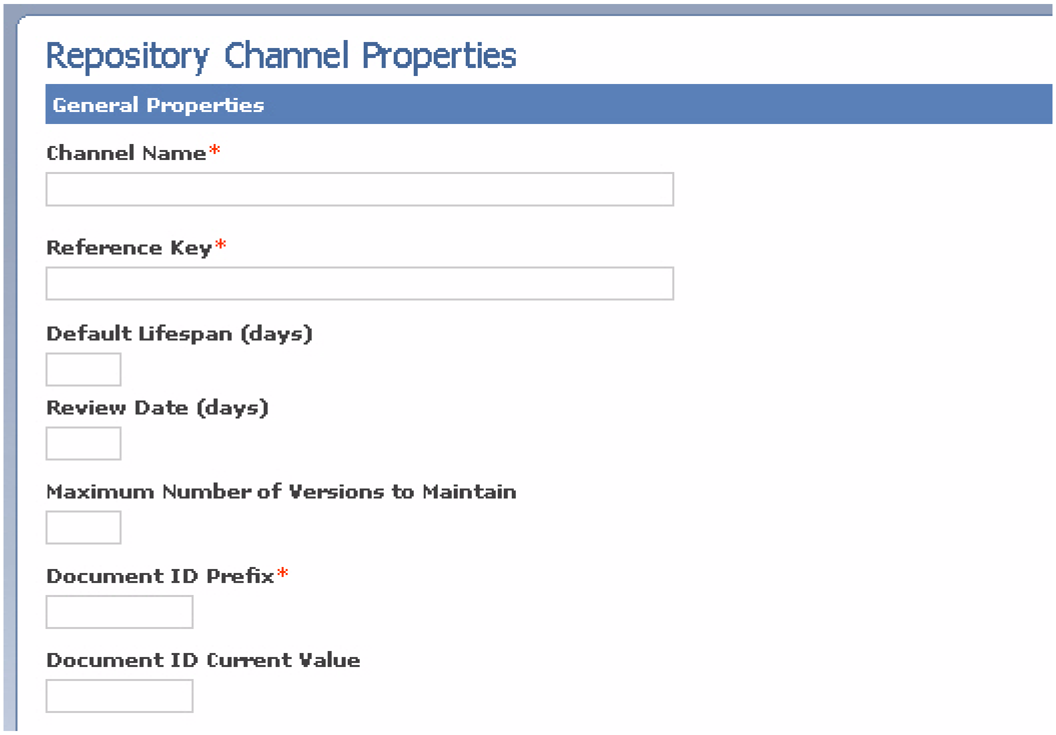
To define a content channel:

- Select **Repository** from the navigation area:

- Select the **Add** option under Repository Channels:



The Management Console displays the Repository Channel Properties page.



- Specify general channel properties as described in *Specifying General Channel Properties* on page 112
- Specify fields, such as title and content areas, to define the structure of the documents for the channel,as described in *Specifying a Channel Schema* on page 120
- Specify optional meta-data fields to record internal, life cycle-independent information about the content as described in *Specifying Content Meta Data* on page 129
- Specify additional collaboration, content category and security properties as described in:
  - *Specifying Workflow Options for a Channel* on page 114
  - *Specifying Feedback Options for a Channel* on page 116
  - *Specifying Content Categories for a Channel* on page 117
  - *Specifying User Group Options for a Channel* on page 118
  - *Specifying Security Roles and Privileges for a Channel* on page 119

Specifying General Channel Properties

The Repository Channel Properties page contains properties that you use to define basic properties and behavior, such as the name of the document type, and whether documents in the channel will be removed from publication at a specified time.

- Specify the following general channel properties:

Property	Description
Channel Name	Specify the name of the content channel, for example, News or FAQ.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Default Lifespan (days)	Specify an optional default number of days from the initial publishing date that new content records will remain available on the target web site. Content creators and editors can override this value for individual content records. Leave empty to specify that records will not be automatically removed from publishing.
Review Date (days)	Specify the number of days after creation that the system will create a content review task. You must configure a Content Review scheduled job to create the content review tasks and notification as described in *Identifying Content to be Reviewed* on page 304. Leave empty to specify that documents will not be automatically scheduled for review.
Maximum Number of Versions to Maintain	Specify the maximum number of versions of content records that the Information Manager will maintain. The Information Manager records all changes to each content record, and maintains all versions by default. You can limit the number of versions to maintain in order to conserve disk space. Enter the number of versions to maintain, or leave blank to maintain all versions.
Document ID prefix	Specify an optional prefix for the ID number that the Information Manager automatically assigns to each content record. The document ID prefix helps identify documents belonging to a specific channel.

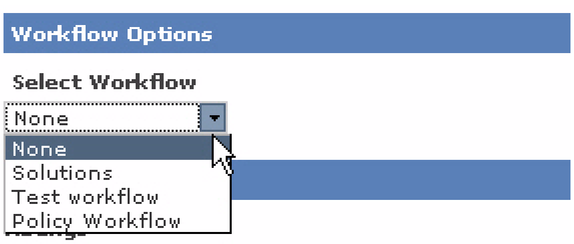
Document ID Current Value	Specify a starting value for the incremental ID number that the Information Manager automatically assigns to each content record. For example, specify 1000 to begin the document ID numbering sequence for the channel at 1001.
Remove minor versions after publishing	Specify whether the Information Manager will remove minor revisions of content records, which are created to track individual workflow steps, when the record is published.
Provide event start and end date attributes	Specify whether content records in this channel will contain start and end date fields. This is useful for creating automatically updated event calendars.
Enable Priority/Order	Specify whether content records in this channel can be assigned a numeric value to help influence ranking among search results.
Enable related content	Enable additional content association features during the editing process.
Enable Check Out/In	Enable a check-out and check-in process for content records in this channel. When check in/out is enabled, multiple users can edit records without creating conflicts.
Enable user activity logging	Enable logging of end-user access information.
Enable Content Recommendations	Enable content recommendations for this channel. Content recommendations are special content items that end users can create to enter request for specific content. See *Creating and Managing Content Recommendations* on page 233 for more information.
Enable HTML Validation	Specify this option to allow the channel designer to turn off the HTML validation (Tidy) that is performed prior to saving the content record. IMPORTANT: Leave this enabled if possible or the generated XML data may be corrupted. This can easily happen if, for example, a user cuts and pastes from another application that allows characters or other objects not allowed in HTML.

Custom Content Entry Fields Section Name	Specify an optional heading for the section of the Content and Content Preview pages that display the document structure fields defined in the channel schema. You can also use the adjacent checkbox to omit the section heading from display. See *Specifying a Channel Schema* on page 120 for more information on content channel schema.
Custom Meta Data Entry Fields Section Name	Specify an optional heading for the section of the Content and Content Preview pages that display the content meta data fields defined in the channel schema. You can also use the adjacent checkbox to omit the section heading from display. See *Specifying Content Meta Data* on page 129 for more information on content meta data schema.
Select locales for automatic translation requests	Specify the locales for the channel to be sent out for translation for any new master documents that are created. In the event of an edit to a master document, the previous author of a translation can be notified (based on settings in the repository properties).

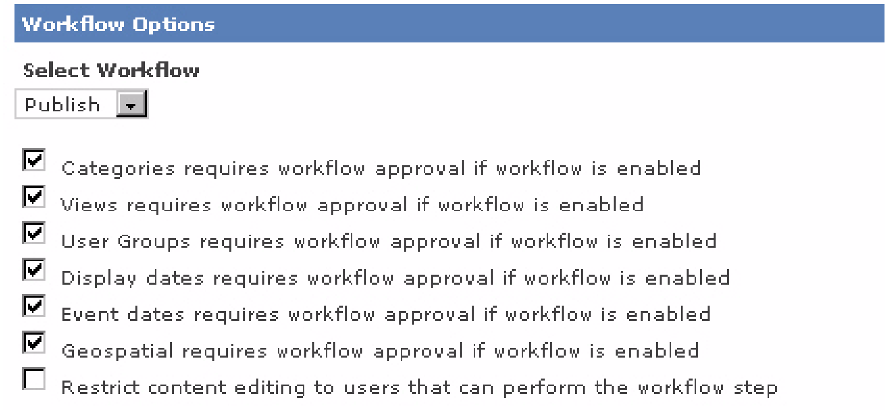
Specifying Workflow Options for a Channel

The Repository Channel Properties page contains properties to specify a workflow process to be used for a channel. You must first define the workflow process as described in *Chapter 7, Workflow Processes*.

- Select the desired workflow (the options shown are examples)



- Specify the following workflow options:



Property	Description
<Item> requires workflow approval if workflow is enabled	Specify whether editing the selected attribute within a content record is subject to workflow permissions and version incrementing, or whether such changes can occur without requiring progression through the workflow. For example, changing an initial display date might be an important decision that requires oversight and approval for some channels and relatively unimportant for others.

Specifying Feedback Options for a Channel

The Repository Channel Properties page contains collaboration properties that define the use of ratings forms and discussion boards within the channel. You must have defined the rating form as described in *Chapter 8, Feedback and Collaboration Features*

- Specify the following collaboration properties:

Property	Description
Ratings	Select a defined rating form to include in channel documents. The rating form shown above is an example.
Enable Threaded Discussions	Enable threaded discussion forums in the channel.
Moderate Discussions	Enable moderated discussions in the channel.

Specifying Content Categories for a Channel

The Repository Channel Properties page contains category properties that associate one or more content categories with a content channel. See *Chapter 4, Content Categories* for more information.

- Select one or more content categories or sub-categories.

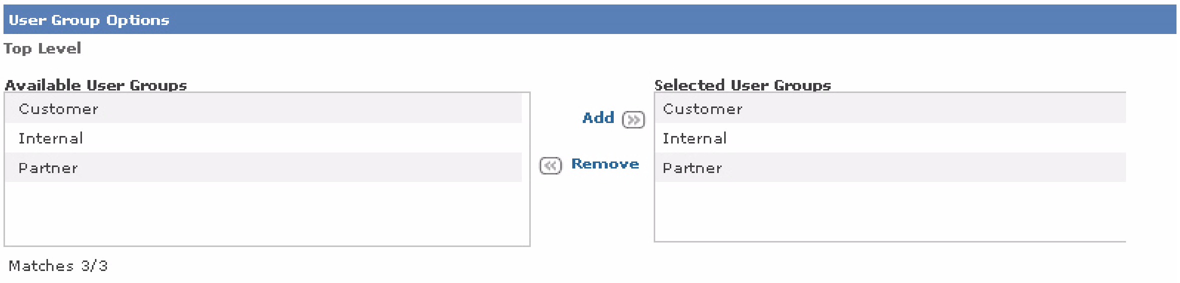
NOTE: If there are more than 100 categories, you will see a search box you can use to locate a subset of the categories.

The categories shown above are examples. Categories that contain sub-categories display as links preceded by a plus sign (+). Select the **Add** option to add the category and all sub-categories. Select the category to display the sub-categories, which can then be selected individually. Information Manager will associate content records in this channel with the selected categories.

- Specify that content creators will be required to associate content records with at least one category using the **Require authors to select at least one category in addition to the categories marked as "required"** option

Specifying User Group Options for a Channel

The Repository Channel Properties page enables you to associate one or more user groups with a content channel. See *Defining User Groups* on page 160 for more information.



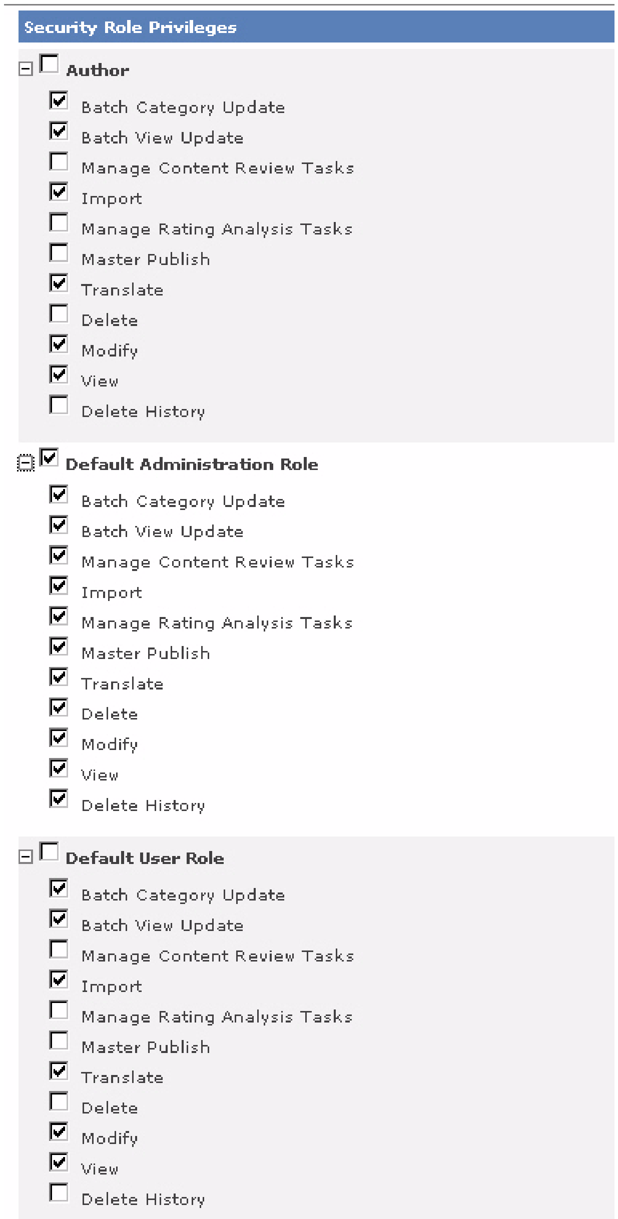
- Select any appropriate user groups. Content created in this channel can only be made available to the selected user groups.

NOTE: If there are more than 100 user groups, you will see a search box you can use to locate a subset of the user groups.

- Specify that content creators can associate content records with on group only using the **Restrict User Group selection to one group only** option.
- Specify that content creators will be required to associate content records with at least one user group using the **Require at least one user group to be selected** option.

Specifying Security Roles and Privileges for a Channel

The Repository Channel Properties page contains security properties that associate one or more defined user roles and privileges with a content channel. See *Chapter 6, Managing Users* for more information.



- Specify the appropriate security roles and privileges for the channel

Specifying a Channel Schema

You define the structure of the documents within a channel by defining and applying content channel schema. You can specify whether the various content fields that you define are required or optional for content authors.

NOTE: You can also define content metadata fields to store information about the content record that is independent of its subject matter as described in *Specifying Content Meta Data* on page 129.

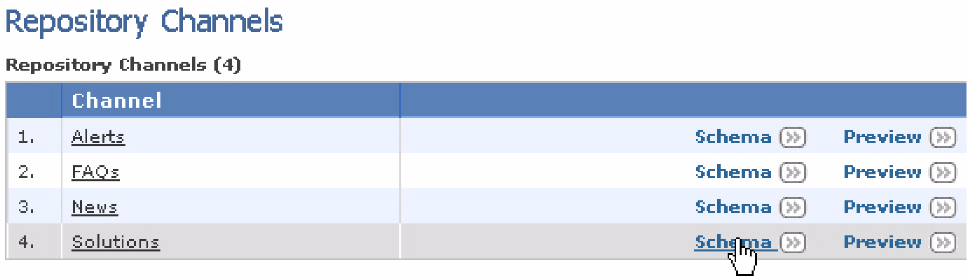
To specify the channel schema:

- Select **Repository** from the navigation area

- Select the **List** option under Repository Channels

The Management Console displays the Repository page.

- Select the **Schema** option for the desired channel



The Management Console displays the <channel> Schema Properties page.

Channel Schema Nodes and Attributes

You define the content structure of your documents by specifying nodes and attributes. The nodes and attributes define the content fields within the document template for the channel.

An attribute is an individual item, such as a document title. A node is a heading for one or more attributes, such as author's name, user ID, and department. (In database terms, attributes are columns in a database table, whereas nodes are 1-M related tables.)

Nodes provide a convenient method of grouping together attributes that have some common characteristic. For example, a Contributors node might group together attribute fields to store information about various authors and editors who contributed to an article. Each node might contain attributes for the name, user ID, and department of a contributor. You can allow multiple copies of a node to store information about multiple contributors to documents.

IMPORTANT: You can define a complex hierarchy of nodes and attributes to reflect virtually any type of data structure; however, we recommend using simple data schema to make it easier for content providers to manage information.

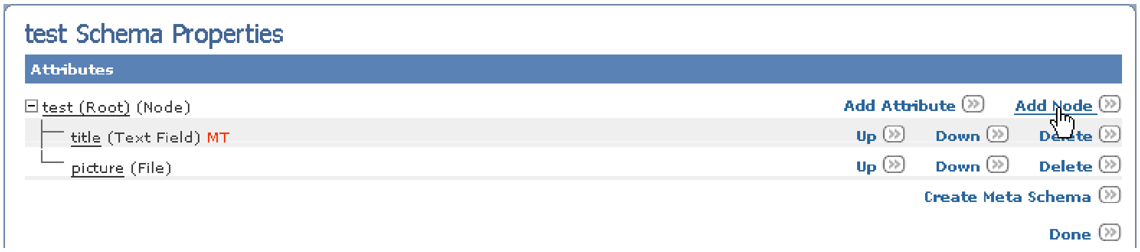
Specify channel schema nodes as described in *Specifying Channel Schema Nodes* on page 122.

Specify channel schema attributes as described in *Specifying Channel Schema Attributes* on page 123.

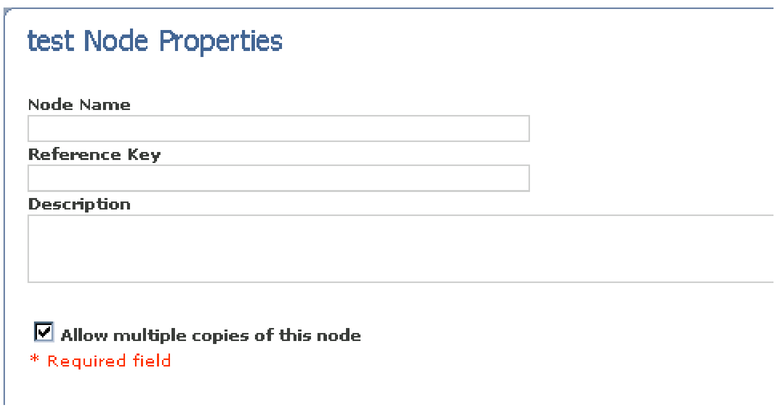
Specifying Channel Schema Nodes

To define a channel schema node:

- Select the **Add Node** option on the <Channel> Schema Properties page



The <Channel> Node Properties page displays:



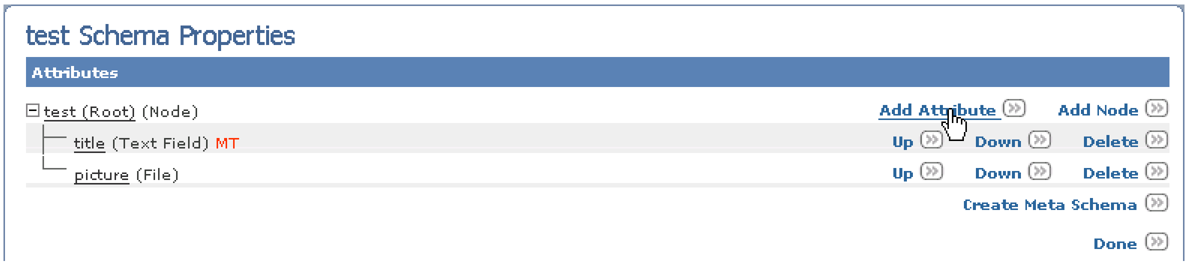
- Specify the following properties:

Property	**Description**
Node Name	Specify a name for the node.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify a description, which will display as a label on the Channel Properties page.
Allow multiple copies of this node	Specify to allow this node to be added multiple times within a single record. For example, you could define a node that allows multiple contributors to a single news article.

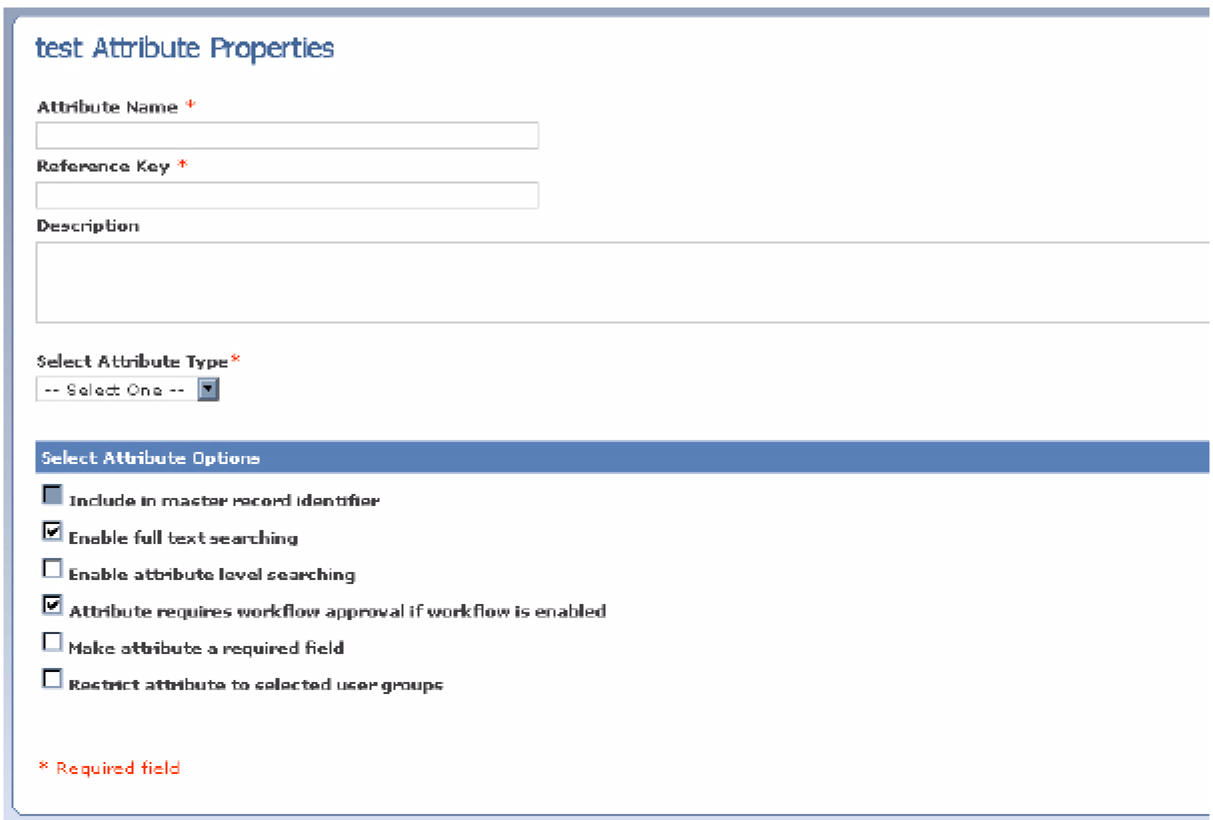
Specifying Channel Schema Attributes

To define a channel schema attribute:

- Select the **Add Attribute** option on the <Channel> Schema Properties page.



The <Channel> Attribute Properties page displays:



- Specify the following properties:

Property	Description
Attribute Name	Specify a name for the attribute.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify a description, which will display as a label for the field when displayed on the Channel Properties page.
Attribute Type	Specify the type of field for this attribute as described in Specifying the Schema Attribute Type.
Attribute Options	Specify additional attributes as described in *Specifying Schema Attribute Options* on page 126.

Specifying Attribute Types

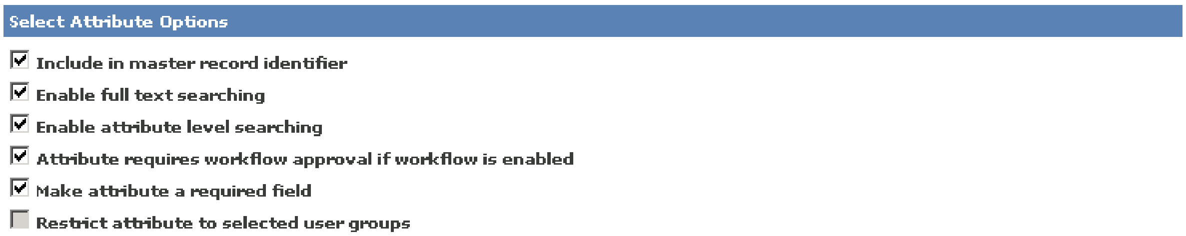
You can specify the following types of attributes for custom repository, custom user, and content channel document properties. The Management Console uses the attribute name and description to label the resulting attribute field:

Attribute Type	Description
Check Box	Use this type to add a checkbox. For example, you could create a Subject Matter Expert node with checkbox attributes for each subject matter area, and select those that are relevant when you define a new user.
Counter	Use this type to increment a value for each instance of the attribute that you define, based on a specified prefix and start number. This is most commonly used for user and channel schema. For example, you could define a user attribute to assign an incremental value to each defined user based on the prefix `IQ` and the starting number `1000`. As users are defined, the application will automatically increment and assign the values `IQ1001`, `IQ1002`, and so on.
Date	Use this type to add a date field and calendar selector.
DateTime	Use this type to add a combined date and time field.

File	Use this type to add a file input field and a file browser that you can use to locate files. When you select the File option, the Management Console displays the Secure Resource field, as described in *Securing Documents that are Attached to Content Records* on page 69: 
Float	Use this type to add an input field to accept floating point values of a specified number of places.
Integer	Use this type to add an input field to accept integer values of a specified number of places.
List	Use this type to add one of the following types of data lists: • Check box • Drop-down • Multiselect browser • Radio button This attribute can be a master identifier. NOTE: You must specify an existing data list. See *Defining Data Lists* on page 78 for more information.
Rich Text Area	Use this type to add a text input field of a specified height having either basic, medium, or full sets of text editing functionality as described in *Working with Rich Text Area Fields* on page 93.
Text Area	Use this type to add a file input field with a browse function to locate files.
Text Field	Use this type to add a text input field having a specified number of characters. This attribute can be a master identifier.
Time	Use this type to add date and time fields labeled with the attribute name and optional description.

Specifying Schema Attribute Options

Schema attribute options specify information to include in the record title, how the Management Console search facility will search the content fields, and whether fields are required.



- Specify the following properties:

Property	Description
Include in master record identifier	Specify whether the value of the attribute will be used as an element of the title of a record within the Management Console. NOTE: Only attributes of type *List* and *Text Field* can be master identifiers:. You must specify at least one master identifier for each channel definition. The master identifier is the attribute that the Information Manager uses as the title of the record for internal reference.
Enable full text searching	Specify whether the contents of the attribute will be searchable by full text. Full-text search matches your search query against the contents of any content record attributes that are available for searching. See *Specifying Search Options for Channel Attributes* on page 128.
Enable attribute level searching	Specify whether the contents of the attribute will be searchable by attribute. Attribute-based search restricts matching to only the specified attribute. See *Specifying Search Options for Channel Attributes* on page 128.
Attribute requires workflow approval if workflow is enabled	Specify whether editing the value of this attribute is subject to workflow permissions and version incrementing when a workflow is assigned to this channel.
Make attribute a required field	Specifies that the attribute will be required for all records in the channel.

Restrict attribute to selected user groups	Specify to display this attribute only to members of selected user groups as described in *Restricting Channel Schema Attributes to Selected User Groups* on page 127.

Restricting Channel Schema Attributes to Selected User Groups

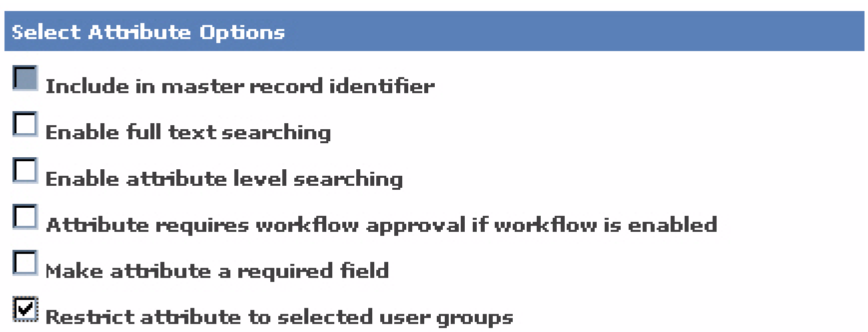
You can specify to display the contents of a channel schema attribute only to members of selected user groups by selecting the Restrict attribute to selected user groups option on the <Channel> Attribute Properties page.

For example, you could specify that an attribute will display only to members of the Management user group.

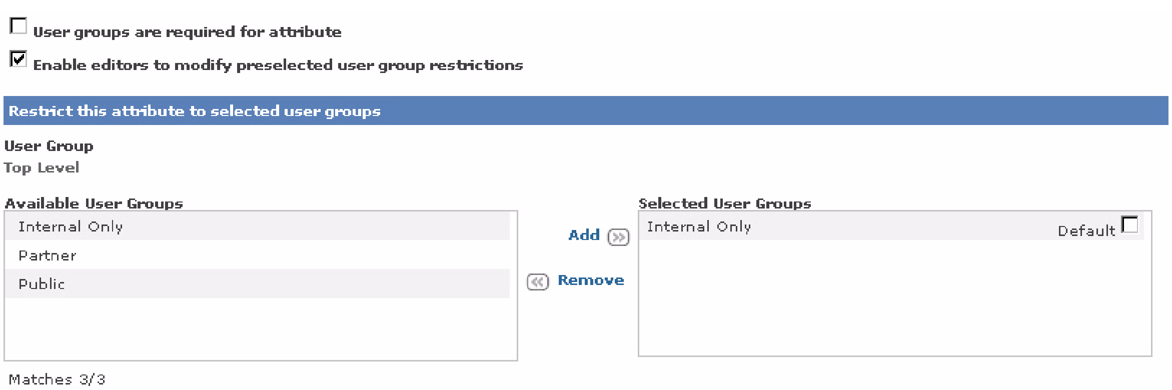
When you integrate Information Manager with an InQuira 8.1 Intelligent Search application, you can enable the same restriction for Information Manager content that is returned within search results.

To restrict a channel schema attribute:

- Select **Restrict attribute to selected user groups** on the <Channel> Attribute Properties page:



The Management Console displays additional attribute restriction options and options for the defined user groups.



- Specify the following restriction options:

Option	Description
User groups are required for attribute	Specify that a user group must be associated with the content record.
Allow editors to change default user groups	Specify that authorized editors can override the default user groups.
Restrict	Specify that the attribute will display only to members of this user group.
Default	Specify that the selected user group will be associated by default.

Specifying Search Options for Channel Attributes

You can specify that an attribute will be available for:

- Full text searching
- Attribute-level searching

The Information Manager includes an internal search facility that you can use to search for content in the current repository using the Find option.

Attribute level searching provides enhanced full text searching within specific attributes, for example, find all people where First Name = “Mary”.

NOTE: Not all data is appropriate for full text searching. File names and hyperlinks are examples of attributes that are generally not good candidates.

Specifying Content Meta Data

You can define content metadata fields within a channel definition to store information about the content record that is independent of its subject matter.

The Management Console maintains content metadata independently of workflow steps and revision numbering, so that editors can modify this information without affecting the content record's version or progress within the publishing cycle.

NOTE: You can also make content category and user groups available as metadata so that editors can change this information independently of the content workflow.

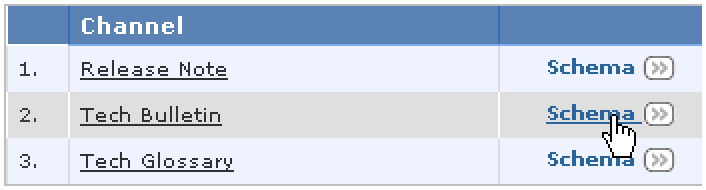
To define content metadata:

- Select **Repository** from the navigation area

- Select the **List** option under Channels

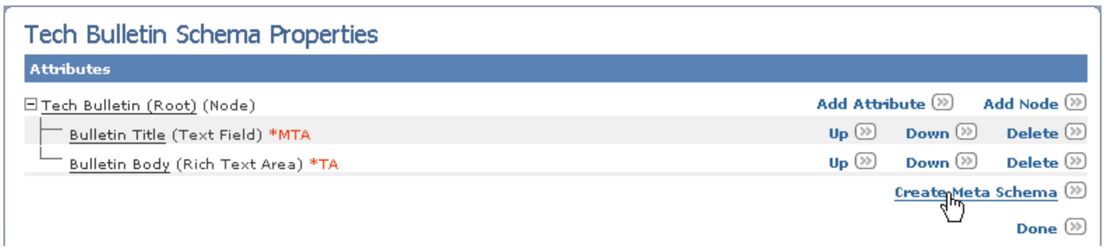
The Management Console displays the Repository page.

- Select the **Schema** option for the desired channel

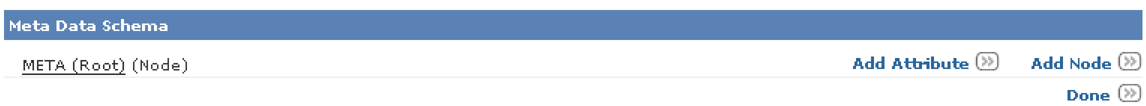


The Management Console displays the <channel> Schema Properties page.

- Select the desired channel, then select **Create Meta Schema** on the <Channel> Schema Properties page:



The Management Console displays an empty metadata schema hierarchy:



- Specify nodes and attributes as described in *Specifying a Channel Schema* on page 120.

Associating Content Records with CRM Cases

You can assign an incident or case identifier to a content record so that the content is associated with the incident for future reference. The association enables agents or other staff to enter content into the application and specify the relevant issue. You can assign incidents to content records using the configured web application or the Management Console.

To link an incident to a content record from the console:

- Select the content record

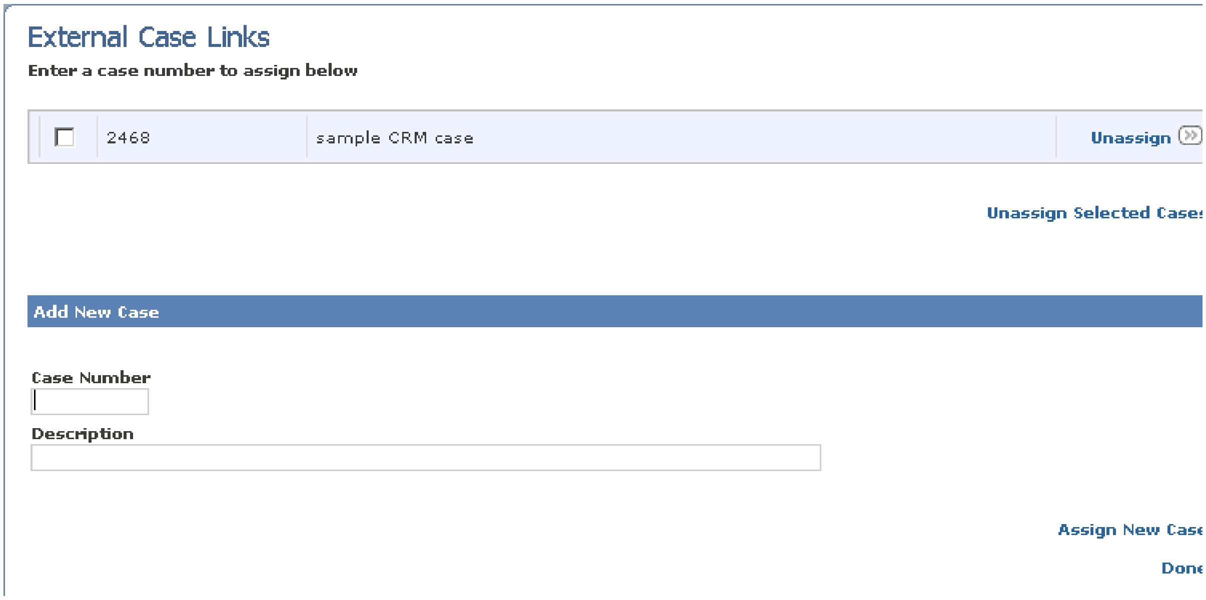
The Management Console displays the Content Preview page.

- Select the **Feedback** tab
- Select the **Manage Case Links** option:

The External Case Links page displays:

- A list of all cases currently associated with the document

- Fields to specify an additional case



- Enter the following case information:

Case Number	The identifier of the case that this document will be associated with
Description	A description of the case, which can be the summary description from the CRM application

The Management Console displays case link information on the Feedback tab of the document information area on the Preview page.

You can remove case assignments by:

- Selecting the **Unassign** option for a case
- Selecting multiple cases, then selecting the **Unassign Selected Cases** option

in the summary table on the External Case Links page

You can delete case links that are no longer associated with content records using the Unused Case Links batch job as described in *Deleting Unused Case Links* on page 308.

Comparing Documents with Previous Versions

You can compare different versions of a document to view:

- Highlighted content changes from a previous version of the document as described in *Highlighting Differences from Previous Versions* on page 133.
- A side-by side comparison of two versions of a document, as described in *Comparing Documents Side by Side* on page 134.

The Management Console displays comparison information about:

- Document content fields
- Document properties, including:
  - Views
  - Categories
  - User Groups

Highlighting Differences from Previous Versions

You can highlight the differences between a current document and its previous versions using the Compare Versions option of the Info tab on the Content Preview page. The Management Console compares documents by displaying:

- Deleted content as hightlighted and strikethrough text, and added content as highlighted text:

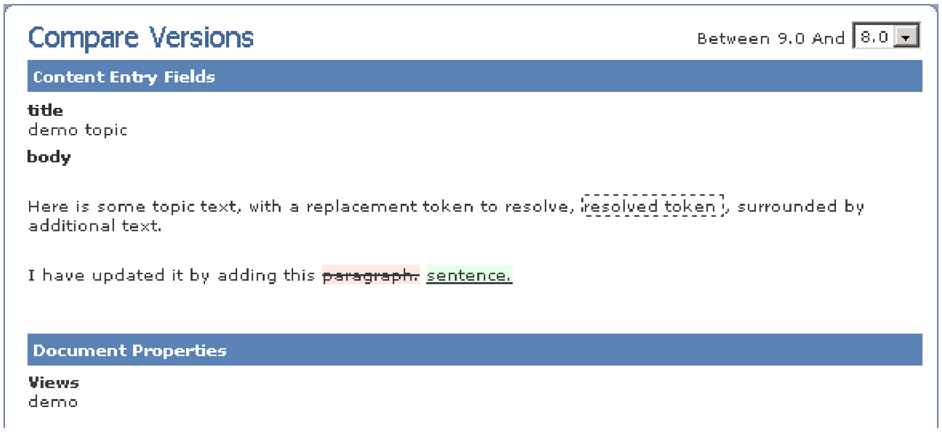
To compare the current document with a previous version:

- Select the content record of interest

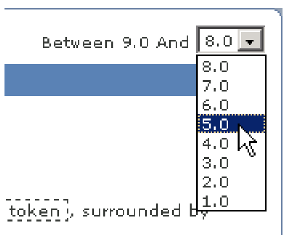
The Management Console displays the content preview page.

- Select the Info tab in the document information area, then select **Compare Versions**:

The Management Console displays the Compare Versions page, which highlights the differences between the current document and the previous version:



You can select additional versions for comparison using the dropdown list in the upper right portion of the content area:



Comparing Documents Side by Side

You can view a document and its previous versions on the same page using the Side by Side View option of the Info tab on the Content Preview page.

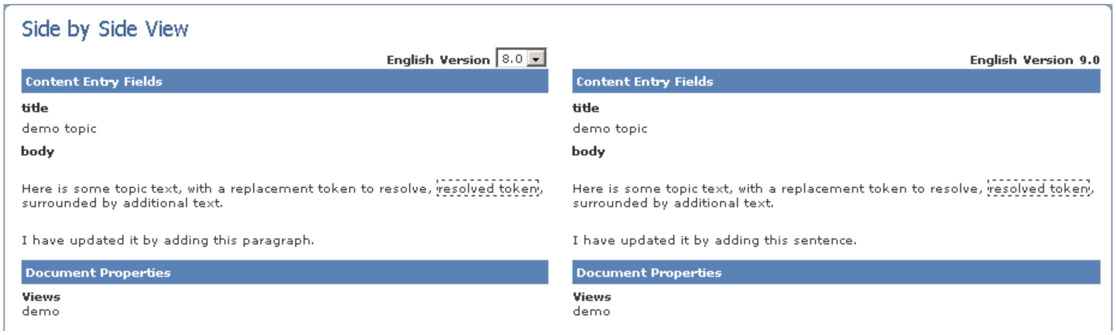
To compare the current document with a previous version:

- Select the content record of interest

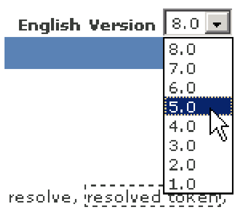
The Management Console displays the content preview page.

- Select the Info tab in the document information area, then select **Side by Side View**:

The Management Console displays the document contents compared with the previous version:



You can select additional versions for comparison using the dropdown list in the upper right portion of the content area:



Updating Content in Bulk

You can perform administrative operations on multiple documents. For example, authorized users an find all documents having a specific owner and change the owner of those documents in one action.

To perform bulk operations, use the list and filtering functionality to generate a list of documents, then select all or some individual documents from the list. The following operations are available:

- Publish
- Unpublish
- Change Owner
- Request Translation
- Change Start Date
- Change End Date
- Delete

Filtering Display Lists

Version 8.1 includes several Information Manager usability enhancements, including personalized lists, work teams, and automated translation requests.

Personalized list filters enable users to filter lists to quickly identify documents that meet common criteria. For example, a user can quickly see all documents they last modified, or their documents at a specified point in a workflow.

Chapter 6 Managing Users

You can use the user management facility to define users, security roles, and user groups to control user access to:

- Management Console administration and content functions
- published content on configured Information Manager web applications

Information Manager users are defined for your application by a set of basic user properties, such as user name, password, and email address, as well as optional properties that you can define for your repository as described in *Defining Custom User Information Properties* on page 84. You can define custom user properties to collect required and optional user profile information for your application.

You can define separate sets of users for the Management Console and for the web applications that Information Manager supports.

Information Manager users are assigned one or more security roles. Security roles are groups of content management and content access privileges that you define for classes of users who have similar access requirements. Security roles specify how these users can access and interact with information objects in the Management Console, and with published content. You can define any number of security roles, and you can assign multiple roles to a single user.

You manage content access for your application by:

- Defining security roles as described in *Managing Security Roles* on page 145
- Defining Management Console users (based on the optional schema defined for your repository) as described in *Defining Management Console Users* on page 162 and optional web users as described in *Defining Web Users* on page 169 .
- Assigning security roles to the users that you have defined as described in *Specifying Management Console User Properties* on page 164 and *Specifying Web User Properties* on page 170.

You can also assign users to defined User Groups and Work Teams as described in *Defining User Groups* on page 160 and *Defining Work Teams* on page 177.

User groups restrict access to specified content. For example, you could define a management (MGMT) user group, and designate sensitive content at the content record level so that it can be accessed only by members of the MGMT user group.

Work teams associate designated content with a specified set of Management Console users, enabling you to segregate content management functions without creating a separate repository view.

User Groups, Security Roles and Views

Each Information Manager user can belong to one or more user groups and have one or more security roles.

There are two types of Information Manager users:

- **Web Users** -- Users who can view Information Manager documents in an Information Manager client. Web users are assigned one or more of web roles.
- **Console Users** -- Users who can view Information Manager documents in an Information Manager client; view, create and modify documents in the Information Manager repository; participate in workflows, and configure the Information Manager environment. Console users are assigned one or more console roles and views.

Each user is assigned one or more security roles. To understand how security roles impact access to the documents on the Information Manager client, you must first understand that user groups control what documents can be viewed by a either a web or console user from the Information Manager client. When an Information Manager document is created, it is assigned to one or more user groups to control which groups of users can view the document in an Information Manager client. See *About Web Roles* on page 140 for examples.

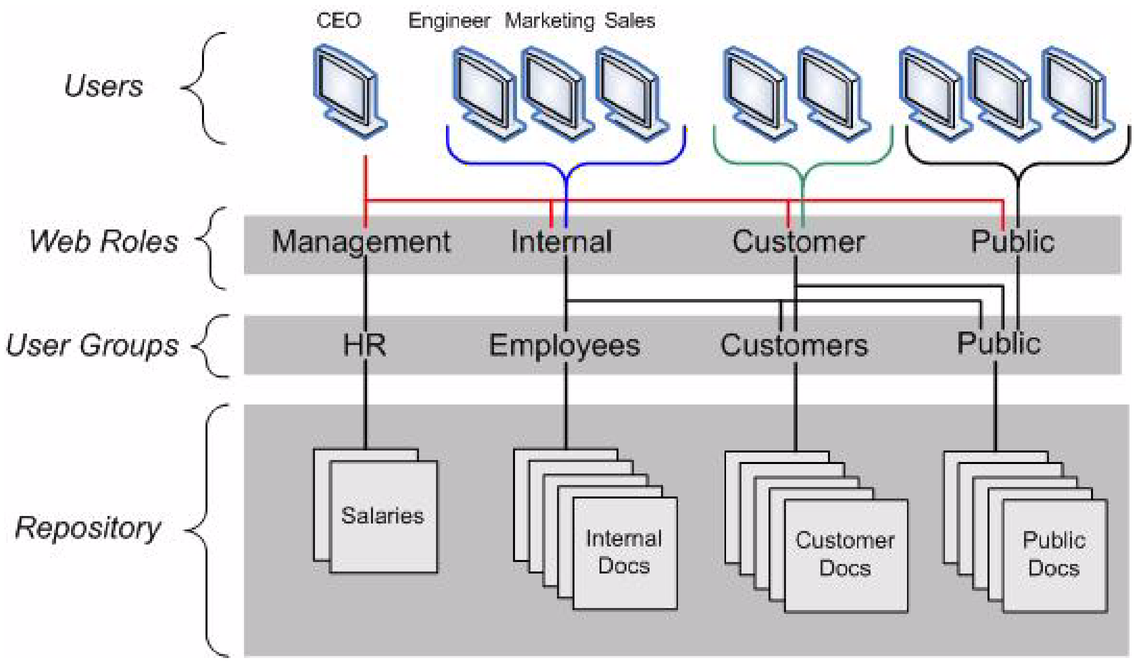
There are two types of Information Manager security roles:

- **Web Roles** -- These are containers for one or more user groups. A web user is assigned one or more web roles to control the content that can be viewed by that user through the Information Manager client.
- **Console Roles** -- Assigns document access through the Information Manager client for console users in the same manner a web role assigns document access for web users. A console role also assigns permissions to a console user for viewing, creating and modifying content in the Information Manager repository; participating in workflows, and configuring the Information Manager environment.

Each channel in the repository lists which user groups can view the content in that channel from an Information Manager client. Additionally, the channel specifies security role privileges that define what permissions (view, modify, publish, etc.) are given to which console and web roles.

About Web Roles

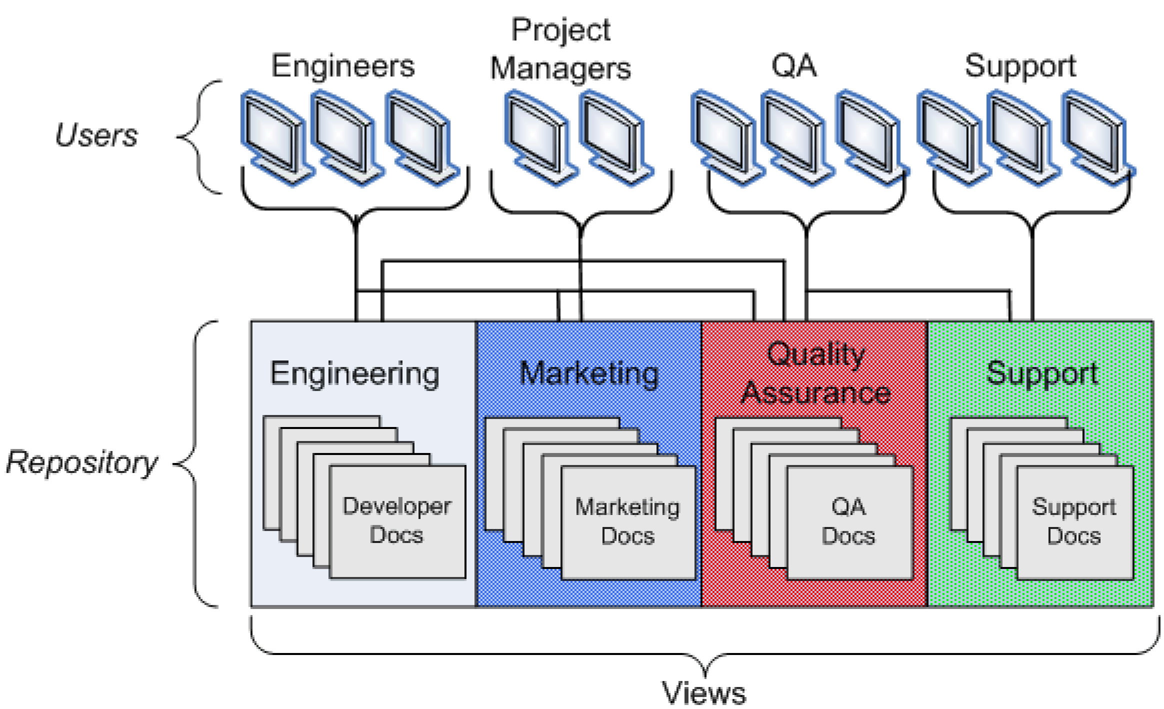
The diagram below illustrates how user groups and web roles control which users can view which documents from an an Information Manager client. In this example, the Information Manager repository contains documents that are made available to employees, customers, and the general public Employees can access all of the documents; customer access is restricted to the customer and public documents, and public access is restricted to public documents. Note that the majority of users are assigned a single web role, but you can also assign multiple web roles to a user, as shown for the CEO.



About Views

Views control the *types* of documents a console user can view, create and modify in the Information Manager console. (Note that views control console user access to documents on the console and do not impact the console user's view of documents on the Information Manager client). Views also control the documents that can be assigned to a console user in a workflow and which user groups the console user can select when creating a content record.

The diagram below illustrates how views control which users can view which documents on an an Information Manager console. In this example, the Information Manager repository contains documents that are made available to Development Engineers, QA engineers, and marketing. Project Managers can view and modify all of the documents; Development Engineer access is restricted to the developer and QA documents, and QA Engineer access is restricted to QA documents. As for workflows, a marketing document cannot be assigned to a QA or development engineer in a workflow.

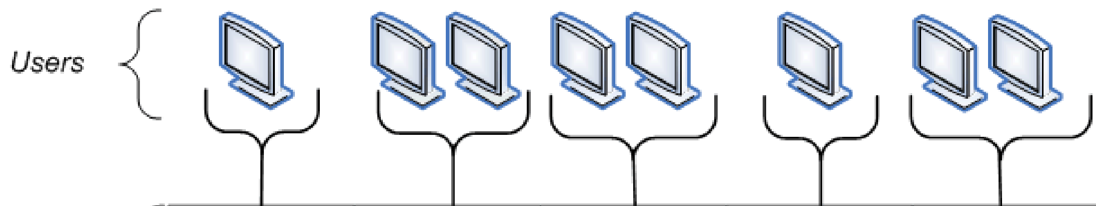


Subviews

Views can be organized hierarchically. The example shown below has one main view, *Knowledgebase*, with subviews, and each subview has subviews of its own. In this example, documents assigned to the Information Manager view can be accessed only by console users who have been given either an *IM*, *Engineering*, or *Knowledgebase* view. Documents assigned to an *Engineering* view can be accessed only by console users who have been given either an *Engineering* or *Knowledgebase* view. And documents assigned to a *Knowledgebase* view are the most restricted in that they can be accessed only by console users who have been given a *Knowledgebase* view.

About Console Roles

Console roles control the level of management access a user has to Information Manager; the general authoring abilities the user has on a particular channel, and what tasks the user can perform in a workflow. Console roles also list one or more user groups to determine what the console user can see in the web client in the same manner as web roles provide web client access to web users. (Again, user groups only impact access to documents through the Information Manager client. Document access through the Information Manager console is controlled by views.)



Console Roles	Site Admin	Author	Reviewer	Publisher	General
Information Management Administration	All Privileges	None	None	None	None
Repository Management	All Privileges	Enable INBOX	Assign tasks Enable INBOX	Assign tasks Enable INBOX	None
User & Security Management	All Privileges	None	None	None	None
Content Management	All Privileges	View Content	View Content	View Content	View Content
Channel Privileges	All Privileges	View, Modify, and Import	View, Modify, and Import	View, Modify, Import, Publish and Delete	View
Workflow Approval Steps	All Privileges	Author	Review	Publish	None
User Groups	HR Employees Customers Public	Employees Customers Public	Employees Customers Public	Employees Customers Public	Employees Customers Public

Example: Widgets Inc. Users

This section walks through some examples on how you might configure the security roles and views for some different types of users. In this example, we have six users of the Widgets Inc. knowledgebase:

- **John Garson** is a Senior Mechanical Engineer who needs permission to search the knowledgebase for all technical documents, both internal and public. John also needs to be able to author, edit, and review documents related to technical and support topics.
- **Jane Seymore** is a Support Engineer who needs permission to search the knowledgebase for all technical documents, both internal and public. Jane needs to be able to author and edit documents related to support. She also serves as the editor of the knowledgebase and is responsible for reviewing and publishing content.
- **Bob Bruger** is the Information Technology manager and is responsible for installing, configuring, and maintaining all systems, Including the InQuira Information Manager.
- **Tammy Temble** is the Product Manager who needs permission to search the knowledgebase for marketing and sales documents, as well as technical engineering and QA documents.
- **Ron Fruberg** is an existing customer who needs permission to search the knowledgebase for documents made visible to both customers and the general public.
- **Sara Beeman** is a prospective customer who needs permission to search the knowledgebase for documents made visible to the general public.

Using the Console Roles, Web Roles, and Views described above, the users of the Widgets Inc. knowledgebase would be assigned the following permissions.

	John Garson	**Jane Seymore**	**Bob Bruger**	**Tammy Temble**	**Ron Fruberg**	**Sara Beeman**
Console Roles	Author Reviewer	Author Reviewer Publisher	Site Admin	Author	NA	NA
Web Role	NA	NA	NA	NA	Customer Public	Public
Views	Development Quality Assurance Support	Support	Knowledgebase	Development Quality Assurance Marketing	NA	NA

Default Security Roles and Users

When you install and configure Information Manager, the installation process creates a base administrative repository, named SYSTEM. The SYSTEM repository includes the following user definitions:

User Name	Name (First, Last)	Default Password	Security Role
SUPER	Super Admin	admin	Super Admin
SUPPORT	Super Support	admin	Super Support

The Super Admin and Super Support roles can view multiple repositories. The Super Admin role can create Super Support users. The Super Support role cannot create Super Support users.

Information Manager also creates a Default Administration Role in each application repository as part of the application repository definition process.

Managing Security Roles

As described in *User Groups, Security Roles and Views* on page 138, Information Manager provides security for the various administration and content management functions based on defined security roles. Information Manager is installed with default security roles as described in *Default Security Roles and Users* on page 145; users having the appropriate privileges can create additional security roles as required.

You define a security role as a set of privileges that apply to the various Information Manager-related functions, including:

- Application and repository management
- User and security management
- Content management
- Workflow steps
- Collaboration and e-Marketing management
- Business process management

For each functional area, you specify the level of access, such as view, add, and modify.

For example, in order to work with user accounts, a user must be assigned to a security role that has the collected user account privileges (Manage Users) or one or more individual user account privileges (Delete, Modify, Restore, or View).

NOTE: All users can view their own user information using the My Account option in the upper right portion of the navigation area.

You can define any number of security roles, and you can assign users to multiple roles.

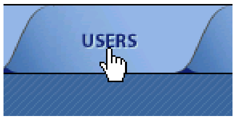
You implement Management Console security roles by:

- Defining security roles as described in *Managing Security Roles* on page 145.
- Assigning users to the roles that you define as described in *Defining Management Console Users* on page 162.

Defining Security Roles

To define a security role:

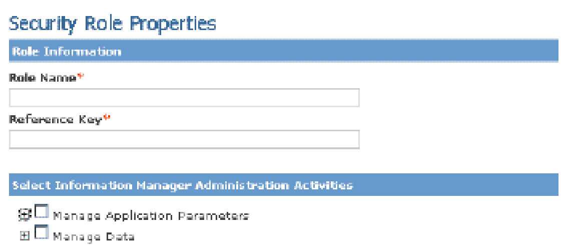
- Select **Users** from the navigation area



The Management Console displays the User and Security Management page:

- Select the **Add** option under Console Roles

The Management Console displays the Security Roles Properties page.



The Security Role Properties page is divided into the following sets of security properties:

- Basic role and repository properties as described in *Specifying Basic Role Properties* on page 149.
- Server administration privileges as described in *Specifying Information Manager Server Administration Privileges* on page 149.
- Repository management privileges as described in *Specifying Repository Management Privileges* on page 150.
- User and security privileges as described in *Specifying User and Security Privileges* on page 154.
- Content management privileges as described in *Specifying Content Management Privileges* on page 156.
- Collaboration and e-marketing privileges as described in *Specifying Feedback Privileges* on page 159.

Specifying Basic Role Properties

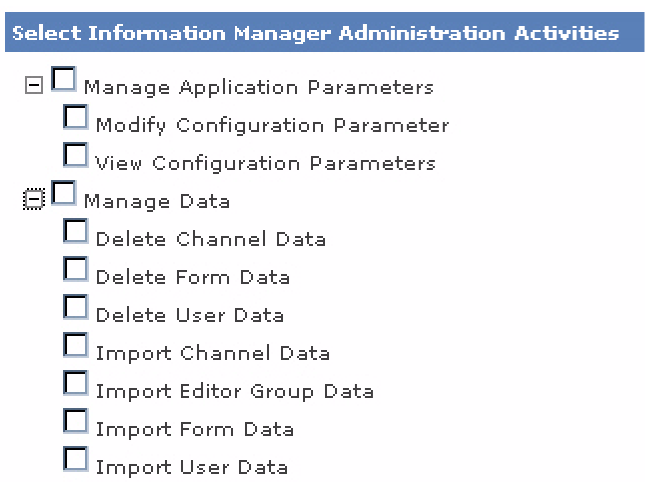
You specify basic role properties using the settings in the Role Information section of the Security Roles Properties page:

- Specify the following properties:

Property	Description
Role Name	Specify the name of the security role, for example Content Editor.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.

Specifying Information Manager Server Administration Privileges

You specify administration privileges for the Information Manager server and application using the following settings on the Security Roles Properties page:



- Select the **Manage Application Parameters** option to grant all application privileges, or to specify individual privileges that allow users to delete, modify, and view configuration parameters.

- Select the **Manage Data** option to grant all channel data privileges, or specify individual privileges to allow users to:
  - delete channel, form, and user data
  - import channel, editor group, form, and user data

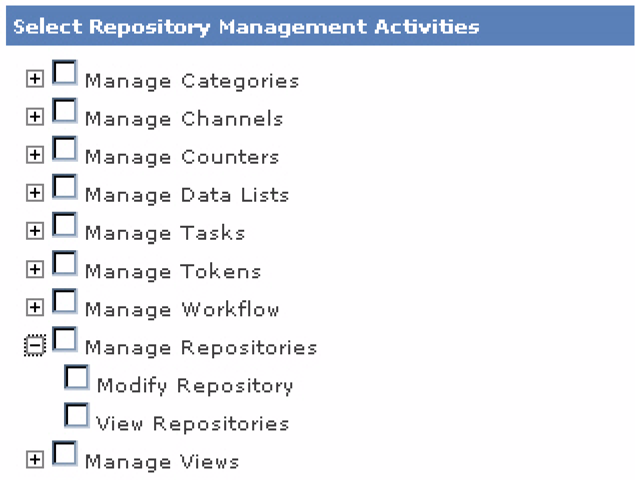
Specifying Repository Management Privileges

The Repository Management area of the Security Role Properties page provides parameters to:

- Manage repositories, as described in *Specifying Application Repository Management Privileges* on page 151.
- Manage content categories, as described in *Specifying Content Category Management Privileges* on page 151.
- Manage views, as described in *Specifying View Management Privileges* on page 152.
- Manage tasks, as described in *Specifying Task Management Privileges* on page 152
- Manage channels, as described in *Specifying Channel Management Privileges* on page 152.
- Manage counters, as described in *Specifying Counter Management Privileges* on page 153
- Manage workflows, as described in *Specifying Workflow Management Privileges* on page 153
- Manage data lists, as described in *Specifying Data List Management Privileges* on page 153.

Specifying Application Repository Management Privileges

You specify application repository management privileges using the following settings on the Security Roles Properties page:



- Select the **Manage Repositories** option to grant all repository privileges, or specify individual privileges to allow users to create, delete, modify, and view repositories.

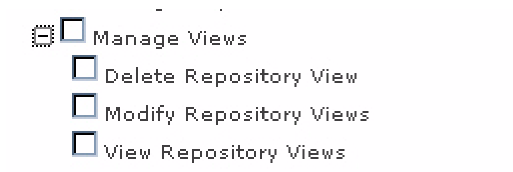
Specifying Content Category Management Privileges

You specify content category management privileges using the following settings on the Security Roles Properties page:

- Select the **Manage Categories** option to grant all content category privileges, or specify individual privileges to allow users to delete, modify, and view category definitions.

Specifying View Management Privileges

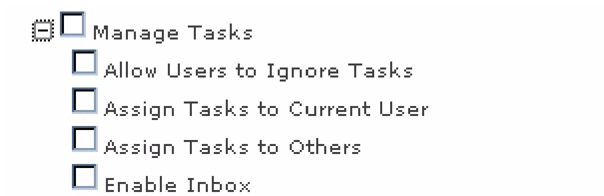
You specify repository view management privileges using the settings on the Security Roles Properties page:



- Select the **Manage Views** option to grant all view privileges, or specify individual privileges to allow users to add, delete, modify, and view repository view definitions.

Specifying Task Management Privileges

You specify task management privileges using the following settings on the Security Roles Properties page:



- Select the **Manage Tasks** option to grant all task privileges, or specify individual privileges to allow users to view the task Inbox and ignore and assign tasks.

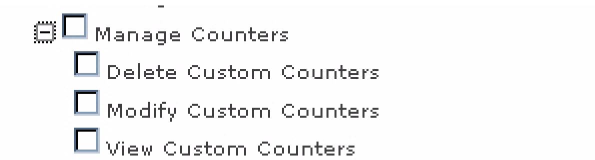
Specifying Channel Management Privileges

You specify channel management privileges using the following settings on the Security Roles Properties page:

- Select the **Manage Channels** option to grant all channel privileges, or specify individual privileges to allow users to delete, modify, and view channels, channel queries, channel schema, and associated XSL stylesheets. See *Chapter 5, Content Channels* for more information.

Specifying Counter Management Privileges

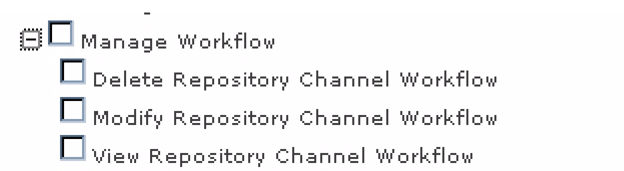
You specify custom repository metrics privileges using the following settings on the Security Roles Properties page:



- Select the **Manage Counters** option to grant all counter privileges, or specify individual privileges to allow users to view, modify, and delete counters to record custom repository metrics as described in *Defining Custom Metrics for a Repository* on page 76.

Specifying Workflow Management Privileges

You specify workflow process management privileges using the following settings on the Security Roles Properties page:



- Select the **Manage Workflow** option to grant all workflow privileges, or specify individual privileges to allow users to delete, modify, and view workflow process definitions

Specifying Data List Management Privileges

You specify data list management privileges using the following settings on the Security Roles Properties page:

- Select the **Manage Data Lists** option to specify that all data list privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, and view data list definitions. See *Defining Data Lists* on page 78 for more information.

Specifying User and Security Privileges

You specify user and security privileges using the following settings on the Security Roles Properties page:

- Manage user groups as described in *Specifying User Group Privileges* on page 154
- Manage user roles as described in *Specifying Role Privileges* on page 155
- Manage users as described in *Specifying User Privileges* on page 155

Specifying User Group Privileges

You specify user group management privileges using the following settings on the Security Roles Properties page:

- Select the **Manage User Groups** option to specify that all user group management privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, and view user group definitions. See *Defining User Groups* on page 160 for more information.

Specifying Role Privileges

You specify web and security role privileges using the following settings on the Security Roles Properties page:

- Select the **Manage Roles** option to specify that all role privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, and view security and web role definitions. See *Defining Management Console Users* on page 162 and *Defining Web Users* on page 169 for more information.

Specifying User Privileges

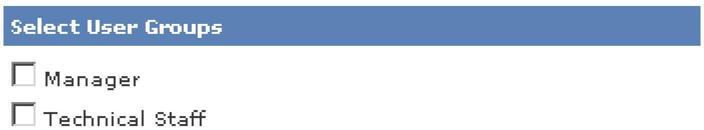
You specify web and security role privileges using the following settings on the Security Roles Properties page:

- Select the **Manage Users** option to specify that all user management privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, restore, and view web and console user definitions.

Assigning User Groups to Security Roles

You assign user groups to a security role using the Select User Groups section of the Security Roles Properties page, which lists all defined user groups.

When you assign user groups to a security role, all users assigned having that role will be members of the assigned user groups. See *Defining User Groups* on page 160 for more information.



- Select the desired user groups for the security role

Specifying Content Management Privileges

You specify access to content using the Content Management section of the Security Role Properties page. The content management activities specified for a role determine which content menu options will be displayed.

To make the top-level Content menu available to a role, specify the Manage Content and View Content Menu properties.

- Select the **Manage Content** option to specify that all content management privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, translate, and view content records and content discussion (message board) records

Specifying Channel Privileges

You specify channel privileges using the Repository Channel Privileges section of the Security Role Properties page. The channel privileges section lists each channel currently defined within the repository.

- Select the appropriate options for each channel:

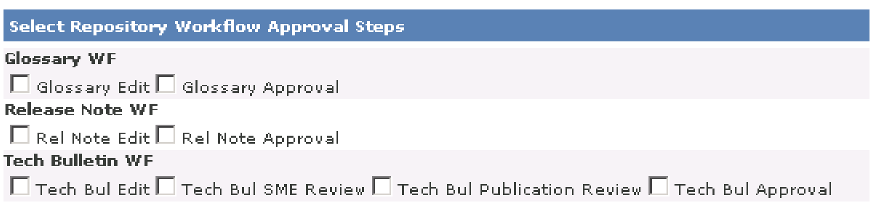
Privilege	Description
View	Allows the user to view the channel in the Content menu.
Translate	Allows the user to create translated versions of content records in this channel for the locales specified in their user profiles. NOTE: The Translate option of the Content Preview page will display only to authorized users.
Modify	Allows the user to access the Add option in the Content menu.
Master Publish	Allows a user to publish or unpublish all locales of a document.
Manage Rating Analysis Tasks	Allows the user to create and manage rating forms, as described in *Creating Rating Forms* on page 223.
Manage Content Review Tasks	Allows the user to create and manage content review tasks.
Import	Allows the user to import data into the channel. You must also specify the View Data Menu privilege for users having the Import privilege.
Delete History	Allows the user to remove content history records.

Delete	Allows the user to delete content records from the channel.
Batch View Update	Allows the user to update the views associated with multiple content records, as described in *Batch Operations on Multiple Records* in the *Information Manager Content Authoring Guide*.
Batch Category Update	Allows the user to update the categories associated with multiple content records, as described in *Batch Operations on Multiple Records* in the *Information Manager Content Authoring Guide*.

Specifying Workflow Step Privileges

You specify workflow step privileges using the Workflow Approval Step section of the Security Role Properties page. The workflow approval section lists each channel within the repository that has defined workflow steps.

You can assign each step to one or more security roles. The repository view determines if the user is authorized to perform the workflow step for the selected repository view.



IMPORTANT: When you add a workflow process or a step within a process to a channel definition, you must manually update all security roles that will use the new step.

Specifying Feedback Privileges

You specify feedback and collaboration privileges using the Collaboration and Feedback section of the Security Role Properties page.

- Select the **Manage Channel Alerts** option to specify that all channel alert management privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, send, and view channel alerts
- Select the **Manage Discussion Boards** option to specify that all discussion board record management privileges are available to users having this role, or specify individual privileges to allow users to delete, moderate, modify, and view discussion board topics and messages
- Select the **Manage Forms** option to specify that all management privileges for forms are available to users having this role, or specify individual privileges to allow users to delete, modify, and view form definitions
- Select the **Manage Newsletters** option to specify that all newsletter management privileges are available to users having this role, or specify individual privileges to allow users to delete, modify, send, and view newsletters
- Select the **Manage Ratings** option to specify that all management privileges for user ratings are available to users having this role, or specify individual privileges to allow users to delete, modify, publish, and view ratings definitions
- Select the **Manage Recommendations** option to specify that all management privileges for content recommendations are available to users having this role, or specify individual privileges to allow users to delete, modify, and view content recommendations

Defining User Groups

You can define user groups within the Information Manager to restrict access to specified content to members of the user group.

For example, you could define a Management (MGMT) user group, and designate sensitive content at the content record level so that it can be accessed only by members of the MGMT user group.

NOTE: User groups are primarily intended to restrict end-user access to content, for example, by defining "members only" content; however, you can define user groups to restrict access to content within the Management Console as well.

You implement user groups by:

- Defining one or more user groups as described below
- Specifying one or more user groups within security role and web role definitions as described in *Managing Security Roles* on page 145.

To define a user group:

- Select the **Add** option under User Groups:

NOTE: You can use the **List** option to list existing user groups. l

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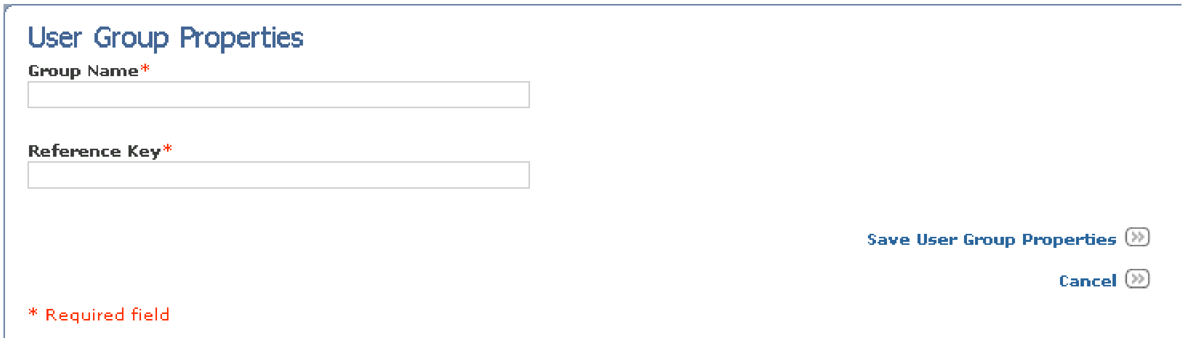
The Management Console displays the User Group Properties page:



- Specify the following parameters to define a user group

Group Name	Specify a name for the user group.
Reference Key	Specify a reference key. See *A Note On Reference Keys* on page 62 for more information.

Defining Management Console Users

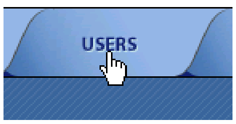
You define Management Console users by specifying:

- User identification properties, such as name, ID, password, and email
- One or more security roles

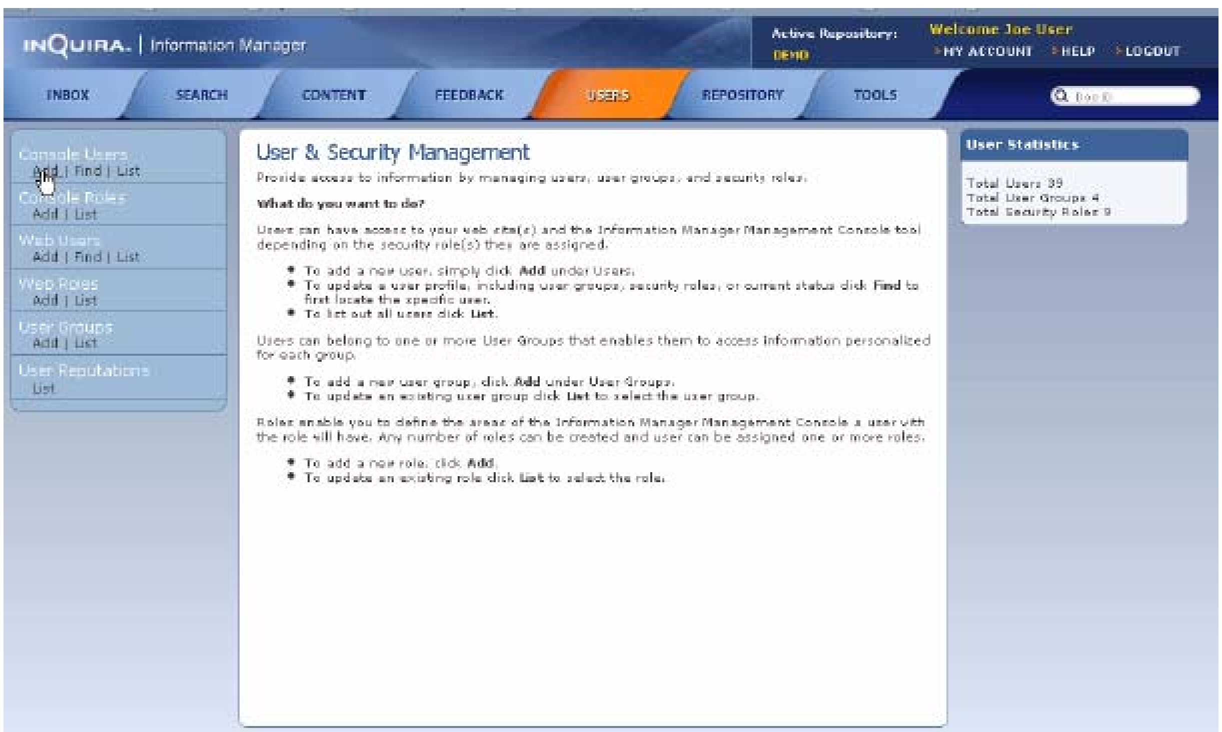
for each user. See *Managing Security Roles* on page 145 for information on security roles.

To define an Management Console user:

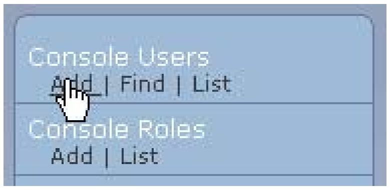
- Select **Users** from the Management Console navigation area



The Management Console displays the User and Security Management page:



- Select the **Add** option under Console Users

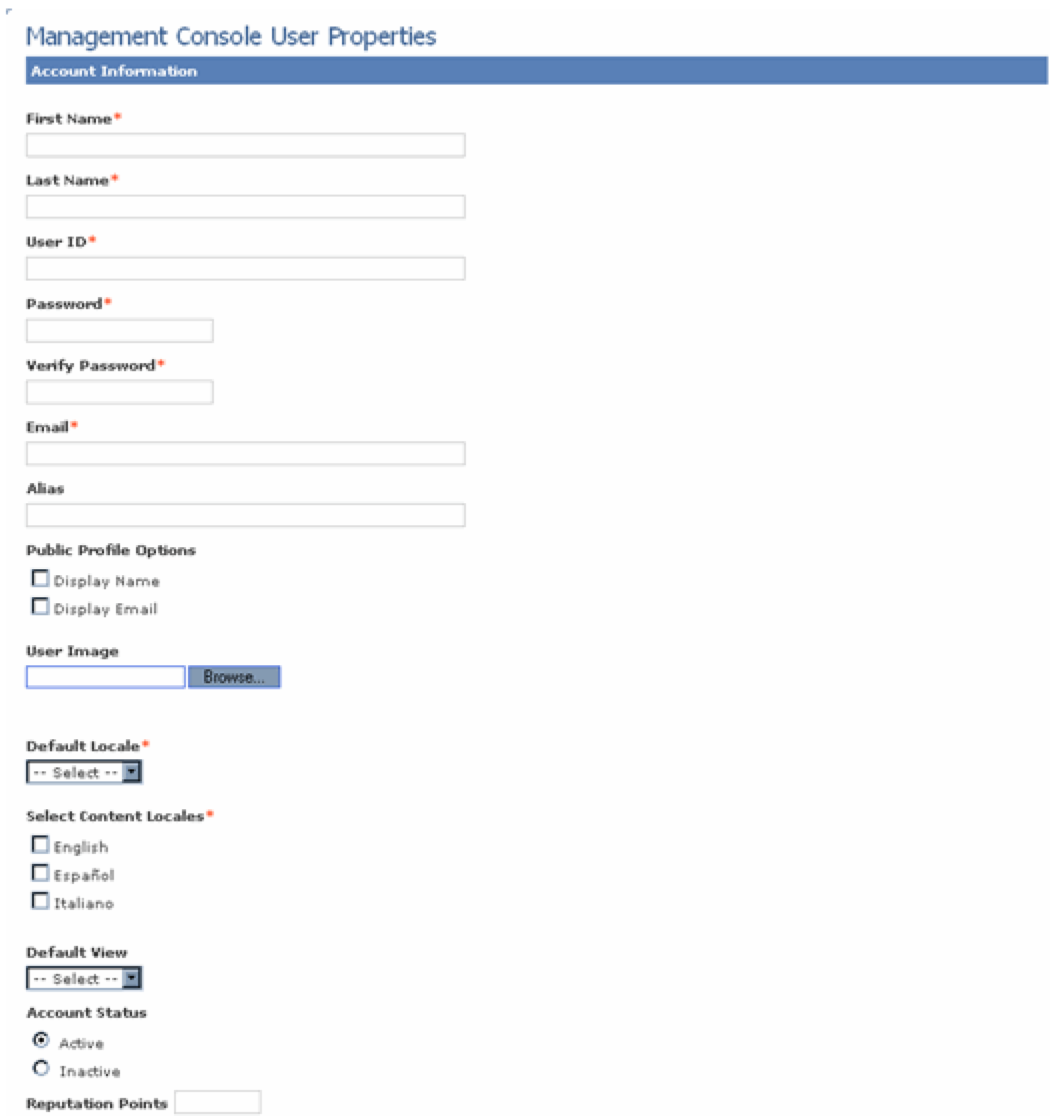


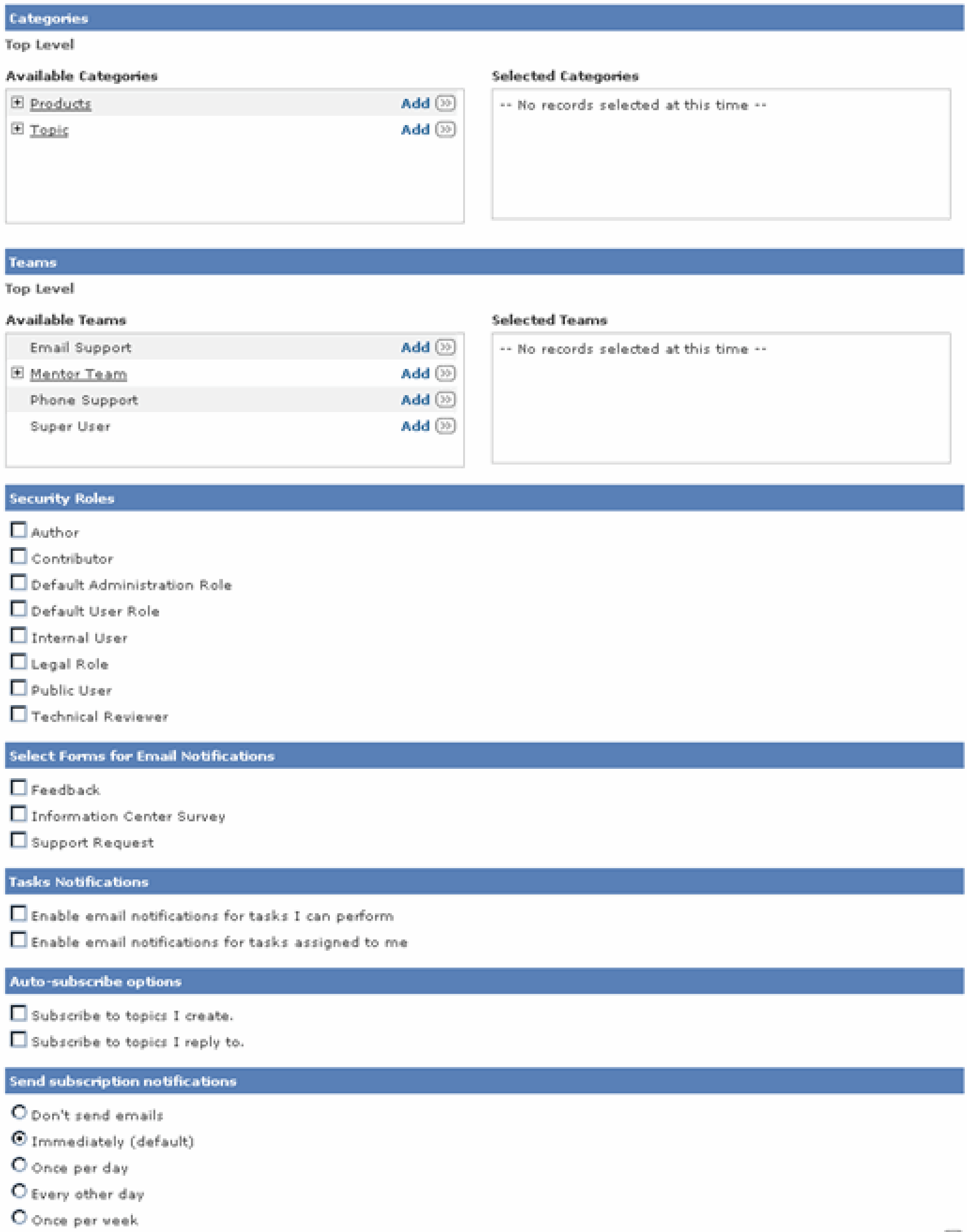
The Management Console displays the Management Console User Properties page.

- Specify the user properties as described in *Specifying Management Console User Properties* on page 164.

Specifying Management Console User Properties

To define an Management Console user, specify the following properties:





Field	Description
First Name	Enter the user's first name, for example `John`.
Last Name	Enter the user's last name, for example `Smith`.

User ID	Specify a user ID, for example `JSmith`. NOTE: The Management Console will list the user in the format `last_name, first_name (user_ID)`, for example: Smith, John (JSmith)
Password	Specify a password for the user ID.
Verify Password	Re-enter the specified password for verification purposes.
Email	Enter the user's email address.
Alias	Enter a “nickname” for the user to be used in discussion boards instead of the user's full name (default is the user's username).
Public Profile Options	Specify whether to hide the user’s email and name in InfoCenter or other places where user information is displayed.
User Image	Provide an image to represent the user in InfoCenter or the Management Console. NOTE: InfoCenter also provides its own set of images the users can choose from.
Default Locale	Select the default locale for this user. The list of supported locales is determined by the repository definition.
Select Content Locales	Select the locales in which this user is authorized to create and edit content. NOTE: Users can view documents in any locale; however, they can create and edit documents only in the locales defined in their user profile.
Default View	Select the default view. Available views include the base repository and any other views defined within the base repository. The default view is used when there are multiple views in a repository. If the user is assigned to one of more views, the default view is the view that is used if one is not specified in the IM tag library. See *Defining Repository Views* on page 70 for more information.

Account Status	Specify whether this user will be active or inactive. See *Viewing and Managing User Status* on page 175 for more information.
Reputation Points	Enter the base number of points assigned to a user. Usually these points are initially established by the administrator when the user is created, and the reputation model then updates the user totals. Users can only view their own points.
Views	Select the views to enable for this user. See *About Views* on page 141 for more information.
Categories	Select all content categories that this user should be considered knowledgeable about or eligible for. NOTE: If there are more than 100 categories, you will see a search box you can use to locate a subset of the categories. When category task filtering is active for the repository as described in *Specifying Repository Properties* on page 60, the Inbox will display content tasks on the basis of the user's specified categories. The user must have all of the same (or parent) categories as the document.
Teams	Specify any work teams to which the user belongs. Assigning a user to a work team simplifies task assignment by limiting the list of available people to those belonging to a selected work team. You cannot assign tasks directly to a work team. NOTE: If there are more than 100 work teams, you will see a search box you can use to locate a subset of the work teams.
Security Roles	Select all applicable security roles to which you want to assign this user. See *Managing Security Roles* on page 145 for more information. **Note:** When assigning security roles, you can assign only the roles to which you (the current user) have access.
Select Forms for Email Notifications	Select any forms for which the user should receive email notifications with the form data any time a form is completed on the web application.

Task Notifications	Select the appropriate notification options for tasks generated by the application. Specify to notify this user: • about all tasks that the user has privileges to perform • about tasks explicitly assigned to this user
Auto-subscribe options	Select these options to automatically generate subscriptions to discussion board topics and postings that the user creates or responds to.
Send subscription notifications	Use these options to specify how often the user receives email notifications for their subscriptions.

Defining Web Users

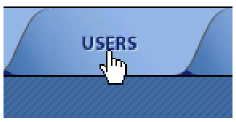
You define web application users by specifying:

- User identification properties, such as name, ID, password, and email
- One or more security roles

for each user. See *Managing Security Roles* on page 145 for information on defining security roles.

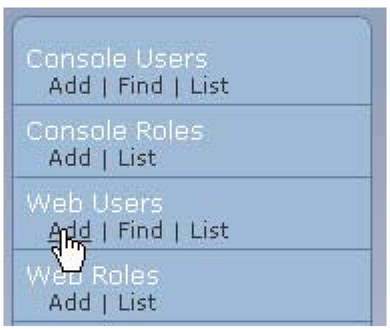
To define a web user:

- Select **Users** from the Management Console navigation area:



The Management Console displays the User and Security Management page:

- Select the **Add** option under Web Users

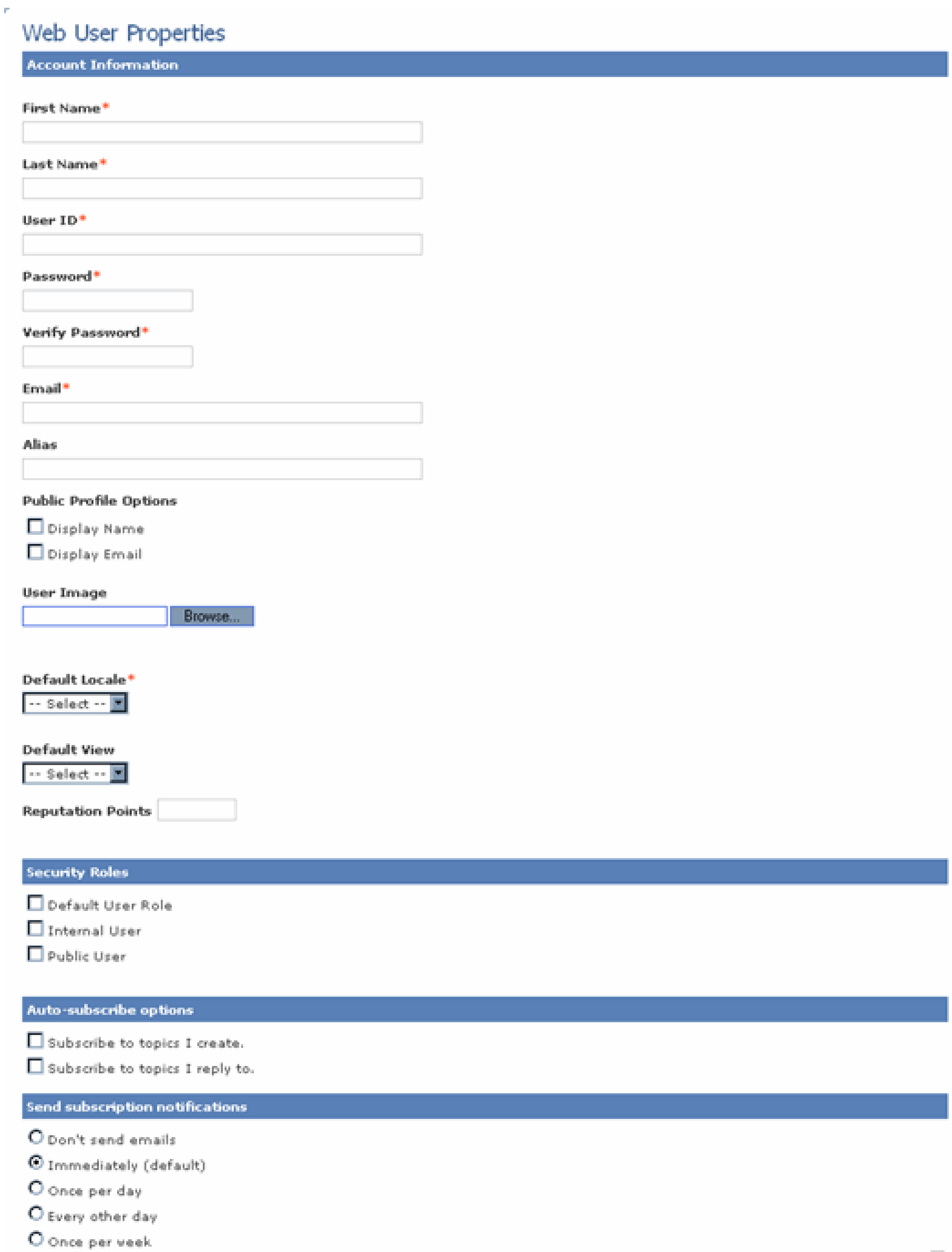


The Management Console displays the Web User Properties page.

- Specify the user properties as described in *Specifying Web User Properties* on page 170.

Specifying Web User Properties

To define a web user, specify the following user properties:



NOTE: If your Information Manager administrator has defined additional custom user properties, the Management Console will display those properties as fields on the Management Console User Properties page. See *Defining Custom User Information Properties* on page 84 for more information.

Property	Description
First Name	Enter the user's first name, for example `John`.
Last Name	Enter the user's last name, for example `Smith`.
User ID	Specify a user ID, for example `JSmith`. NOTE: The Management Console will list the user in the format `last_name, first_name (user_ID)`, for example: Smith, John (JSmith)
Password	Specify a password for the user ID.
Verify Password	Re-enter the specified password for verification purposes.
Email	Enter the user's email address.
Alias	Enter a “nickname” for the user to be used in discussion boards instead of the user's full name (default is the user's username).
Public Profile Options	Specify whether to hide the user’s email and name in InfoCenter or other places where user information is displayed.
User Image	Provide an image to represent the user in InfoCenter or the Management Console. NOTE: InfoCenter also provides its own set of images the users can choose from.
Default Locale	Select the default locale for this user. The list of available locales is determined by the repository definition.
Default View	Select the default view. Available views include the base repository and any other views defined within the repository.
Reputation Points	Specify whether this user will be active or inactive. See *Viewing and Managing User Status* on page 175 for more information.

Security Roles	Select a defined security role to which you want to assign this user. See *Managing Security Roles* on page 145 for more information. NOTE: You can assign only the security roles to which you have access.
Auto-subscribe options	Select these options to automatically generate subscriptions to discussion board topics and postings that the user creates or responds to.
Send subscription notifications	Use these options to specify how often the user receives email notifications for their subscriptions.

Defining Web Roles

The Information Manager enables you to specify security roles that apply to the end-users of the web site. Web roles restrict the content that site users have access to. You can define any number of web roles, and you can assign users to multiple roles.

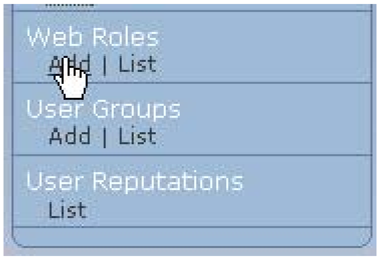
NOTE: Defined web roles will also display in the Security Roles heading when you define or modify user profiles on the Management Console User Properties page.

You implement Management Console web roles by:

- Defining web roles as described below
- Assigning web users to the roles that you define as described in *Defining Web Users* on page 169.

To define a web role:

- Select the **Add** option under Web Roles



The Management Console displays the Web Role Properties page:

- Specify the following parameters:

Parameter	Description
Role Name	Specify a name for this web role.
Reference Key	Specify a reference key as described in *A Note On Reference Keys* on page 62.
User Groups	Select the desired user groups (as defined for your installation) for the web role. NOTE: If there are more than 100 user groups, you will see a search box you can use to locate a subset of the user groups. When you assign user groups to a web role, all users assigned having that role will be members of the assigned user groups. See *Defining User Groups* on page 160 for more information. Another way to assign user groups to a console user is by means of a view, as described in *Defining Repository Views* on page 70. The user groups available to a console user is the combination of those specified in both the views and console roles that are assigned to the console user.

Displaying User Information

You can display information about Management Console or web users by:

- Using the List option to locate users
- Selecting individual users from the list to display details

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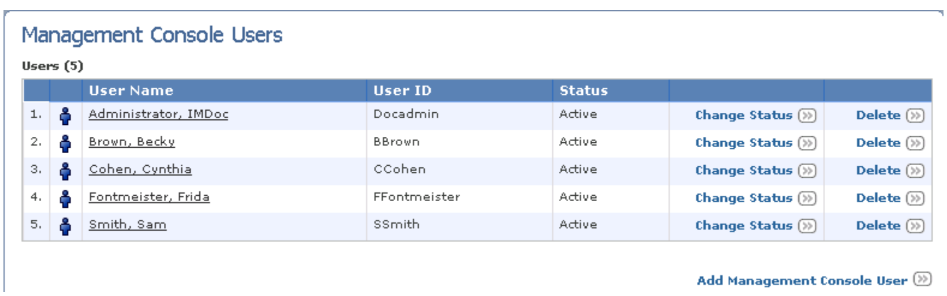
NOTE: You can also use the Find function to locate users as described in *Finding Users* on page 176.

To display a list of users:

- Select the **List** option under the Console Users or Web Users menu item, for example:

The Management Console displays the Management Console Users page, which lists all of the Management Console users defined in the current repository. The Management Console creates multiple pages if necessary to accommodate as many users as are defined in the system.


Management Console Users

Users (5)

		User Name	User ID	Status		
1.		Administrator, IMDoc	Docadmin	Active	Change Status	Delete
2.		Brown, Becky	BBrown	Active	Change Status	Delete
3.		Cohen, Cynthia	CCohen	Active	Change Status	Delete
4.		Fontmeister, Frida	FFontmeister	Active	Change Status	Delete
5.		Smith, Sam	SSmith	Active	Change Status	Delete

Add Management Console User

- Select a user from the list to display detailed information. The User Properties page displays as described in *Specifying Management Console User Properties* on page 164.

or

- Select the **Change Status** option to change a user's status as described in *Viewing and Managing User Status* on page 175.

NOTE: The Information Manager maintains detailed information about deleted users in the content history and version history pages.

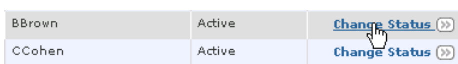
Viewing and Managing User Status

You can view and change the status of individual users defined for your repository. The Management Console indicates whether users are currently active or inactive.

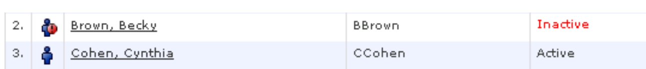
Active	Active status indicates that the user is able to log in and perform all of their allowed functions.
Inactive	Inactive status indicates that: • an administrator has suspended the user for some reason, or • the user tried to log in in error more than three times Inactive users are not able to log onto the Management Console until a system administrator resets their status. The Information Manager notifies a system administrator when a user becomes inactive.

To change the status for a user:

- Select the **Change Status** option for a selected user



The Management Console changes the user's status:



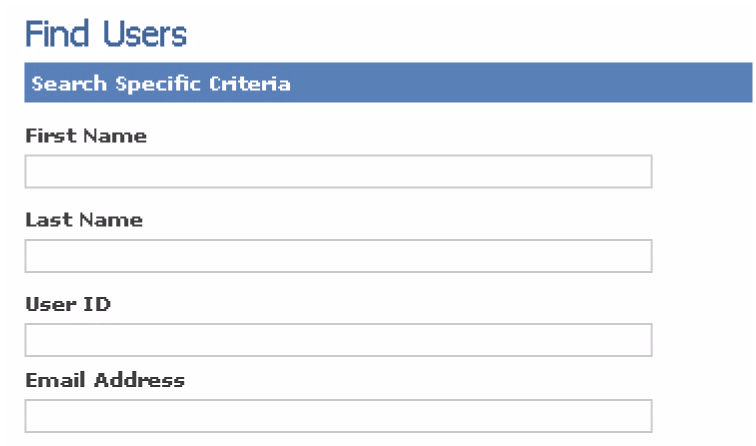
Finding Users

You can locate individual users or groups of users by name and user ID using the Find option.

To locate users:

- Select the **Find** option under Web Users or Management Console Users

The Management Console displays the Find Users page:



- Enter one or more of the following search parameters:

Search Field	Description
First Name	Enter a complete first name or an abbreviation, such as the first one or two characters.
Last Name	Enter a complete first name or an abbreviation, such as the first one or two characters.
User ID	Enter a User ID or an abbreviation, such as the first one or two characters.
Email Address	Enter a complete email address.

You can restrict the search results by specifying:

- The users' default locale
- Additional locales for which the users are authorized
- That the users are assigned to any or all of the selected security roles

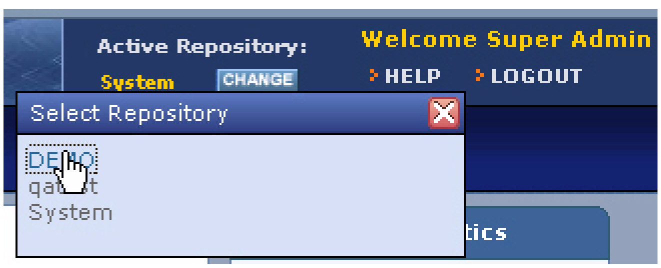
Defining Work Teams

You can create and manage Work Teams to group task assignment and reporting by teams. Work Teams are hierarchical, which lets you roll up reporting from teams to entire organizations. Users can be members of multiple work teams.

When you define a team hierarchy, users can assign tasks only to members of the work teams to which they belong, which simplifies the task assignment process (users will not see a drop down list of all users in the system when they assign tasks).

You implement work teams by:

- Log into Information Manager as SUPER user and select the SYSTEM repository, as described in Logging on as the Super User .
- Switch from the **System** repository to the application repository to contain the work team (**DEMO** in this example):



- Define one or more work teams as described below
- Add team members, as described in *Managing Work Team Members* on page 180.
- Specify one or more work teams within security role and web role definitions, as described in *Managing Security Roles* on page 145.

To define a work team:

- Select **Add** under the Work Team option:

NOTE: You can use the List option to list existing work teams.

The Management Console displays the Add Team page

- Specify the following parameters to define an editor group

Team Name	Specify a name for the work team.
Reference Key	Specify a reference key. See *A Note On Reference Keys* on page 62 for more information.

Defining Work Team Sub-teams

You can define work team sub-teams to further refine task assignment and reporting by teams within your organization. Work team sub-teams are branches that you can define as children of an existing work teams to sort users within the team. You can assign users and content channels to any branch of a work team; any branches below the assigned team will also be assigned.

To define work team sub-teams:

- Select the **List** option below Work Teams:

The Management Console displays the Team Management page.

- Select the check box for the teams to which you want to add sub-teams, then select the Add Sub-teams option:

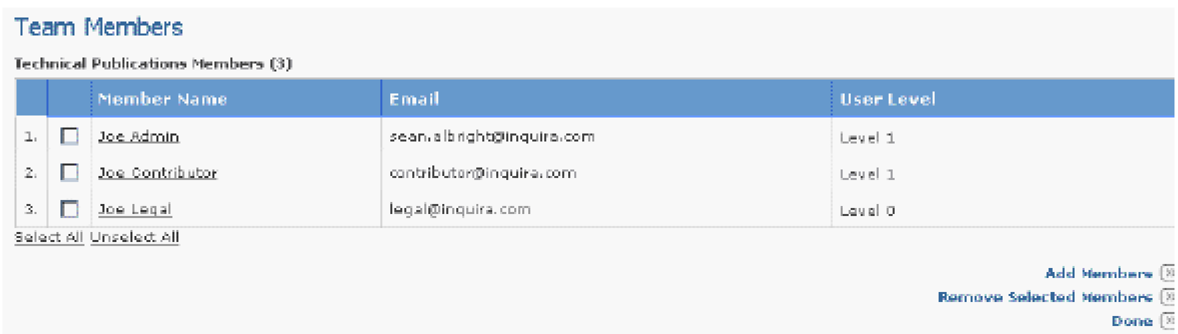
The Management Console displays the Add Team page:

- Specify the properties for the sub-group, or branch as follows:

Team Name	Specify a name for the sub-team.
Reference Key	Specify a reference key. See *A Note On Reference Keys* on page 62 for more information.

Managing Work Team Members

The Team Members page lists team members for the current work team. Use the Team Members page to view details for a team member, edit member user properties, add team members, or remove members from a team.



To view or edit properties for a team member:

- Click on the member name in the list

The User Properties page (either the Management Console or Web User Properties) is displayed, from where you can view or edit user properties. Refer to the sections on *Specifying Management Console User Properties* on page 164 or *Specifying Web User Properties* on page 170 for information on editing user properties.

To add members to a team:

- Select the Add Members option

The Find Users Page is displayed, from where you can locate the users to add to the team. refer to the section on *Finding Users* on page 176 for more information on using the Find Users page.

To remove members from a team:

- Select the members to remove using the checkbox next to their names.
- Select the Remove Selected Members option and confirm the deletion at the prompt.

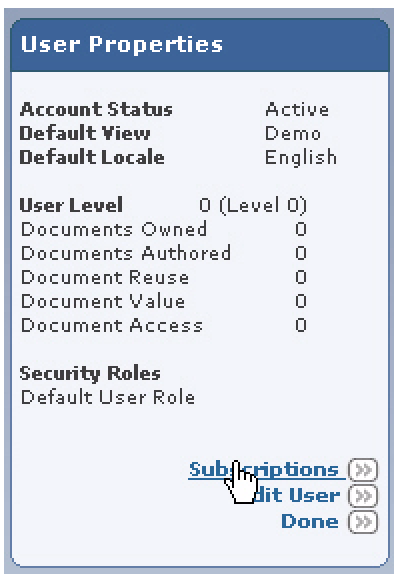
Creating and Managing Subscriptions

You can create and manage content subscriptions to enable end-users to subscribe to content by:

- Channel
- One or more categories within a subscribed channel
- Specific documents
- Forums
- Specific topics within forums

Subscriptions are objects within the repository, with properties, such as a name, allowing administrators to create, manage, and provide subscriptions to the user community. Subscriptions also expire automatically, and users can renew or cancel subscriptions. By default, the expiration period is 90 days. See *Subscription Expirations* on page 183 for information on how to change the expiration value.

To add a new subscription for a user, select **Subscriptions** from the User Properties area:



The Add Subscription page is displayed.

Select the type of subscription from the drop-down menu:

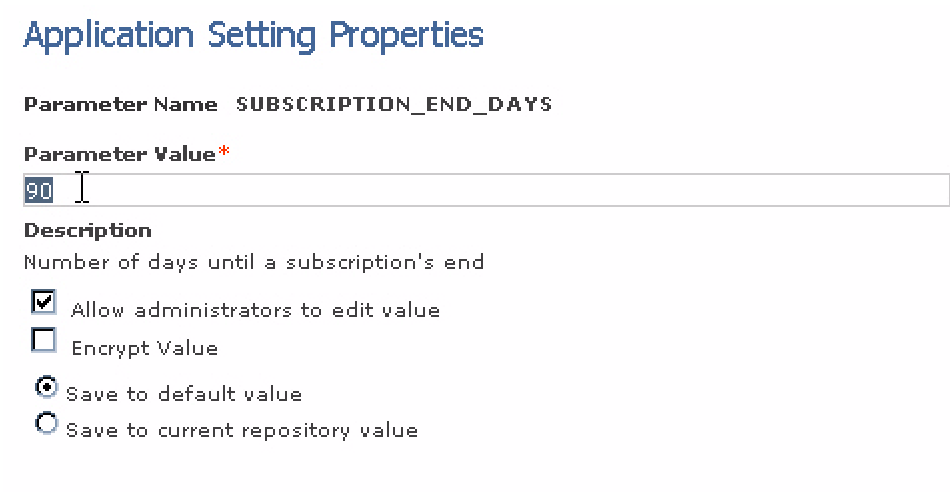
The fields displayed depend on whether the subscription is for channel or document.

Subscription Name	Specify the name of the subscription
Select Channel to Subscribe to (Channel Subscriptions)	Select the channel to which you wish to subscribe.
Available Categories (Channel Subscriptions)	Restrict a channel subscription to only documents marked with specific categories.
Select Channel For Content (Document Subscriptions)	Select the channel containing the document to which you wish to subscribe.
Document ID (Document Subscriptions)	Specify the document ID of the document to which you wish to subscribe.

In order to receive subscription notifications, the user must have a subscription notification option selected in their User Properties page and a Send Subscription Emails batch job must be running, as described in *Subscription Batch Jobs* on page 309. You can set the notification frequency in both the user property and in the batch job description. The user setting overrides the batch job settings. The batch job settings may say to send out emails immediately, but the user may elect to receive their notifications only once per day.

Subscription Expirations

Subscriptions expire after 90 days, by default. You can reset the subscription expiration period by navigating to **Tools** > **System Configure** > **Go to Expert Mode** > **SUBSCRIPTION_END_DAYS** and resetting the Parameter Value to another time period:



Configuring User Reputation Levels

Use the User Reputations page to edit the user reputation model for the current repository. You can assign users different User Reputation levels based on the number of points a user accumulates. You can specify the number of points required for each level, and provide user friendly names for those levels. Points are awarded to the user for:

- Content that the user has authored
- The number of times that content that the user has authored has been viewed
- The ratings for content that the user has authored
- The number of case links for content that the user has authored

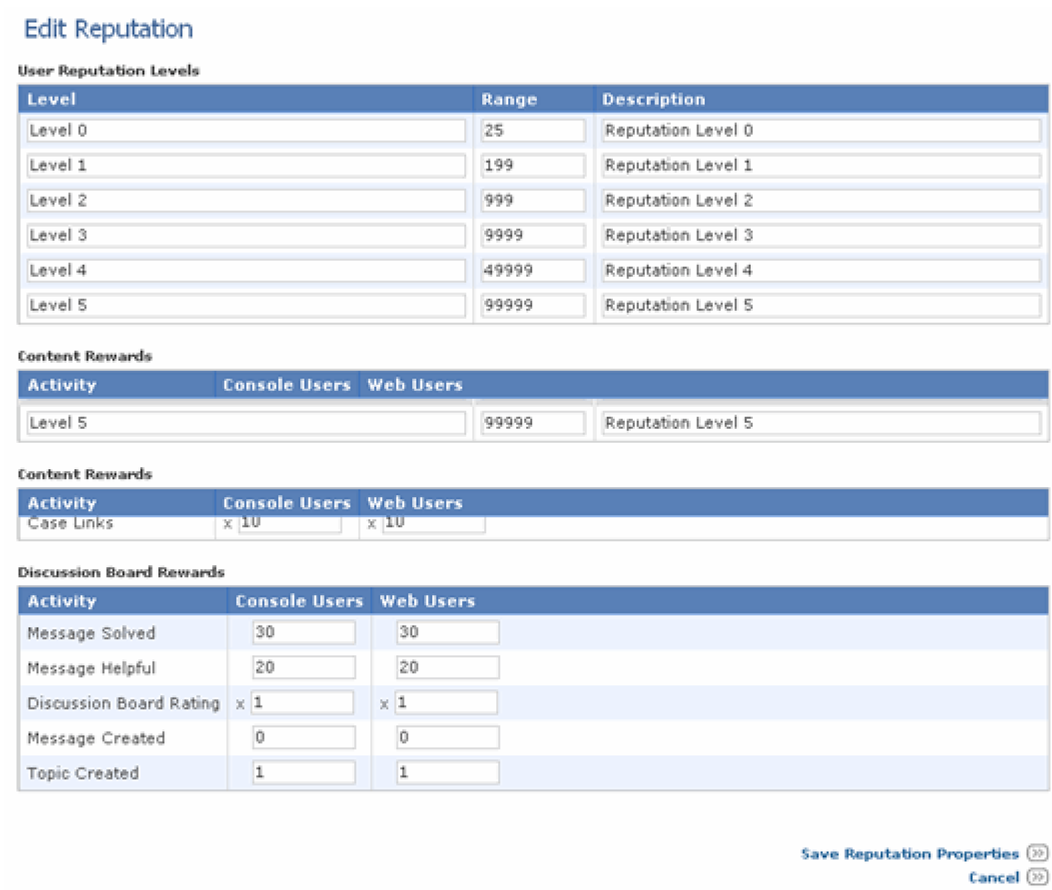
Answering discussion threads, authoring highly rated content, or having postings flagged as helpful are all ways in which users can accumulate points. Some activities provide a multiplier, so that you can reward points based on the weighting of a specific activity. Points can also be awarded separately for console users and web users.

NOTE: Editing SYSTEM level defaults can only be done from the SYSTEM repository with system administrator privileges. Changes made to the reputation model from any other hierarchy affects only that hierarchy.

To edit the User Reputation model for the current hierarchy:

- Select the **Edit Reputation Model** option

The Edit Reputation page is displayed. Use the Edit Reputation page to edit the User Reputation Levels, Content Rewards, and Discussion Board Rewards settings.



- Assign values for each level for the following User Reputation Level fields:

Field	Description
Title	A user-friendly name for the level
Range	The number of points a user must have to belong to this level
Description	A description for the level

- Assign values for Console Users and Web Users for the following Content Reward fields:

Field	Description
Content Authored	The number of points to award for each content item the user has contributed
Content Viewed	The number of points to award each time a user's content is viewed
Content Rated	The multiplier to use to weight user feedback ratings for content a user has authored
Case Links	The multiplier to use to weight content a user has authored where a case link exists

- Assign values for each level for the following Discussion Board Rewards fields:

Field	Description
Message Solved	The number of points to award each time a user's message provides a solution to an issue
Message Helpful	The number of points to award each time a user's message is helpful in providing a solution to an issue
Discussion Board Rating	The multiplier to use to weight user feedback ratings for messages a user has authored
Message Created	The number of points to award each time a user adds a message to a topic
Topic Created	The number of points to award each time a user starts a new topic

- Select the **Save Reputation Properties** option to save your changes

Specifying Self-Administration for Users

You can specify which aspects of their profiles end-users will be able to manage; for example, you can specify that certain users will be able to manage their own skills, languages, and work teams.

Chapter 7 Workflow Processes

You can create multi-step workflow processes to manage publishing lifecycles for each content channel in your application. Workflow processes are sequences of steps, such as creating, editing, translating, reviewing, and approving, that you can define to enforce specific content management procedures for your organization.

You create workflow processes by:

- Defining a workflow as described in *Creating a new workflow* on page 190
- Defining steps within the workflow as described in *Defining Workflow Steps* on page 192
- Adding workflow step permissions to appropriate user security roles as described in *Specifying Workflow Step Privileges* on page 158.

You implement workflow processes by assigning a workflow process to a content channel definition as described in *Specifying Workflow Options for a Channel* on page 114.

Workflow steps and processes are stored independently of content channels; you can re-use workflow processes by assigning the same processes to multiple channels.

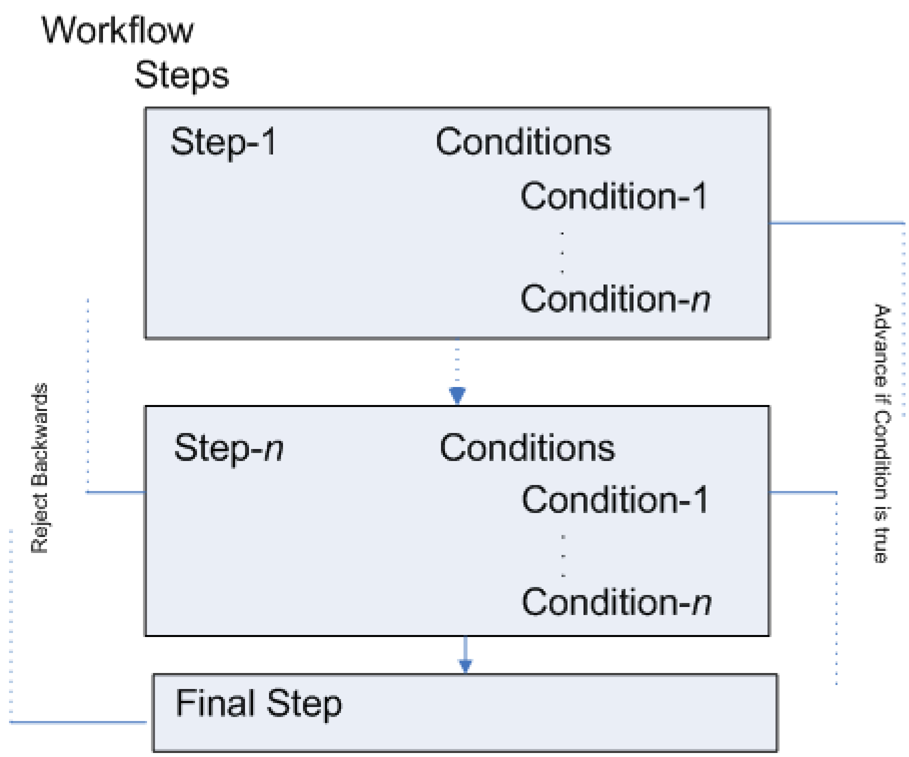
Anatomy of a workflow

A workflow consists of one or more steps. Each step defines a task that is assigned to a user or team of users. Task assignments appear in the user's Inbox in Information Manager. After the assigned user performs a task on a document, the user can either:

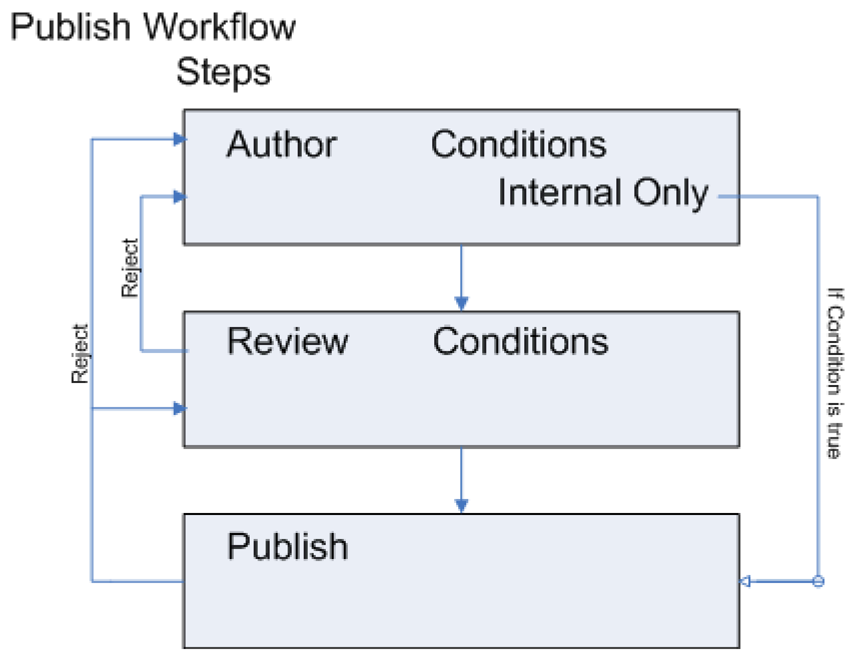
- Approve the document for advancement to the next step in the workflow
- Reject the document back to the previous step
- Reassigned the task to another user or team

Each step can optionally include one or more conditions that define a particular criteria and what step to advance to if the document meets that criteria.

The illustration below outlines the components in a workflow.



For example, the illustration below shows a workflow with three steps: author, review, and publish. The author step includes a condition that will bypass the review step if the document is for internal use only. For documents that make it to the review or publish step, the user assigned to the task can reject the document back to the review or author steps.



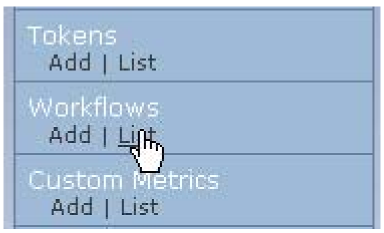
Creating a new workflow

Plan your workflow in advance. Think about the steps each document is to follow from creation to published.

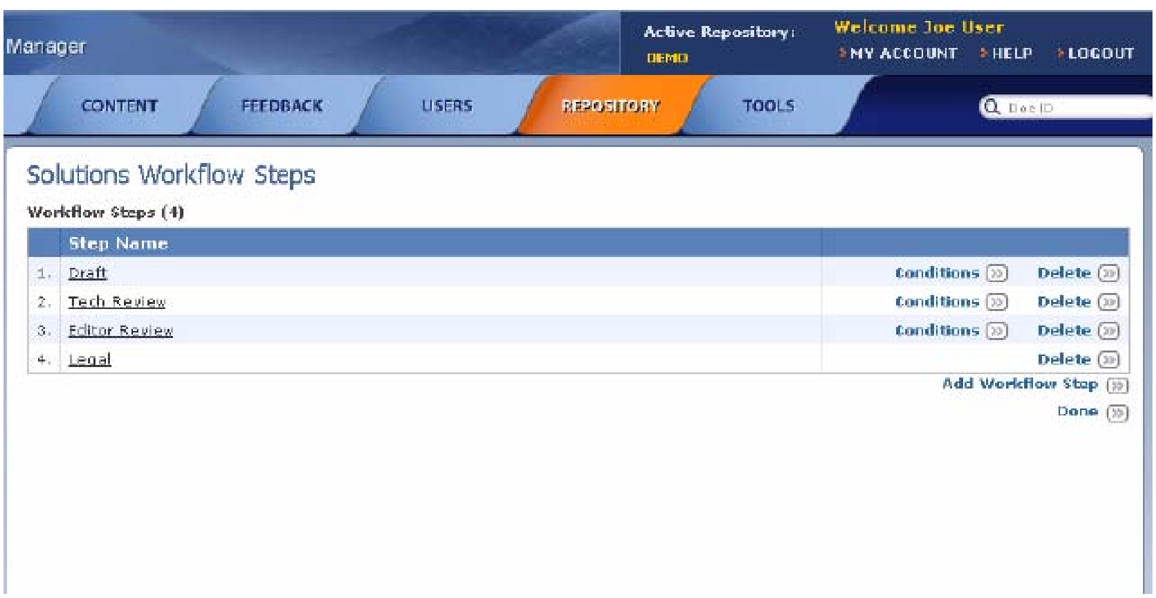
To create a workflow:

- Select **Repository** from the navigation area:

- Select **List Workflow** to see if any existing workflow can be used:

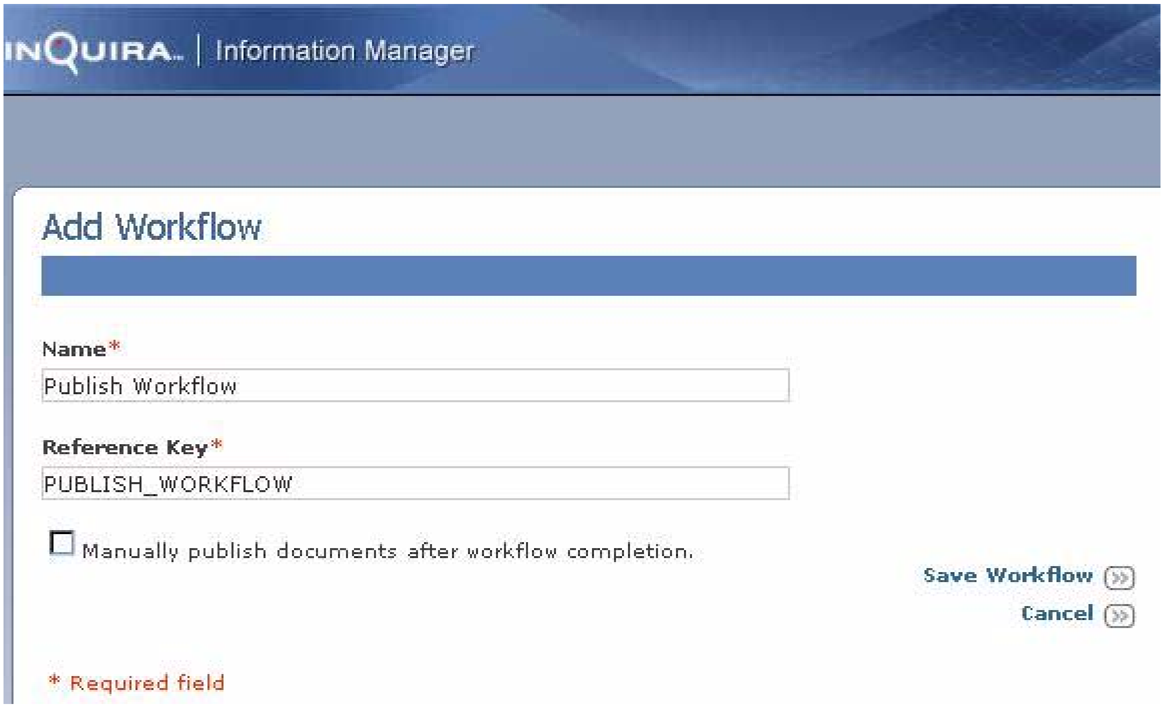


This brings up the Workflow Management page:



If no existing workflow can be used, select **Add Workflow**. This brings up the Add Workflow page, where you name the workflow (reference key is automatically created from the name).

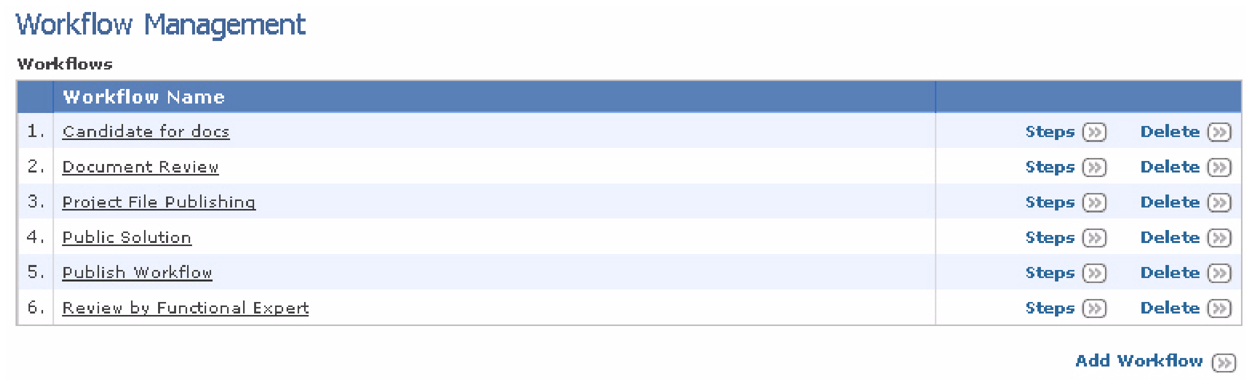
Select **Save Workflow**.



- Specify the following properties to define the workflow:

Property	Description
Name	Specify the name of the workflow process.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys and how they are used within the Information Manager.
Manually publish documents after workflow completion	Select this checkbox to specify that documents will require a manual publishing step when the workflow completes. The default is to publish automatically as the final workflow step.

The Management Console displays the new workflow on the Workflow Management page:



You can now add steps to the workflow, as described in *Defining Workflow Steps* on page 192.

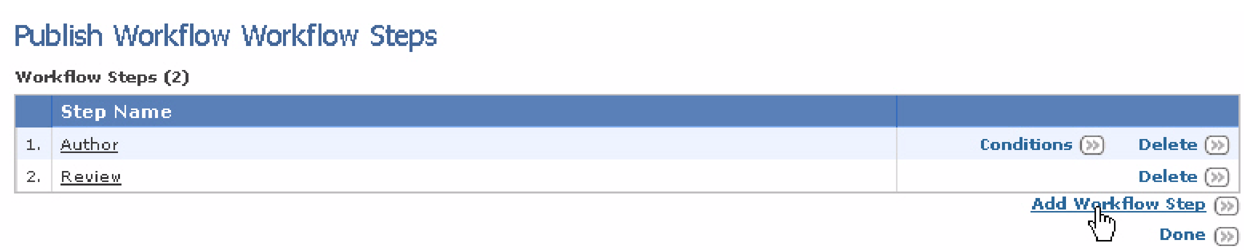
Defining Workflow Steps

You can define workflow steps for any type of content management activity. You can also define rejection options and conditional steps as described in *Defining Conditional Workflow Steps* on page 194 and *Defining Rejection Steps* on page 197.

To define a workflow step:

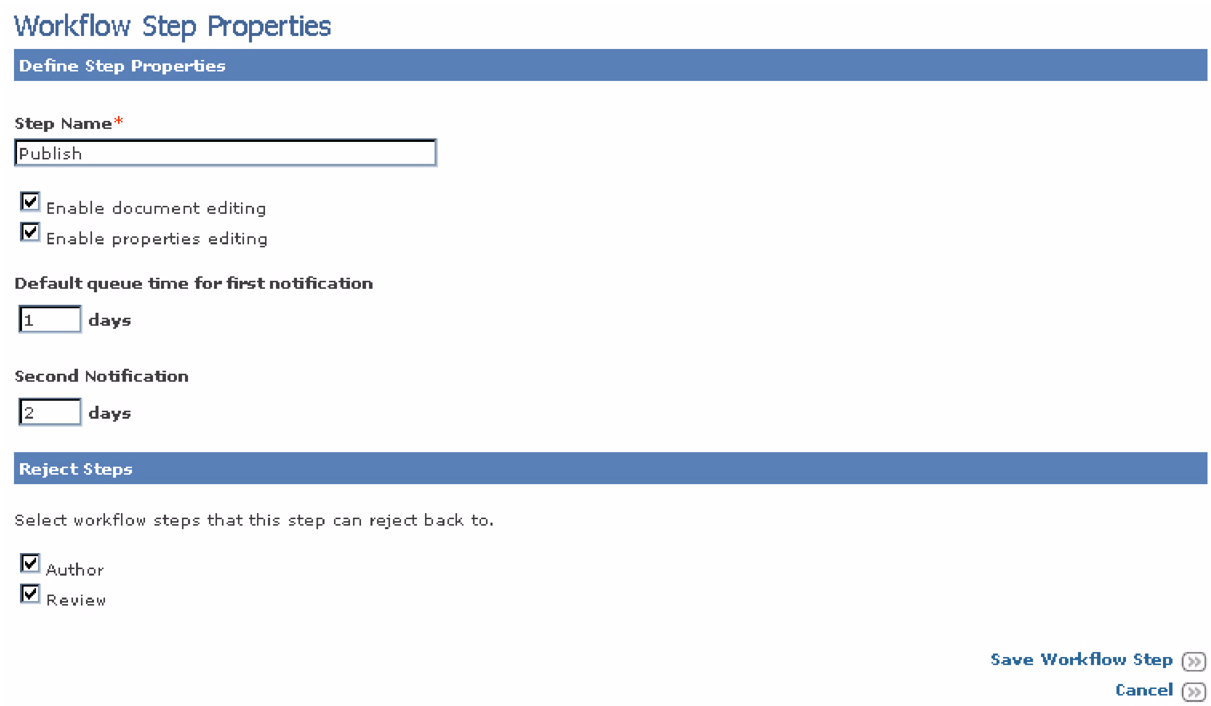
- Select **Steps** on the Workflow Management page:

The Workflow Steps page displays any currently defined steps for the selected workflow.



- Select **Add Workflow Step**

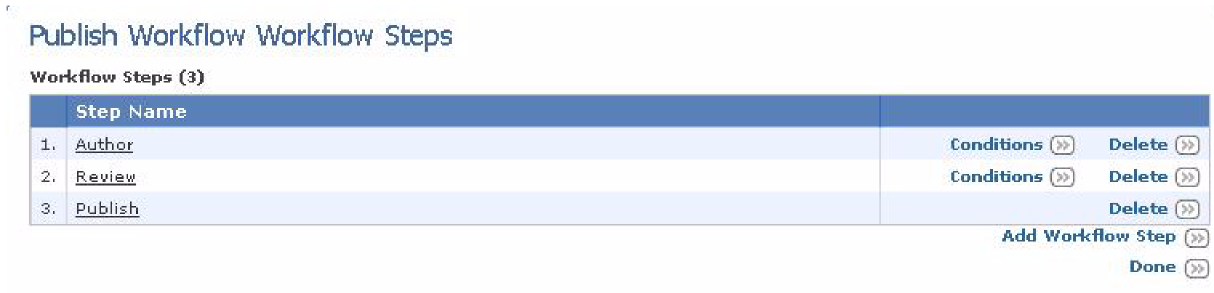
The Workflow Step Properties page displays:



- Specify the following workflow step properties:

Property	Description
Step Name	Specify the name of the step.
Enable document editing	Specify whether to allow authorized users to edit the content of the document when performing this step.
Enable properties editing	Specify whether to allow authorized users to edit the document properties when performing this step.
Default queue time for first notification	Specify the time that will elapse between a record entering this step and the initial notification being sent. See *Enabling Notifications of Workflow Tasks* on page 200 for more information on setting up task notification.
Second Notification	Specify the time that will elapse between the initial notification that a record has entered this step and the second notification.
Reject Steps	Specify one or more optional workflow steps that content can be returned to in the event that content is rejected by an authorized user as described in *Defining Rejection Steps* on page 197.

The steps in our Publish Workflow example might look like:



NOTE: All new steps are added to the end of the workflow and their relative locations cannot be reset.

Defining Conditional Workflow Steps

For each workflow step, you can specify one or more conditions and what step the document is to advance to if it meets or does not meet the specified conditions. These conditions map directly to the attributes you can set when creating or editing a document in Information Manager.

To set conditions for a step, select **Conditions** to the right of the step listed in the Workflow Steps page.

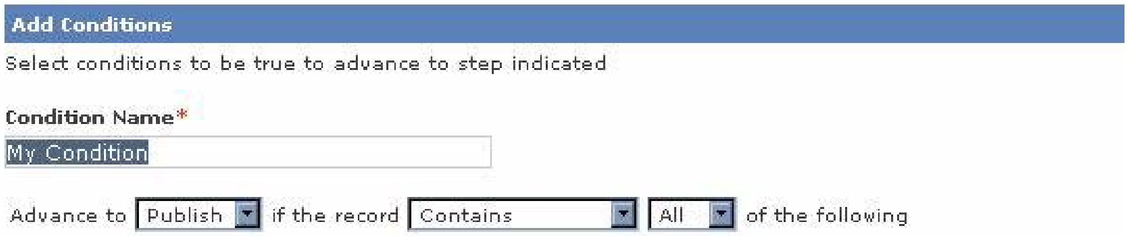
Condition Name -- Provide the name of the condition.

Advance to -- When the condition is triggered, the workflow advances the document to this step

if the record -- This defines the criteria under which the condition is triggered. You can trigger the condition under one or more of the following conditions:

- **Contains Any** -- Document must meet a least one of the specified criterion.
- **Contains All** -- Document must meet all of the specified criteria.
- **Does not contain Any** -- Document cannot meet any of the specified criteria.
- **Does not contain All** -- Document cannot meet all of the specified criteria.

For example, to advance to the Publish step if the document meets all of the specified conditions, set:



Locale Conditions -- Defines the criteria related to translation.

Document Type Equals -- The document type can be either:

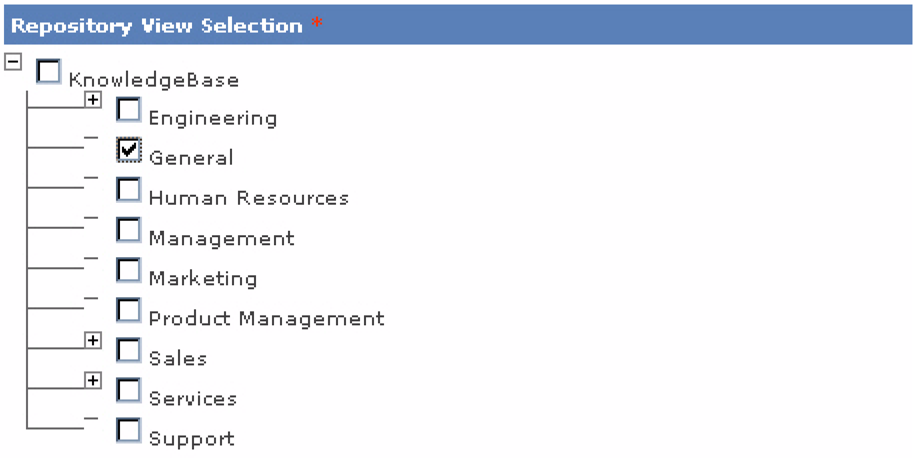
- **Any:** Doesn't matter
- **Master Document**: The document in its original language
- **Translated Document**: The document has been translated to a language other than its original language

For Any Of The Selected Locales -- The document is written in the language for the selected locale.

NOTE: The **Document Type Equals** and **For Any Of The Selected Locales** settings are independent. For example, if **Document Type Equals** is set to **Translated Document** and **For Any Of The Selected Locales** is set to **English**, then the condition is met if the document is *either* a **Translated Document** or has a locale of **English**.

Repository Views -- Defines a condition based on which views have been established for the document.

For example, to establish a condition for documents set for the Knowledgebase view:

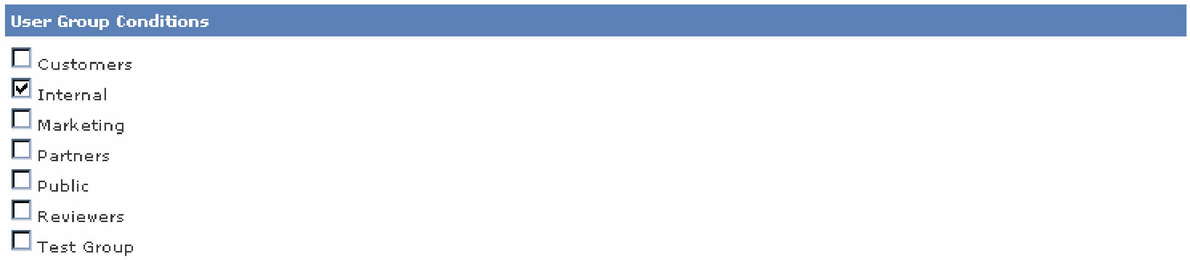


Category Conditions -- Defines a condition based on which categories have been established for the document.

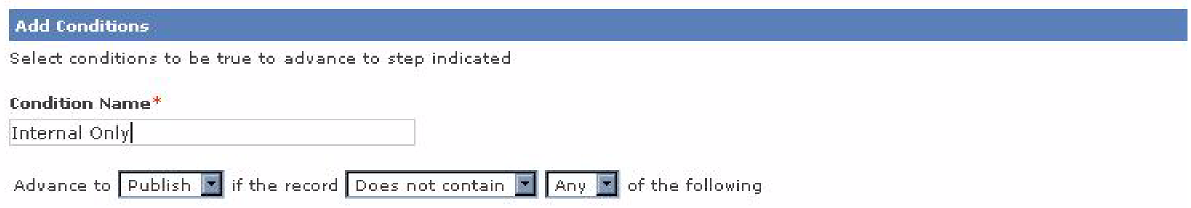
For example, to establish a condition for documents set with a Search category:

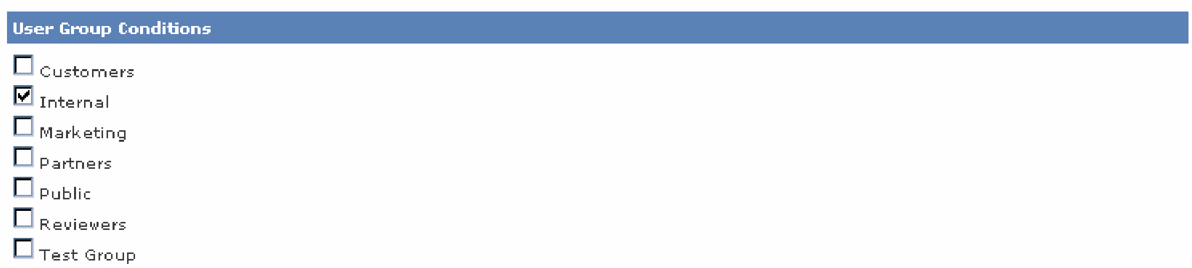
Teams -- Defines a condition based on a work team:

User Group Conditions -- Defines a condition based on which user groups have been established for the document:



In our Publish Workflow example, we create an Internal Only condition to advance any document to the Publish step if it is only to be accessed by users belonging to the Internal user group. The setting are shown below. No other conditions are set.





Defining Rejection Steps

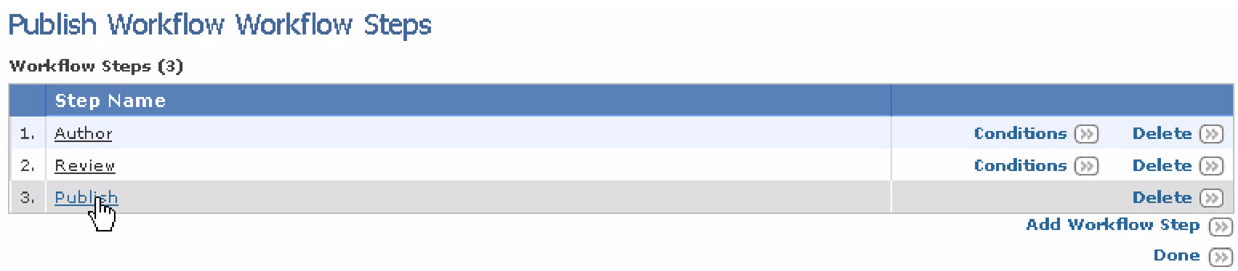
You can define rejection steps in workflow processes that contain more than two steps. Rejection steps enable content supervisors to reject a new record or changes to an existing record.

You can specify one or more preceding steps as the rejection destination options. Content supervisors will then have the option to choose the rejection destination from among the specified rejection steps.

You can designate one or more previous workflow steps as the rejection destination. For example, you can specify that users having access to the publish step can reject the work back to either the create step or the review step.

To specify a rejection step:

- Select or add a step that has at least one preceding workflow step:



The Workflow Step Properties page displays the Reject Steps heading:

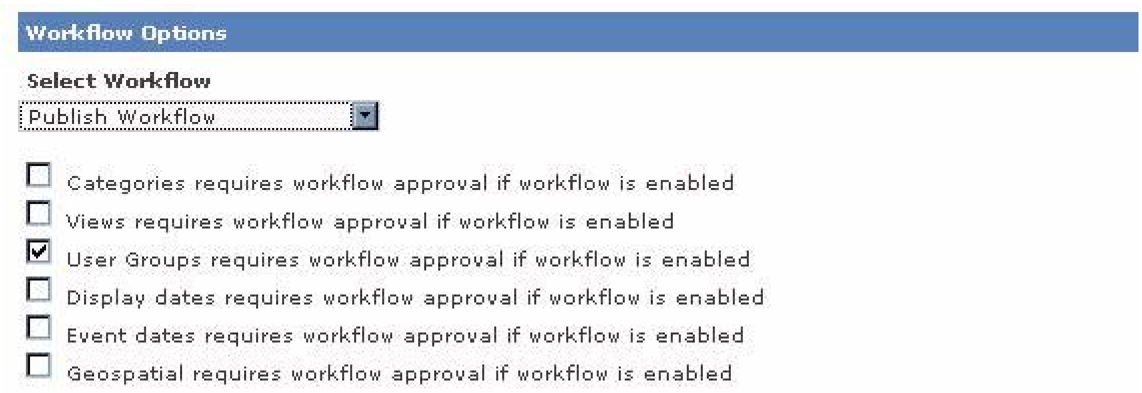
- Select one or more preceding workflow steps as potential rejection destinations

Assigning a workflow to a channel

After creating a workflow, you can assign it to a channel by:

- Open the **REPOSITORY** tab
- Select **List Channels**
- Select the channel you wish to assign the workflow to
- Under **Workflow Options**, select the workflow from the pull-down menu
- Set the workflow options to specify attributes within a document are subject to workflow permissions and version incrementing, as described in Specifying Workflow Options for a Channel

For example, to select the Publish Workflow for the channel so that user groups require workflow approval:



Workflow Automation

When you assign a workflow process to a channel, each content record created in the channel must progress through the workflow process prior to publication.

Information Manager maintains versions for each process step as decimal point values. For example, a content record that is revised in a three-part workflow might enter the workflow process at version 2.0, and be saved as 2.1 and 2.2 before ultimately being published as version 3.0.

As content progresses through the workflow, Information Manager creates tasks and notifies authorized users of its status, as described in *Chapter 3, Working with Tasks* in the *Information Manager Content Authoring Guide*.

Enabling Notifications of Workflow Tasks

When task notification is enabled, workflow tasks assigned to a particular user are forwarded to that user's Inbox.

To enable task notification:

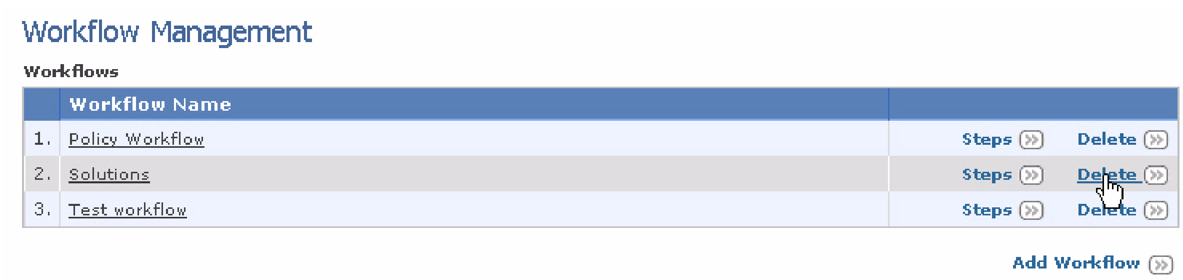
- Open the **TOOLS** tab.
- Under **Tasks & Notifications**, select **Configure.**
- Select Workflow Task to open the **Tasks & Notifications** page for workflows.
- Check the **Enable this task type** option to populate the assigned user's INBOX with workflow tasks.
- Check the **Enable email notifications for this task** to enable email notifications of newly assigned workflow tasks.

IMPORTANT: The **Enable this task type** option must be enabled in order to assign a workflow task or to enable any tasks or notifications associated with the workflow task. For example, if this option is not enabled, then the **Enable email notifications for this task** option is disabled, regardless of whether it is selected.

See *Configuring Tasks and Task Notifications* on page 292 for more information on configuring and enabling tasks.

Deleting Workflow Processes

You can delete a workflow process provided that there are no content records currently assigned to any of the steps in the workflow. If you attempt to delete a workflow process to which content records are still assigned, the Management Console will display an error message, and the workflow will not be deleted.



Chapter 8 Feedback and Collaboration Features

You can use Information Manager feedback and collaboration features to communicate with users and enable users to communicate with your organization and with each other. Feedback and collaboration features include:

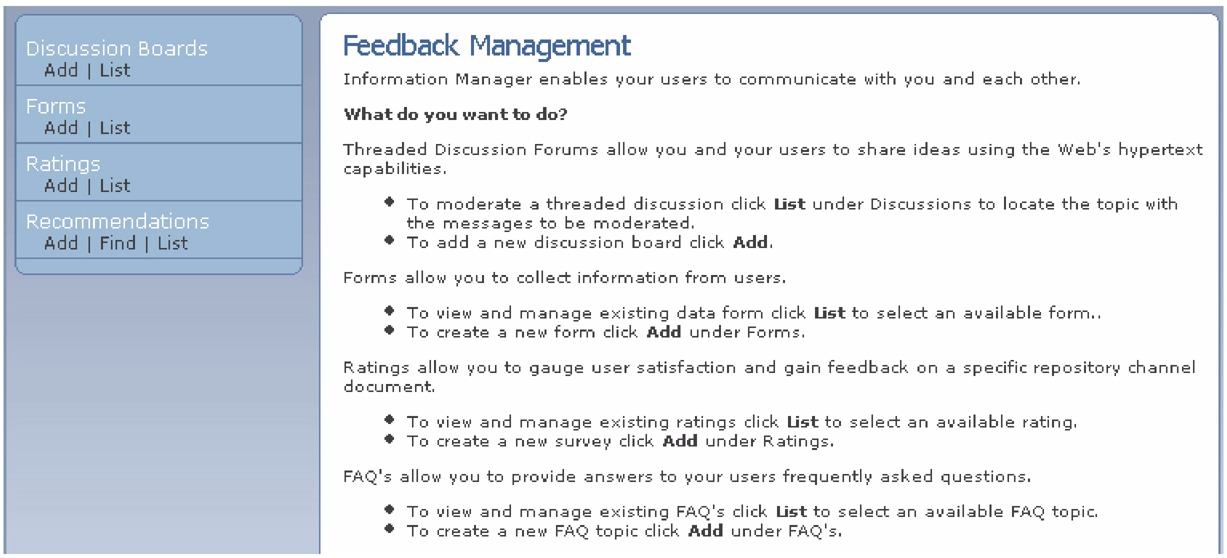
- Discussion Forums, or message boards, as described in *Creating Discussion Boards* on page 205
- User information and content rating forms as described in *Creating and Managing User Information and Content Rating Forms* on page 222
- Content Recommendations as described in *Creating and Managing Content Recommendations* on page 233

The Feedback Management Page

You access feedback and collaboration features using the options on the Feedback Management page. To access the Feedback Management page:

- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page:



Creating Discussion Boards

You can create discussion boards to enable users to communicate with one another through threaded messages organized under managed topics within forums.

Discussion boards provide a complete set of discussion functionality organized in the following objects:

Discussion Boards	Discussion boards are the highest level object. You can define multiple discussion boards, each having different definitions, and each addressing a distinct business need. For example, a product support discussion board would have different business requirements, and therefore very different property definitions, than an internal portal discussion board. Discussion boards contain one or more forums.
Forums	Forums are containers within Discussion Boards that contain and organize Topics by subject matter area. You can create any number of forums within a discussion board, and you can associate forums with hierarchical categories, such as product lines.
Categories	You can select repository Categories to provide a hierarchy within a discussion board, enabling administrators to assign a specific category to a forum.
Topics	Topics are the individual subjects within forums. Topics have associated types: • normal topics, which are simply subject matter areas related to the parent forum • question topics as described in *Creating and Managing Forum Topics* on page 219, which are structured as requests for information that answers a question or resolves an issue Topics have associated metrics, including the number of times users viewed the topic and its messages; you can also define rating mechanisms for topics and related messages, for example to rate proposed solutions to a question topic.
Messages (Posts)	Messages are the individual content items that end users can read and create, either as new messages under a topic, or as responses to existing messages.

You can specify security options to determine who can read, post, and use additional board features as described in *Security Options for Discussion Boards, Forums, and Topics* on page 212. You can also define business rules to handle abuse as described in *Abuse Settings for Discussion Boards* on page 208, and enable users to rate messages as described in *Rating Scales for Discussion Boards* on page 210.

You create and manage discussion boards and related objects as described in:

- *Creating and Managing Discussion Boards* on page 206
- *Creating and Managing Discussion Forums* on page 218
- *Creating and Managing Forum Topics* on page 219
- *Creating and Managing Discussion Messages* on page 221

Creating and Managing Discussion Boards

You create discussion boards using the Discussion Board Properties page.

To create a discussion board:

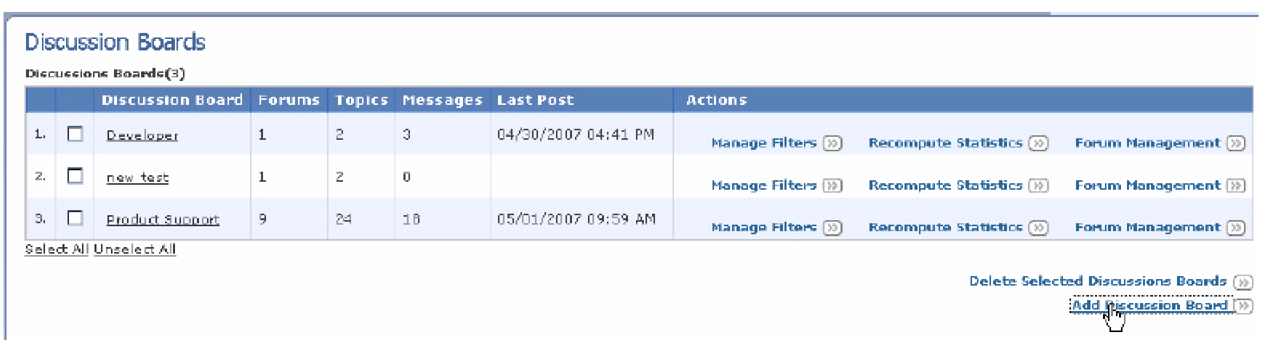
- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **Add** option under Discussion Boards:

  or

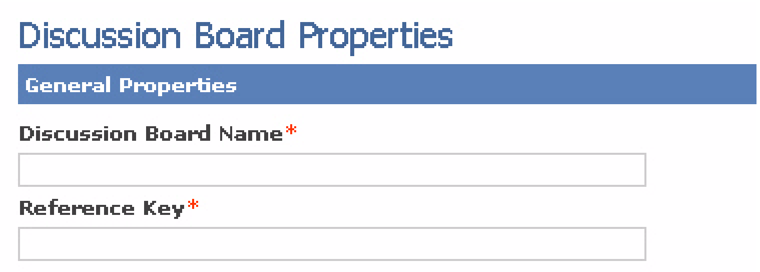
- Select the **Add Discussion Board** option on the Discussion Board Management page:



The Discussion Board Properties page displays.

General Discussion Board Properties

You define the following general properties for a discussion board:

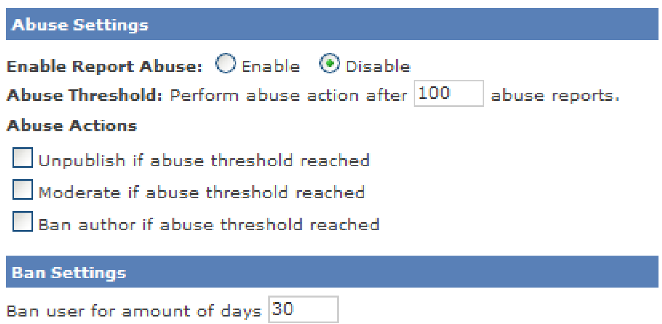


Property	Description
Discussion Board Name*	Specify the name of the discussion board.
Reference Key*	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.

Abuse Settings for Discussion Boards

You can specify business rules to automate responses to abusive postings on a discussion board. Abuse reporting enables a feedback mechanism within discussion board messages that authorized users can use to report objectionable content.

- Specify the following properties:

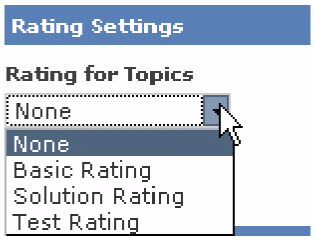


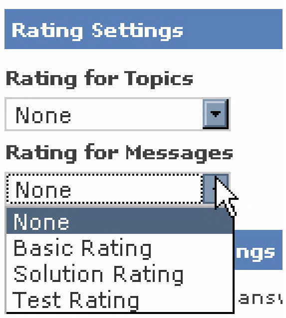
Property	Description
Enable Report Abuse	Specify whether users will have the ability to report abusive messages to the board administrator. You can restrict abuse reporting privileges to selected users as described in *Security Options for Discussion Boards, Forums, and Topics* on page 212
Abuse Threshold	Specify the number of reports that must occur in order for the abuse actions to take effect. The default value is 100.

Property	Description
Abuse Actions	Select one or more of the following actions to respond to abuse: • **Unpublish**: specifies that the message associated with the abuse reports will be automatically removed from the published site • **Moderate**: specifies that the administrator will be notified so that proper actions can be taken • **Ban author**: specifies that the user account under which the abusive post was created will be automatically set to Inactive for the number of days specified in the Ban Settings field.
Ban Settings	Specify the number of days an banned author is to be made inactive.

Rating Scales for Discussion Boards

You can specify rating scales to enable users to rate topics and messages on a discussion board. Adding ratings enables a feedback mechanism within all topics and messages on a board. You can assign separate rating scales for topics and messages. Information Manager stores ratings data submitted for content items for use in the Information Manager Analytics Content Feedback Report, which displays information about end-user ratings of published content records, and in the user reputation model as described in Working with User Metrics.





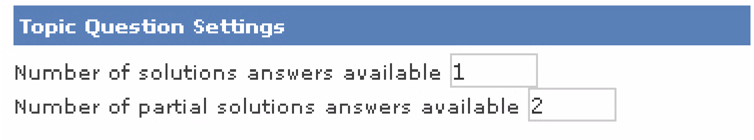
NOTE: You define rating scales for your application, as described in Creating and Managing Content Rating Scales

- Specify the following properties:

Property	Description
Ratings for Topics	Select a rating scale to be used for rating topics.
Ratings for Messages	Select a rating scale to be used for rating topics.

Topic Question Settings

You can specify the number of messages that will be allowed as responses to a questions topic. Question topics enable the topic owner to identify answers that either solve or help to solve their question.



- Specify the following properties:

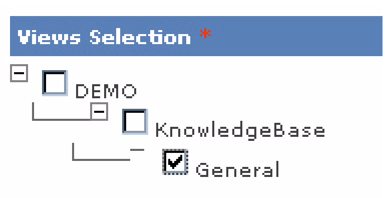
Property	Description
Number of Solutions	Specify the number of messages that a topic owner can identify as the solution.
Number of Partial Solutions	Specify the number of messages that a topic owner can identify as the partial solution.

Locale Settings

You can specify the locale of the discussion board by selecting a language in the Locale Settings:

View Selection Settings

The Views Selection determines what view a user has to be a member of to see the board in the console:



Categories for Discussion Boards, Forums, and Topics

You can select repository Categories to provide a hierarchy within a discussion board, enabling administrators to assign specific categories to boards, forums, or topics. Users can then navigate the forums within a discussion board to view only forums and topics specific to a selected category. You can assign a forum to only one category.

NOTE: See *Chapter 4, Content Categories* for more information on defining categories.

To select a category for a Discussion Board, Forum, or Topic:

- Expand the category hierarchy to display the desired category:

- Select the **Add** option for the desired category

NOTE: Adding a category also includes all of its subcategories.

The Management Console updates the Selected Categories field.

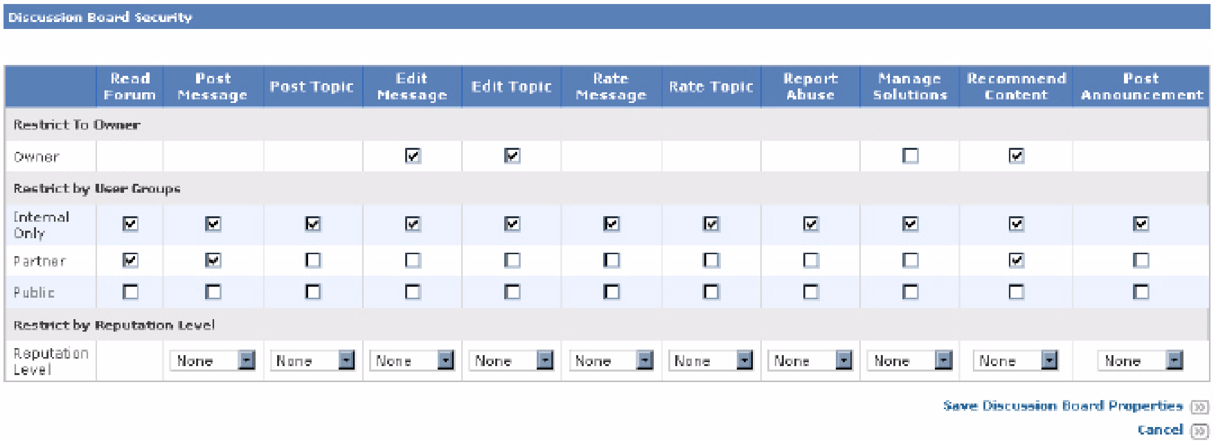
Security Options for Discussion Boards, Forums, and Topics

You can restrict Discussion Board, Forum, and Topic usage, such as the ability to read, post, rate, and recommend content by specifying privileges by:

- Owner
- User Groups
- Reputation Level

NOTE: See *Configuring User Reputation Levels* on page 183 for more information on using reputation models.

The Security section of the Discussion Board, Forum, and Topic Property pages lists the following privileges that you can permit:



Discussion Board Security

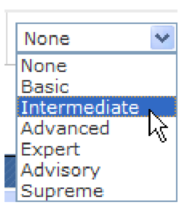
	Read Forum	Post Message	Post Topic	Edit Message	Edit Topic	Rate Message	Rate Topic	Report Abuse	Manage Solutions	Recommend Content	Post Announcement
Restrict To Owner											
Owner				☑	☑				☐	☑	
Restrict by User Groups											
Internal Only	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑
Partner	☑	☑	☐	☐	☐	☐	☐	☐	☐	☑	☐
Public	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Restrict by Reputation Level											
Reputation Level		None	None	None	None	None	None	None	None	None	None

Save Discussion Board Properties

Cancel

To grant permission for an Owner or User Group, select the check box that corresponds to the Owner or User Group.

To restrict permission to users that have achieved a certain reputation level, select the desired level for each activity:



Creating and Managing Discussion Board Filters

Discussion filters are applied when a discussion topic or message is saved. They can be used to screen out unwanted or potentially hazardous content.

Use the Manage Filters page to activate, deactivate, or change the order of filters. From the Manage Filters page you can also:

- Add system filters as described in *Adding System Filters to a Discussion Board* on page 214
- Add custom filters as described in *Adding Custom Filters to a Discussion Board* on page 215

NOTE: Filters are applied only if they are active and in the order in which they appear on the Manage Filter Page.

Adding System Filters to a Discussion Board

System Filters are out-of-the-box filters that you can select from the Management Console. The following filters are currently available:

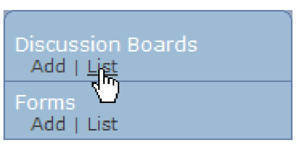
- **IM HTML Filter** – which parses message text and strips out all Javascript and all HTML tags not listed in `InfoManager/config/SYSTEM/allowedHTMLTags.txt`. If a tag is allowed, the tag's attributes are then examined to make sure they are also allowed. For example, if `a:href` appears in `allowedHTMLTags.txt` it means that the anchor tag is allowed and that `href` is an allowed attribute for the anchor tag. Any attribute that is not specifically allowed for a given tag is stripped out.
- **IM Profanity Filter**– which parses message text using regular expressions looking for text listed in `InfoManager/config/SYSTEM/profanitylist.txt`, replaces any it finds with *****, and marks the message for moderation.

To add a System Filter to a Discussion Board from the Management Console:

- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **List** option under Discussion Boards:



The Discussion Boards page lists the currently defined discussion boards.

- Select **Manage Filters** for the appropriate discussion board

The Manage Filters page lists the filters defined for the selected discussion board

- Select **Add System Filter**
- Select the filter to apply

The selected filter appears in the list of active filters for the discussion board.

Adding Custom Filters to a Discussion Board

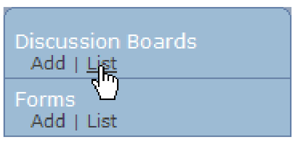
Custom filters are filters you create by implementing the `IMForumFilter` interface (see *IMForumFilter Interface* on page 216 for a description of the `IMForumFilter` interface).

To add a Custom Filter to a Discussion Board from the Management Console:

- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **List** option under Discussion Boards:



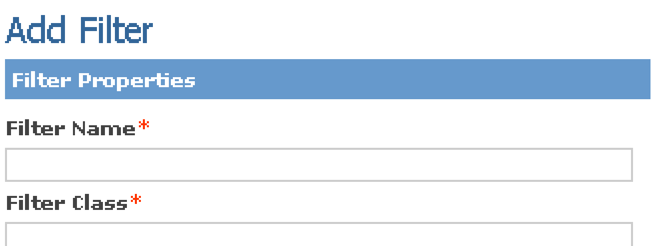
The Discussion Boards page lists the currently defined discussion boards.

- Select **Manage Filters** for the appropriate discussion board

The Manage Filters page lists the filters defined for the selected discussion board.

- Select **Add Custom Filter**

The Add Filter dialog is displayed.



- Enter the new Filter Name and provide the fully qualified Filter Class name that implements `IMForumFilter`

NOTE: Filter classes must implement the `IMForumFilter` interface and the class must be in the classpath so that the application can see it.

- Select **Save Filter**

The custom filter appears in the list of active filters for the discussion board.

IMForumFilter Interface

Custom filters must implement the `IMForumFilter` interface shown below and the implemented class must be in the classpath so that the application can see it.

```
package com.inquira.services.discussion;

/**
 * Interface for processing messages and topics. Classes that
 * implement this interface should be in the class path
 * for the management console and tag library application.
 */
public interface IMForumFilter {
/**
 * Process the title and return a modified string
 *
 * @param title
 * @return
 */
public String processTitle(String title);
/**
 * Process the body and return a modify string
 * @param body
 * @return
 */
public String processBody(String body);
/**
 * Set to true to mark the message for moderation
 *
 * @return
 */
public boolean markForModeration();
/**
 * Set to true to unpublish the message or topic
 * @return
 */
public boolean unpublish();
/**
 * Set to true to ban the user performing the action
 * @return
 */
public boolean banUser();
/**
 * Return -1 to use default ban settings, 0 to ban forever, or
 * any number to set the ban to those numbers
 *
 * @return number of days a user will be banned
 */
public int banDays();
/**
 * Set to true to continue with the next filter in the chain, or
```

```
 * set to false to stop filter processing and return
 * to saving the message.
 *
 * @return
 */
public boolean continueWithNextFilter();

}
```

Working with Discussion Board Metrics

Information Manager compiles and displays the following metrics associated with discussion board use:

Question Status	Displays the status of the current question. Possible values are: • Solved • Partially Solved • Not Answered
Solved Answers	Indicates the number of messages in question topic that have been marked as solved.
Available Solved Answers	Indicates the number of available solved messages. You can specify the total allowed solutions for a topic, as described in *Topic Question Settings* on page 211.
Helpful Answers	Indicates the number of available partially solved messages. You can specify the total allowed partial solutions for a topic, as described in *Topic Question Settings* on page 211.
Ratings	Web application users can rate topics and messages on a scale of 1 - 5, (5 being most valued).

Creating and Managing Discussion Forums

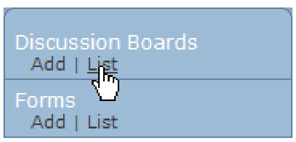
Discussion Forums contain and organize Topics by subject matter area. You can create any number of forums within a discussion board, and you can associate forums with hierarchical categories, such as as product lines. You create and manage discussion forums using the Feedback Management page, which lists the currently defined discussion boards.

To manage discussion topics:

- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **List** option under Discussion Boards:



The Discussion Boards page lists the currently defined discussion boards.

To create and manage forums within a discussion board:

- Select the **Forum Management** option

The Forum Management page displays the currently defined forums for the selected discussion board.

To create a forum:

- Select **Add Forum**

The Management Console displays the Forum Properties page.

- Specify the following properties to define a Forum:

Forum Name	Specify the name of the forum.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Description	Specify a brief description that will display as the subheading for the forum.

Select Category	Select the categories that apply to the discussion board. Use the **Add** button to move categories in the Available Categories list box to the Selected Categories box. refer to the section on *Categories for Discussion Boards, Forums, and Topics* on page 212 for more information about categories.
Forum Security	• **Restrict To Owner:** Select activities to restrict to content owners • **Restrict by User Groups:** Select the activities each user group can carry out • **Restrict by Reputation Level:** Specify the minimum reputation level required to carry out each activity See *Security Options for Discussion Boards, Forums, and Topics* on page 212 for more information on security settings.
Date Properties	Select the **Start Dat**e and **End Date** for the when the forum is available to users (optional).

- Select **Save Forum Properties** to save your entries

Creating and Managing Forum Topics

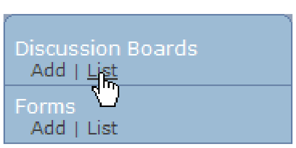
Forum topics are the individual subjects within forums. Topics have associated types (normal and question), and associated metrics, including the number of times users viewed the topic and its messages. You can also define rating mechanisms for topics and related messages, for example to rate proposed solutions to a question topic. You create and manage forum topics using the Feedback Management page, which lists the currently defined discussion boards.

To manage discussion topics:

- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **List** option under Discussion Boards:



The Discussion Boards page lists the currently defined discussion boards.

- Select the **Forum Management** option

The Forum Management page displays the currently defined forums for the selected discussion board.

To create and manage topics within a forum:

- Select the **Topics** option

The Topics page displays the currently defined topics within the selected forum. You can filter the topics list as described in *Creating and Managing Discussion Boards* on page 206. You can create and manage messages (responses) for a topic as described in *Creating and Managing Discussion Messages* on page 221.

To add a topic:

- Select the **Add New Topic** option

The Management Console displays the Topic Properties page.

- Specify the following properties to define a Topic:

Forum	Displays the selected Forum in which the topic will be created.
Category	Displays the category configured for the current Forum.
Topic Title	Specify a title for the topic.
Topic Body	Enter the text of the topic.
Topic Type	Select the topic type, as described in *Topic Types* on page 220.

Topic Types

Topics have associated types:

- Normal Topic
- Question Topic
- Announcement

Questions topics enable the topic owner to identify answers that either solve or help to solve their question. Information Manager tracks the number of times that topics are viewed, which contributes to the reputation of the user who posted the solution.

Announcements are topics for which no thread is intended. Note that other users will not be able to reply to an announcement.

Creating and Managing Discussion Messages

You can add new messages, reply to existing messages, and review, edit, and publish user-submitted messages from within the Management Console or the web application.

NOTE: In moderated discussions, a moderator must formally publish messages submitted by end users; these messages will not display on the web site until they are published.

You manage messages related to a selected discussion topic using the Messages page.

To view messages for a selected topic:

- Select the **Messages** option for the selected topic on the Discussion Board Management page

The Messages page displays.

The Messages page lists all of the messages associated with the topic. Messages and replies to messages are displayed as parents and children within the list. The character P displayed in red indicates that a message is not published.

You can view details for message and review its contents prior to publishing by selecting the message item. The Message Board Message page displays as described in Publishing Messages.

You can reply to existing messages using the Reply option, and add a message to begin a new thread using the Add New Message option. The Message Board Message Edit page displays as described in Creating Discussion Forum Messages.

To add or manage messages for a topic:

- Select the **Messages** option on the Topics page

The Messages page displays the Messages posted for the selected topic.

To add a Message for a Topic:

- Select the **Reply** option

The Management Console displays the Message Properties page.

Creating and Managing User Information and Content Rating Forms

You can create and manage forms that end users can use to submit data to your organization using the Forms and Ratings Management page. You can define forms to collect various types of information as described in *Types of Data Forms* on page 222.

Forms consist of questions and answers, which are labeled fields that you define for the form. You can define form fields to collect any information of interest.

You create forms by:

- Defining the basic form properties as described in *Creating General Forms* on page 225
- Defining the question and answer form fields as described in *Creating Form Questions* on page 229 and *Creating Form Answers* on page 231.

Types of Data Forms

You can define the following types of forms:

- General user information forms, such as a request for contact (Contact Us)
- Content rating forms, which you use to collect user-assigned ratings of accessed content
- Channel alert forms, which are special forms designed to collect subscription information for users to be notified by email of changes to a specified channel

Creating Rating Forms

To define a content rating form:

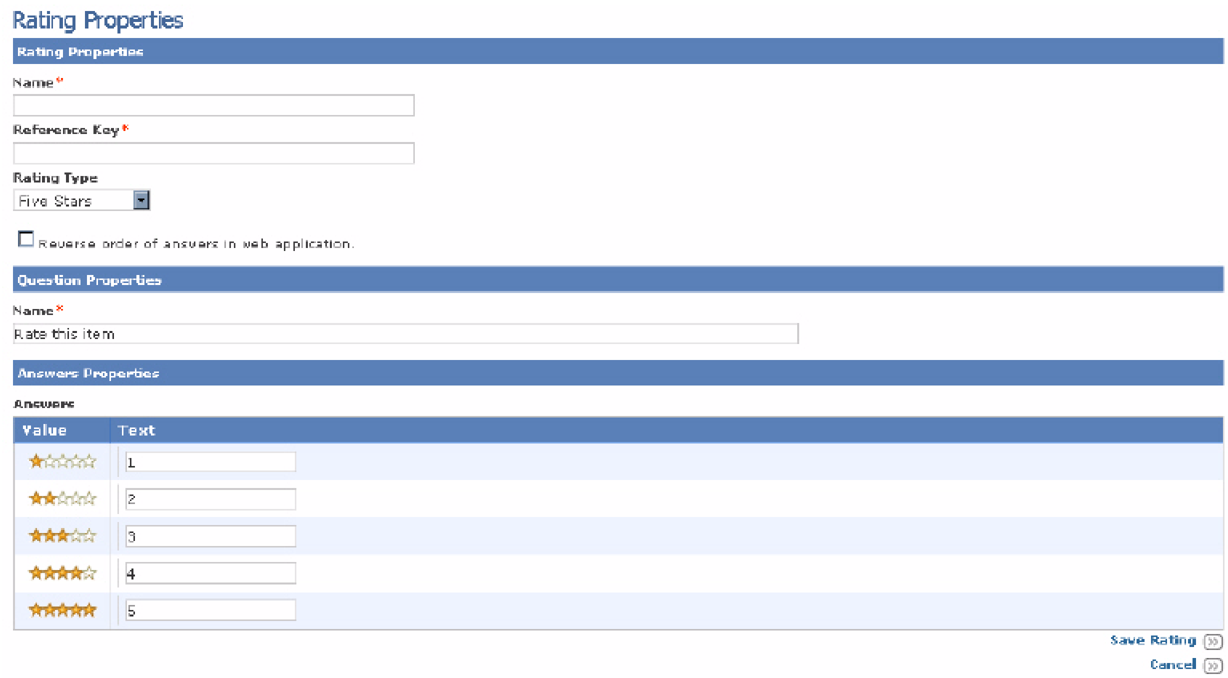
- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

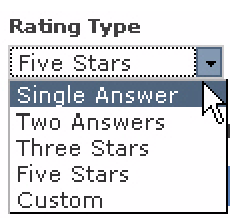
To create a rating form:

- Select **Add** under Ratings:

The Rating Properties page displays:



- Specify the following fields:

Name	Specify a name for the form.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Rating Type	For rating forms, select one of the following rating types:  With the exception of Custom, the rating types use a predefined format. When creating a form with the Custom rating type, add questions and answers in the same way you do for general forms, as described in *Creating Form Questions* on page 229 and *Creating Form Answers* on page 231.
Question Properties	Enter the question.
Answer Properties	Enter the text for the answer value(s).

- Select the **Save Rating** option

The Form Preview page displays as described in *Managing Forms* on page 228.

You can schedule a batch job to identify content that has received ratings higher than or lower than a specified value using the Rating Analysis batch job, as described in *Identifying Content by Rating Level* on page 307.

Rating Preview

The Rating Preview page displays information about a selected rating form, including:

- An overview section, which displays the name, reference key, and the contents of the question and answer fields defined for the form.
- The Properties section, which displays the form properties and lock status.

You can:

- Add questions and answers to the form by selecting the Questions option. The Rating or Data Form Question page displays.
- Edit the rating properties by selecting the Edit Properties option in the Properties section. The Rating or Data Form Properties page displays.

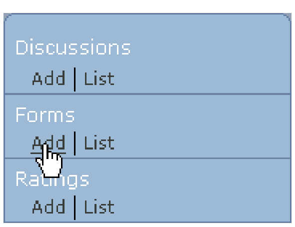
Creating General Forms

To define a general information form:

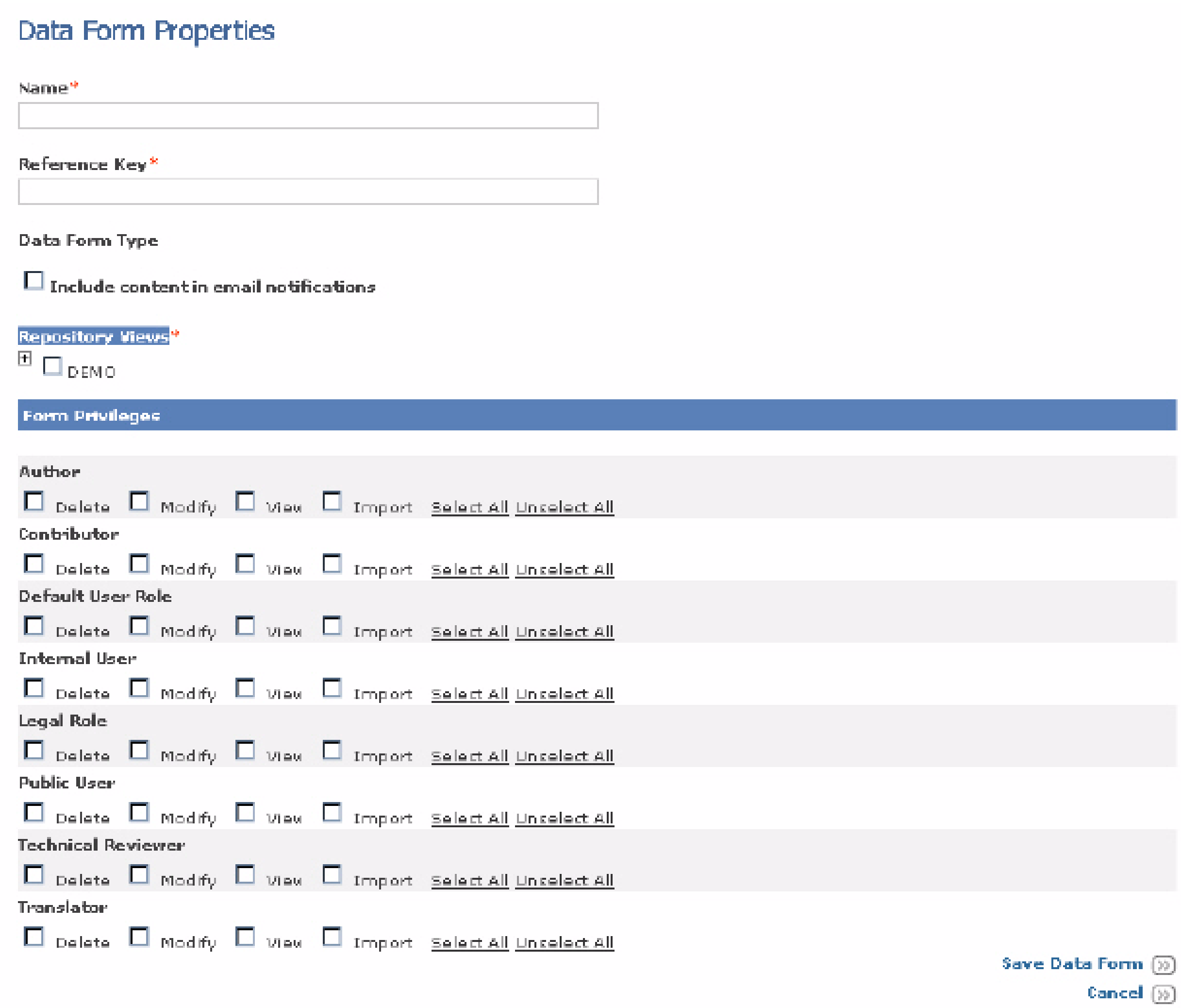
- Select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select **Add** under Forms:



The Data Form Properties page displays:



- Specify the following fields:

Name	Specify a name for the form.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Data Form Type	For data forms, select one of the following form types: • User Form • News Letter Form • Channel Alert Form as described in *Types of Data Forms* on page 222.
Include content in email notifications	Specify whether to include the form content in email responses based on the form.
Repository Views	Specify the base repository or one or more child repositories from the hierarchy for which this form will be available.
Form Privileges	Assign user roles and privileges for the form.

- Select the **Save Data Form** option

The Data Form Preview page displays, as described in *Managing Forms* on page 228.

Managing Forms

When you create or edit a form, the Information Manager console displays the Rating or Data Form Preview page:

The preview page displays information about the form, including:

- An overview section, which displays the contents of the question and answer fields defined for the form
- The Properties section, which displays the form properties and lock status

You can lock or unlock the form by selecting the Lock/Unlock option. Users cannot make changes to the structure of a locked form.

You can add questions and answers to the form by selecting the Questions option. The Rating or Data Form Question page displays as described in *Managing Form Questions* on page 230.

You can edit the form properties by selecting the Edit Properties option in the Properties section. The Rating or Data Form Properties page displays as described in *Creating General Forms* on page 225.

Creating Form Questions

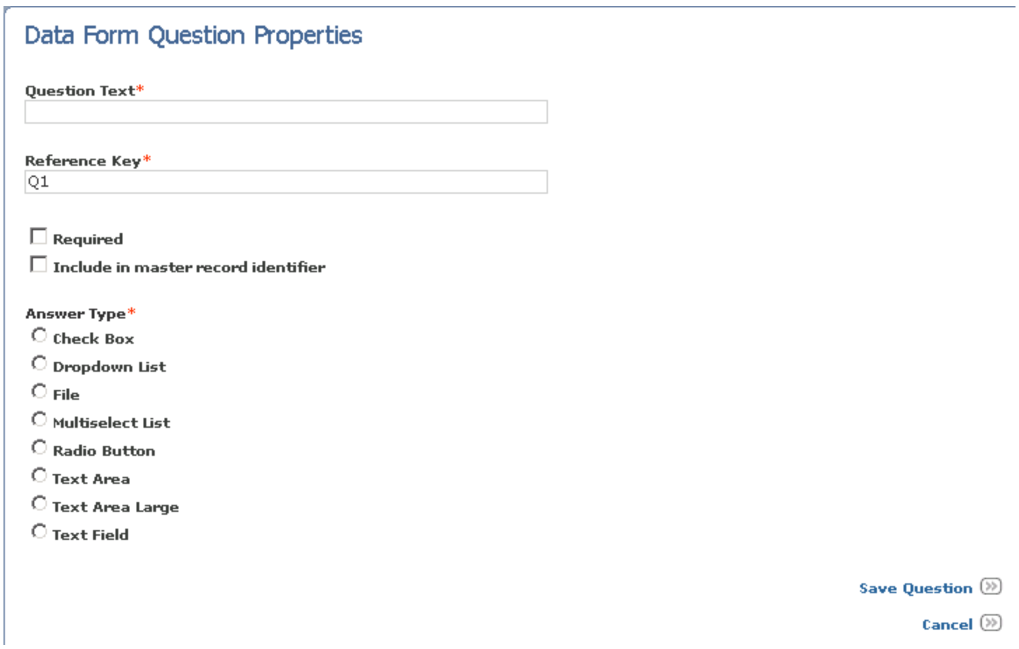
To create a question within a rating or data form:

- Select the **Questions** option on the Forms Management or Form Preview page

The Form Questions page displays any currently defined questions.

- Select the **Add Question** option from the Form Questions page

The Form Question Properties page displays.



- Specify the following properties

Question Text	Specify the text of the question for the form.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Required	Specify whether a response to the question will be required in order to submit the form.
Include in master record identifier	Specify whether this question will be included in the master record identifier, which determines the content for this item when it is displayed within a list in the Management Console.
Answer Type	Specify the format of the answer for this question on the form.

Managing Form Questions

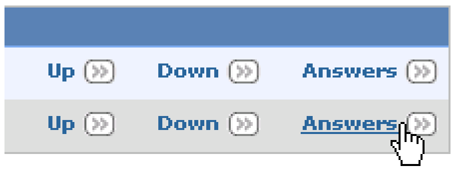
You can view, create, and manage questions within a selected rating or data form using the Form Questions page, which lists the currently defined questions for a selected form:

Use the **Up** and **Down** options to change the order of questions on the form. You can add a question to the form by selecting the **Add Question** option, as described in *Creating Form Questions* on page 229. You can view and edit details for a question by selecting the question from the list to display the Question Properties page, as described in *Creating Form Questions* on page 229. You can view, create, and manage answers for a selected question by selecting the corresponding **Answers** option, as described in *Managing Form Answers* on page 232.

Creating Form Answers

To create an answer for a selected form question:

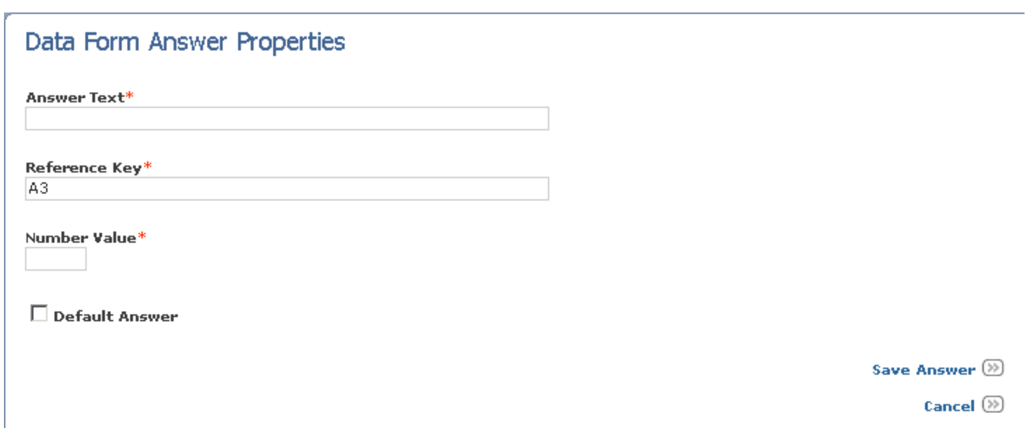
- Select the **Answers** option for a question on the Form Questions page:



The Form Question Answers page displays the currently defined answers for the selected question:

- Select the **Add Answer** option

The Form Answer Properties page displays.



- Specify the following properties:

Answer Text	Specify the text of the answer, which will display as a label for the form field.
Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys.
Number Value	Specify the position of this answer if used in a sequence of choices.
Default Answer	Specify whether this answer will be selected by default.

Managing Form Answers

You can view, create, and manage answers to a selected form question using the Form Question Answers page, which lists the currently defined answers for a selected form question:

Use the **Up** and **Down** options to change the order of answers on the form. You can view and edit details for an answer by selecting the answer from the list to display the Answer Properties page. You can add an answer using the **Add Answer** option. The Form Answer Properties page displays as described in *Creating Form Answers* on page 231.

Creating and Managing Content Recommendations

You can create and manage recommendations for content to be added to the application. You can also use the JSP tag library to enable web application users to create and manage content recommendations.

Information Manager creates a task for each content recommendation. Authorized users can manage content recommendations by assigning a status either acknowledging, creating content for, or rejecting the recommendation.

You can manage content recommendation tasks on the Manage Content Recommendations page described in this section, or from the Inbox, as described in *Chapter 3, Working with Tasks* in the *Information Manager Content Authoring Guide*.

Recommending Content

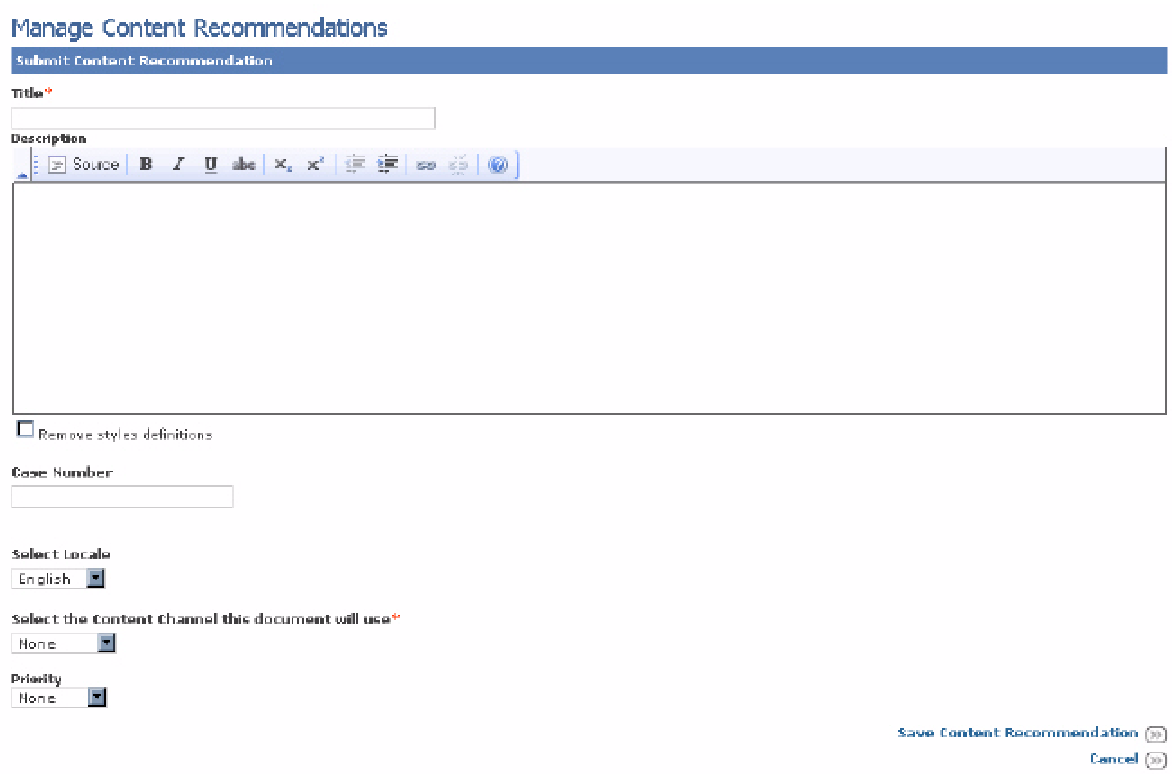
Information Manager allows users to recommend what content should be added in the future. To recommend that content be added to the application, select **Add Recommendation** from the record preview page:

Alternatively, you can select **Feedback** from the navigation area:

The Management Console displays the Feedback Management page.

- Select the **Add** option under Recommendations:

The Management Console displays the Manage Content Recommendations page:



- Specify the following parameters:

Title	Specify a title for the recommendation.
Description	Enter any descriptive information to assist the content author in providing the appropriate content.
Case Number	Specify an incident or case identifier if applicable.
Select Content Channel	Select the relevant content channel for the new content, if applicable. The Management Console will display the available content categories for the selected channel.
Available Categories	Select the categories that this content should be assigned to.
Priority	Specify an optional priority (Low, Medium, or High) for this recommendation.

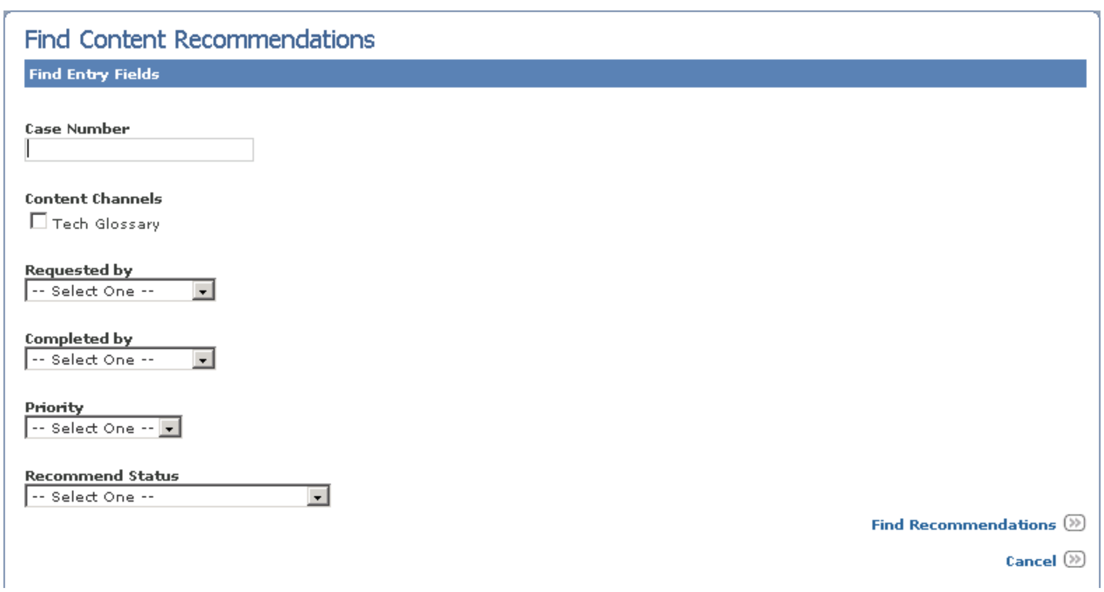
Locating Content Recommendations

You can locate content recommendations using the Find option under Content Recommendation.

To locate specific content recommendations:

- Select the **Find** option under Content Recommendations

The Management Console displays the Find Content Recommendations page:



- Specify any combination of the following criteria:

Case Number	Specify a case number (for example, from a CRM application) to locate content recommendations associated with a specific incident. NOTE: The case number must be an exact match.
Content Channels	Select channels to locate content recommendations associated with one or more content channels.
Requested by	Select a user name to locate content recommendations associated with a specific user.
Completed by	Select a user name to locate completed (having a status of Rejected or Content Created) content recommendations associated with a specific user.
Priority	Select a priority to locate content recommendations assigned as either: • Low • Medium • High
Recommend Status	Select a status to locate content recommendations assigned as either: • New • Rejected - Duplicate • Rejected - Not enough information • Rejected - Unsuitable • Rejected - Other • Content Created

Chapter 9 Tools Menu

This chapter describes advanced administration functions that you may need to perform while configuring and maintaining Information Manager.

NOTE: Some of the functions available in the Administration area, such as importing and exporting data, are discussed in other sections of this guide.

You can perform administrative functions:

- At the System repository level, as described in *System Repository Administration Options* on page 238.
- For a selected content repository, as described in *Content Repository Administration Options* on page 239.

Many administrative functions are available at both system and content repository levels; in general, system-level administration sets default values for all repositories, while content repository-level administration affects only the current repository.

System Repository Administration Options

The following administrative options are available in the System repository:

Administrative Option	Administrative Function
System	Configure the settings for both the SYSTEM and content repositories, as described in *Information Manager System Configuration* on page 241.
Tasks & Notifications	View, enable or disable, and edit notifications for the tasks that Information Manager can generate as described in *Configuring Tasks and Task Notifications* on page 292.
Full Text Search	Index the contents of a selected application repository to rebuild a damaged or corrupted index, if necessary. See *Indexing Data for Full Text Search* on page 242 for more information.
System Log Files	Locate, view, and download system log files for use in diagnosing problems. See *Viewing and Downloading Log Files* on page 245 for more information.
System Information	View System, JVM, Statistics, and Information Manager application configuration information.
License Info	View current Information Manager license information and load a new license file for your installation. See *Managing the Information Manager License* on page 247 for more information.
Locale Management	Manage supported locales as described in *Managing Supported Locales* on page 309.
Repository Data	Export or import Information Manager data as described in *Chapter 10, Importing and Exporting Data*.
Repository Replication	Merge an exported repository into Information Manager, as described in *Restoring Repository Data* on page 342..

Content Repository Administration Options

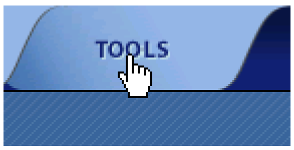
You can perform the following administrative tasks while logged onto an application repository:

Administrative Option	Administrative Function
System	Configure the settings for both the SYSTEM and content repositories, as described in *Information Manager System Configuration* on page 241.
Tasks & Notifications	View, enable or disable, and edit notifications for the tasks that Information Manager can generate, as described in *Configuring Tasks and Task Notifications* on page 292.
Batch Jobs	Define, modify, and view batch jobs for the application repository, as described in *Scheduling Batch Jobs* on page 297.
Full Text Search	Index the content channel or forms data within an application repository to rebuild damaged or corrupted indexes, if necessary. See *Indexing Data for Full Text Search* on page 242 for more information.
System Information	View System, JVM, Statistics, and Information Manager application configuration information.
System Log Files	Locate, view, and download application log files for use in diagnosing problems. See *Viewing and Downloading Log Files* on page 245 for more information.
Repository Data	Export and import Information Manager data, as described in *Chapter 10, Importing and Exporting Data*.
Repository Replication	Export and merge an exported repository into Information Manager, as described in *Backing Up and Restoring Information Manager Data* on page 341.

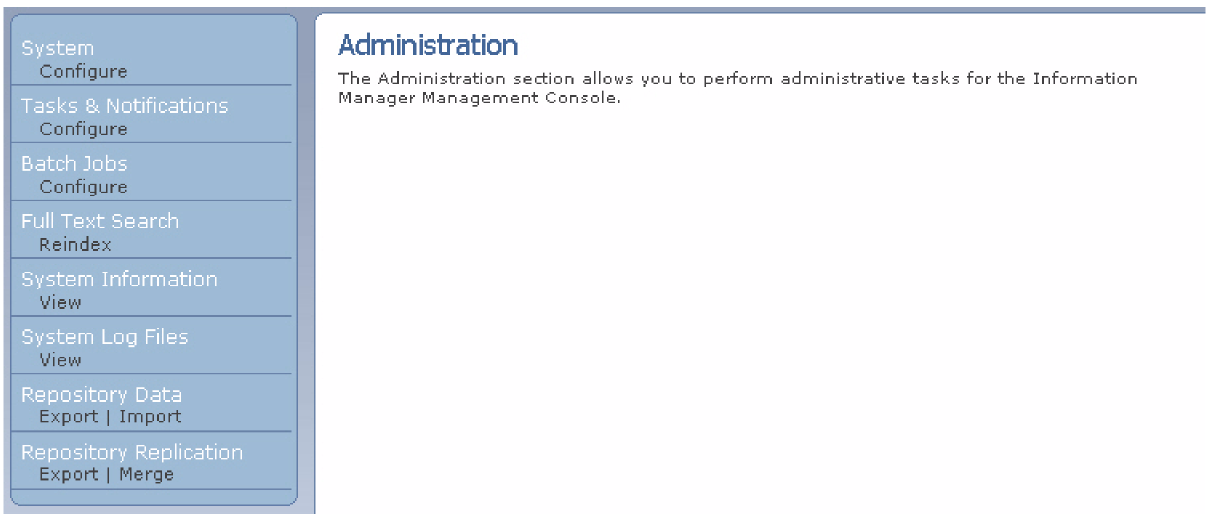
Performing Advanced Administration Functions

To perform advanced administration functions:

- Log onto the desired repository and select **Tools** from the navigation bar:



The Management Console displays the Administration page for the current repository (the System repository page is shown below):



- Select the desired administration task as described in *System Repository Administration Options* on page 238 and *Content Repository Administration Options* on page 239 .

Information Manager System Configuration

You can manage various configuration settings for your Information Manager application at both the System repository and application repository level. The Information Manager Settings page lists the following configuration options:

Resource Configuration	Configure the access method and storage location for content resources (files attached to content records and copies of content records), as described in *Configuring Content Resource Access and Storage* on page 249.
LDAP Configuration	Configure Information Manager for use with external LDAP security schema, as described in *LDAP Configuration* on page 252.
Email Configuration	Specify the default administrator email settings for all repositories (System) or for the current repository, as described in *Email Configuration* on page 259.
Code Generation Configuration	Generate a basic sample site for use in validating your Information Manager application based on Information Manager-supplied meta-templates and the channels defined in your application repository, as described in *Code Generation Configuration* on page 273.
InQuira Search Configuration	Specify an InQuira 8.1 application to use for searching within Information Manager, as described in *Search Configuration* on page 275.
Delegate Classes Configuration	Specify Java methods to execute when given events occur, as described in *Delegate Classes Configuration* on page 289.
Delegate Translation	Specify to integrate to an external application to do machine translation of content, as described in *Translation Delegate Class Configuration* on page 291.

Indexing Data for Full Text Search

Information Manager automatically maintains the indexes used for full text searches as records are inserted, updated, and deleted; however, you can use the Full Text Search Index function to rebuild a damaged or corrupted index if necessary.

You can create or refresh the full text search index:

- For one or more application repositories, as described in *Indexing Repository Data* on page 242.
- The current application repository, or selected content channels and forms within the repository ,as described in *Indexing Application Repository Data* on page 243.

In an application repository, you can index channel data on the staging and production (live) systems separately, or index both systems in a single operation.

NOTE: The Information Manager full text indexes are stored on the application server's local file system. The index directory must have read/write access to all users of the search function.

Indexing Repository Data

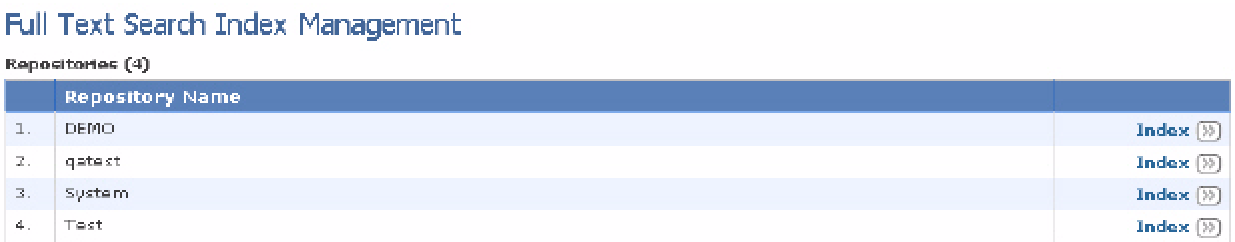
When logged in as SUPER in the SYSTEM repository, you can create or refresh the full text search index using the Index option under Full Text Search on the Administration page.

NOTE: You can also index the current application repository as described in Indexing Application Repository Data.

To index data for a selected repository:

- Log in as SUPER onto the SYSTEM repository and select **Reindex** under Full Text Search on the Administration page:

The Management Console displays the Full Text Search Index Management page, which lists the channels and data forms defined for your installation:



- Select **Index** to index the repository.

The Management Console creates or re-creates the specified full text search indexes.

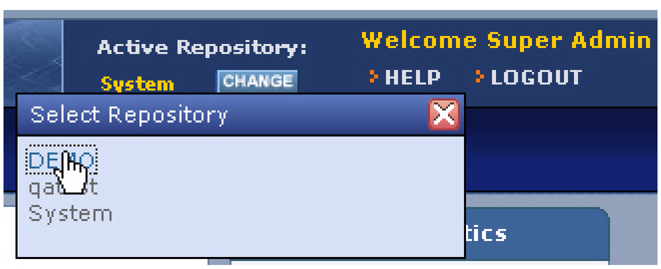
Indexing Application Repository Data

You can use the Index option under Full Text Search on the Administration page to create or refresh the full text search index for:

- Selected content channels
- Selected data forms
- The current application repository

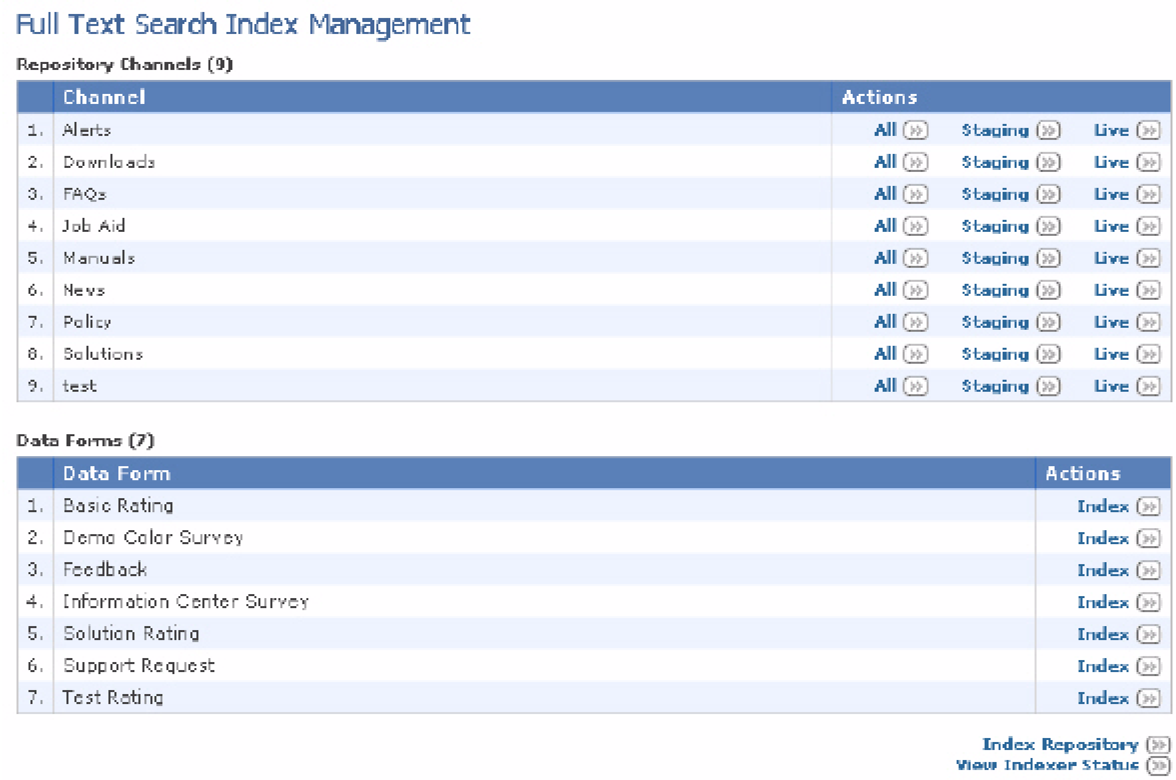
To index data for content channels and form data:

- Select the repository to reindex:



- Select **Reindex** under Full Text Search on the Administration page:

The Management Console displays the Full Text Search Index Management page:



Full Text Search Index Management

Repository Channels (9)

	Channel	Actions		
1.	Alerts	All	Staging	Live
2.	Downloads	All	Staging	Live
3.	FAQs	All	Staging	Live
4.	Job Aid	All	Staging	Live
5.	Manuals	All	Staging	Live
6.	News	All	Staging	Live
7.	Policy	All	Staging	Live
8.	Solutions	All	Staging	Live
9.	test	All	Staging	Live

Data Forms (7)

	Data Form	Actions
1.	Basic Rating	Index
2.	Demo Color Survey	Index
3.	Feedback	Index
4.	Information Center Survey	Index
5.	Solution Rating	Index
6.	Support Request	Index
7.	Test Rating	Index

Index Repository
View Indexer Status

The Full Text Search Index Management page lists the channels and data forms defined within the repository.

To index channel data:

- Select **All** to index the desired channel data in both staging and production environments, or select **Staging** or **Live** to index only the staging or production data for the selected channel

To index form data:

- Select the **Index** item for the desired channel or form

To index the current application repository:

- Select the **Index Repository** item

The Management Console creates or re-creates the specified full text search indexes.

Viewing and Downloading Log Files

You can view and download system and application log files for use in diagnosing problems. Information Manager maintains log files in a directory structure on the local file system as described in *Information Manager Log Directories and Files* on page 247.

To locate, view, and download a log file:

- Log onto the System or application repository as appropriate
- Select **View** under System Log Files on the Administration page:

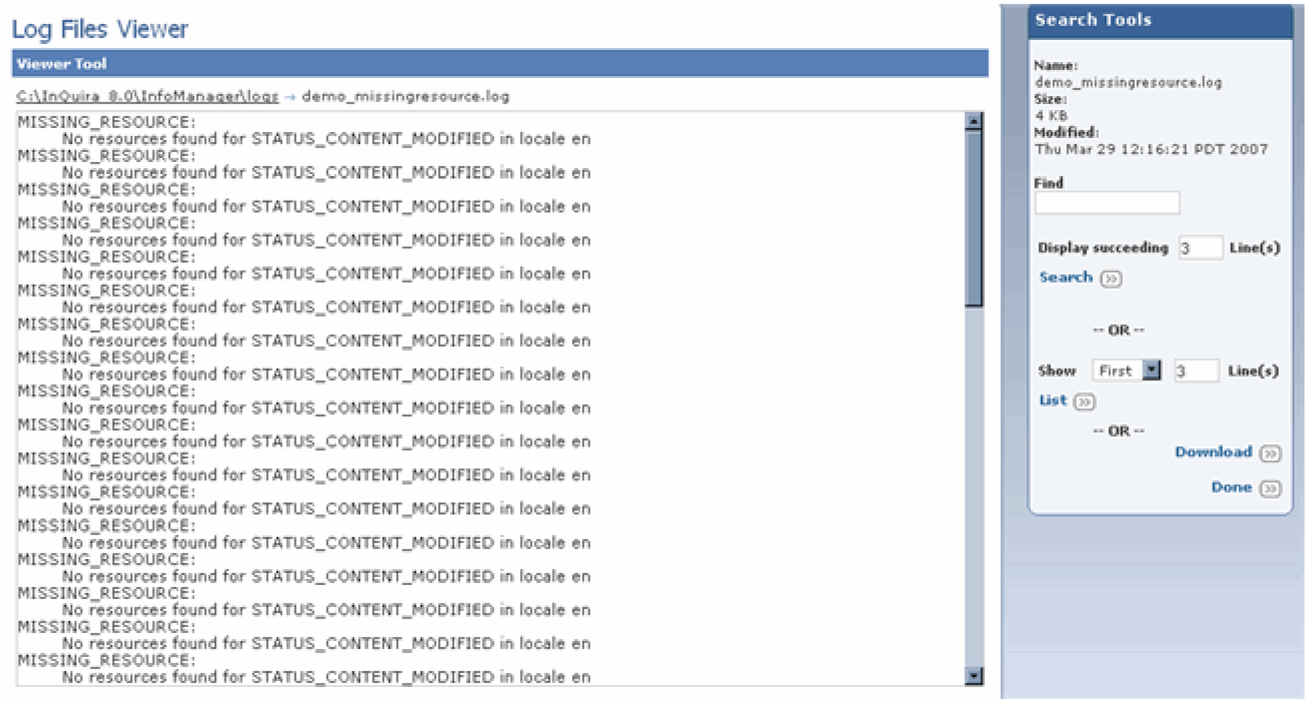
The Management Console displays the Log Files Viewer page:

The log file viewer displays the log file directories and files as they are stored in the directory structure described in Information Manager Log Directories and Files.

To view a log file:

- Navigate down to a log directory (such as system) and select a log file from the list

The Management Console displays the contents of the log file:



The Search Tools section provides mechanisms to:

- Search for strings within the displayed log file
- Display a specified number of first or last lines in the file

To download a log file:

- Select the **Download** item from the log file list (or from the Search Tools area of a log file content display)

The host system proceeds with its standard file download process.

Information Manager Log Directories and Files

Information Manager stores log files on the local file system in the directory:

<IM_HOME>\InfoManager\logs

The following table describes the directory structure and log files.

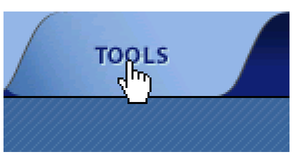
IMADMIN	This directory contains system logs for the Management Console.	
	audit	This directory contains the system-level audit logs:
	system	This directory contains the system runtime logs (management console runtime errors)
<application _repository>	This directory contains repository-specific logs (only the current repository is visible when browsing the Management Console Log Files Viewer pages)	
	audit	This directory contains the application repository audit logs:
	system	This directory contains system runtime logs (repository tag application runtime errors) named in the format: <machine>_<SITE_REFERENCEKEY>_runtime.log

Managing the Information Manager License

You can view information about and update your Information Manager license using the View option under License Information on the Administration page.

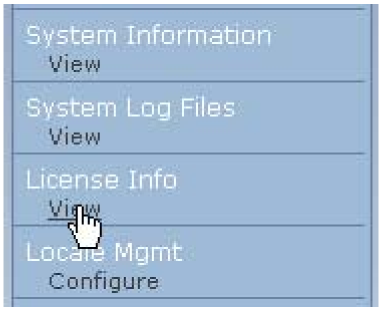
To view license information:

- Log onto the desired repository and select **Tools** from the navigation bar:

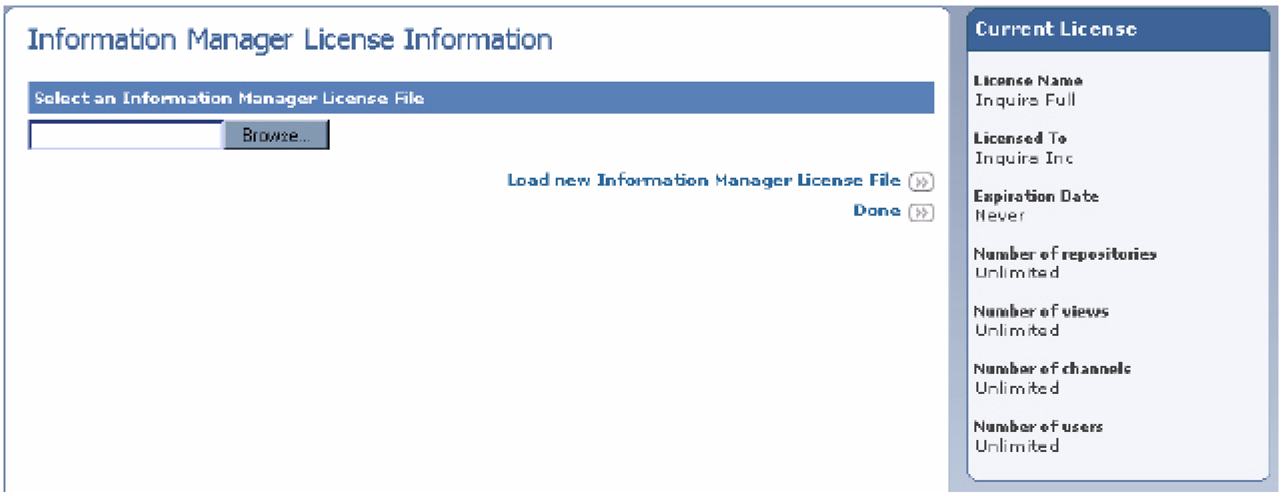


The Management Console displays the Administration page:

- Select **View** under License Info:



The Management Console displays the Information Manager License Information page:



The License Information page displays information about the license owner, the expiration date, and the number of objects allowed under the current license agreement.

If you have obtained a new license file, you can update your Information Manager installation, as described in *Updating the License File* on page 248.

Updating the License File

You can update your Information Manager license file using the functions on the License Information page to locate and load a new license file.

To update the license file:

- Use the file browser field to locate the new license file

- Select the **Load New Information Manager License File** item

The Management Console loads the new license file and updates the Current License information.

Configuring Content Resource Access and Storage

You can configure the access method and storage location for content resources (files attached to content records and copies of content records) using the Resource Configuration item on the Information Manager Settings page.

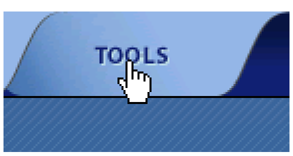
The default resource configuration parameters are specified during product installation.

You can modify the resource configuration:

- In the System repository to set the default resource configuration for all application repositories
- In a specific application repository to set the default resource configuration for that application repository

To configure LDAP integration:

- Log onto the desired repository and select **Tools** from the navigation bar:

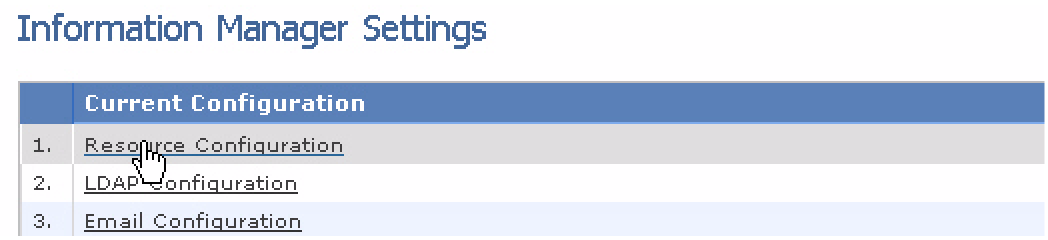


The Management Console displays the Administration page for the current repository.

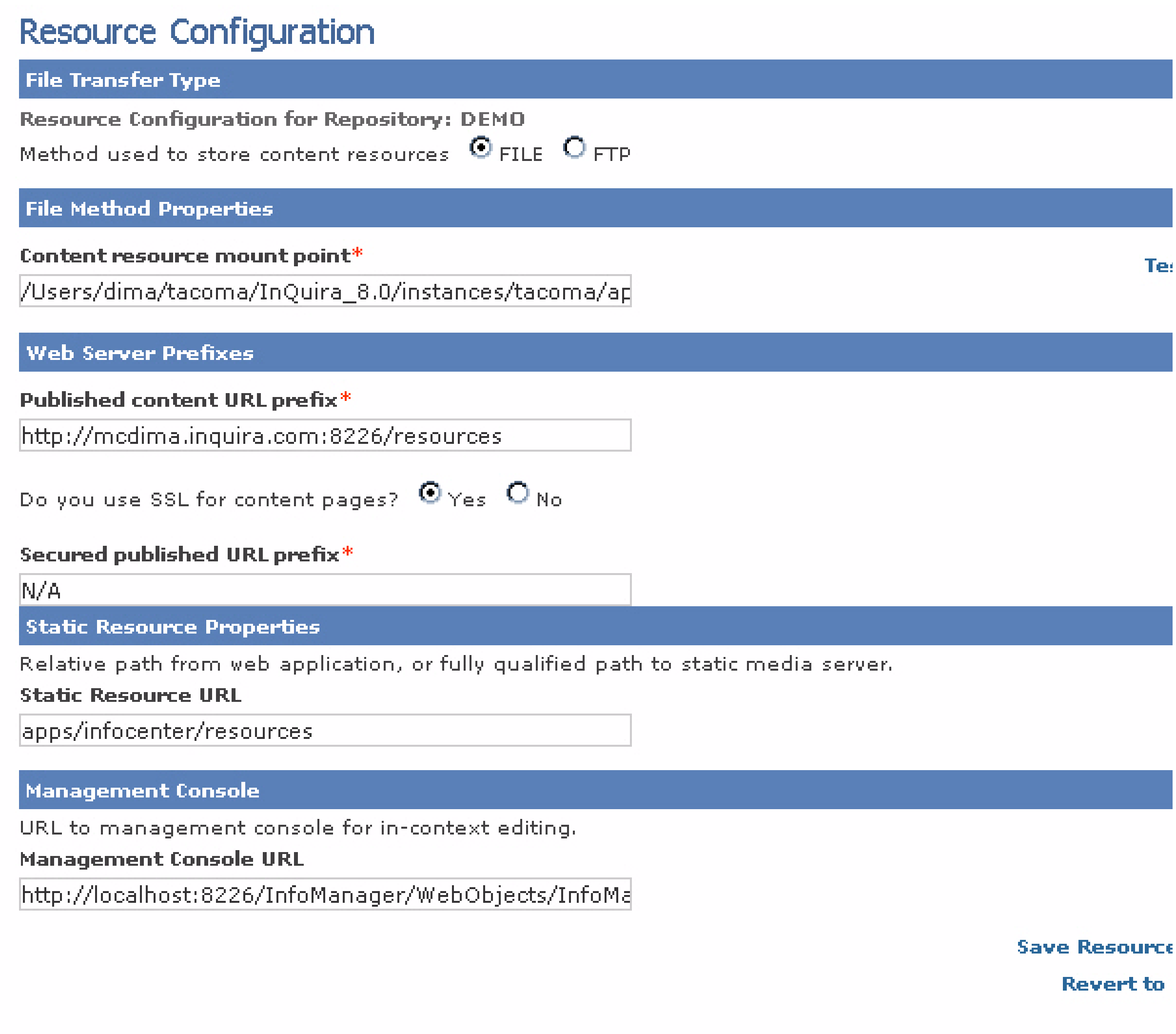
- Select **Configure** under System:

The Management Console displays the Information Manager Settings page.

- Select the **Resource Configuration** item:



The Management Console displays the Resource Configuration page.



You can also specify separate content resource locations for staging and production purposes.

Please refer to the *Information Manager Installation Guide* for detailed information about the content resource access and storage settings.

For FTP configuration, specify a mapped drive (Windows) or mount point location (Solaris and Linux). See *Configuring an FTP Server Content Resource Store* in the *Information Manager Installation Guide* for more information.

Parameter	Description
File Transfer Type	Specify whether to store content resources on an FTP server and access them using FTP or store them on the local file system.
File Method Properties	For the local file system storage, specify the path to the location on the local file system and whether to use SSL to control access to the content. See *Configuring a Local File System Content Resource Store* in the *Information Manager Installation Guide*.
FTP Method Properties	For FTP configuration, specify the host name of the production server containing the content and the user ID/ password required to access the server. If you use a staging server that is separate from your production server, select Yes and enter the host name and login information for the staging server.
Web Server Prefixes	For FTP configuration, specify an access URL that corresponds to the mapped drive or mount point location specified as the content resource mount point. For local file system storage, specify a URL for the local directory that you specified as the content resource store.
Static Resource Properties	Specify a relative path from the web application or a fully-qualified path to the server on which the static media is stored.
Management Console	Specify the URL to access the Management Console to edit from the web application.

LDAP Configuration

You can configure Information Manager for use with an external LDAP security schema using the LDAP configuration item on the Information Manager Settings page.

When LDAP authentication is enabled, Information Manager uses the information in the LDAP repository to create users when they log on, and updates the information for each subsequent session. In order to do this, Information Manager does a bind with the specified credentials. If the bind is successful, then Information Manager uses the configuration to gather additional information needed to configure the security domain within Information Manager. Information Manager stores assigned views, assigned roles, and workteams within external LDAP directories. The definitions of these objects are inside Information Manager, but the association of the Information Manager objects to users is done within LDAP.

Additional attributes that are normally stored in the Information Manager *USERINFORMATION Table* are also updated from LDAP during each authentication. First name, last name, email address are all updated. Roles, views, and workteams are reset during the authentication process as well.

The typical Information Manager LDAP integration utilizes the standard LDAP schemas. Individual projects may require custom changes to the customer LDAP installation but it is not required out-of-the-box. The default configuration settings should be sufficient to cover most implementation requirements.

IMPORTANT: The information obtained from the LDAP repository will override any user profile information specified directly in the Management Console.

You can configure:

- Default LDAP parameters for all repositories at the System repository level
- LDAP parameters for an individual repository at the application repository level

To configure LDAP integration:

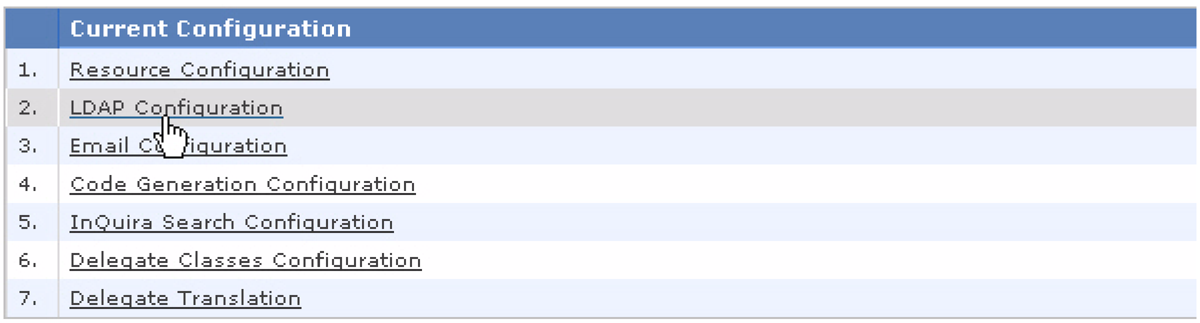
- Log onto the desired repository and select **Tools** from the navigation bar:

The Management Console displays the Administration page for the current repository.

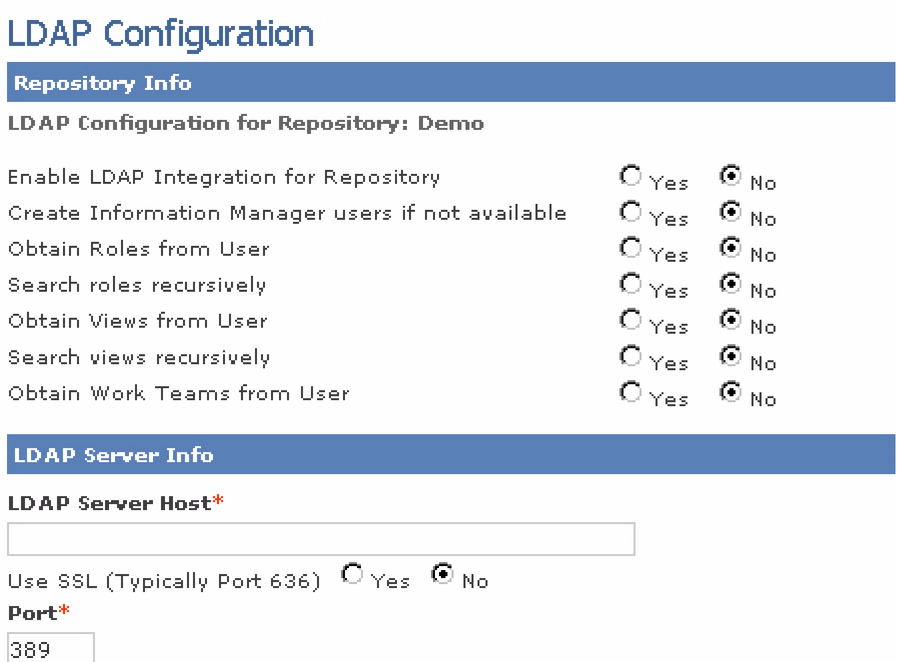
- Select **Configure** under System:

The Management Console displays the Information Manager Settings page.

- Select the **LDAP Configuration** item:

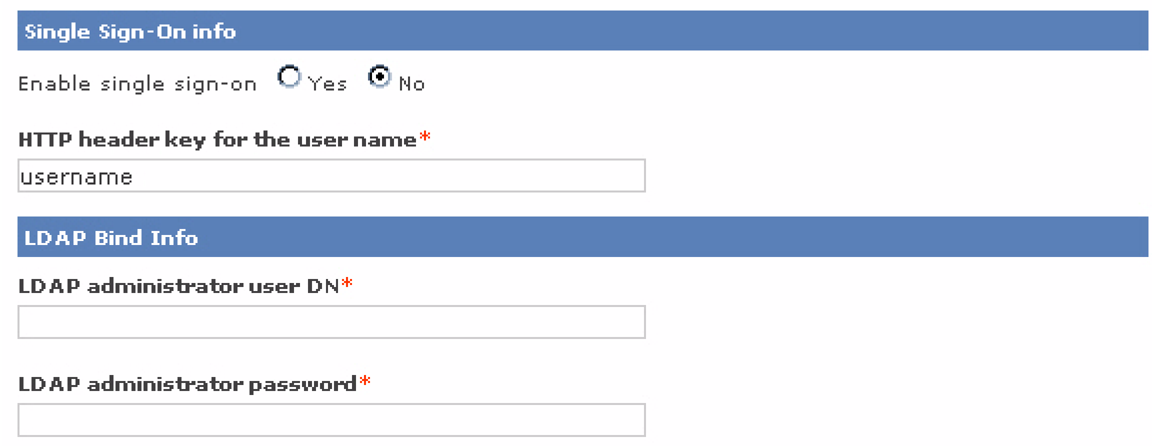


The Management Console displays the LDAP Configuration page.

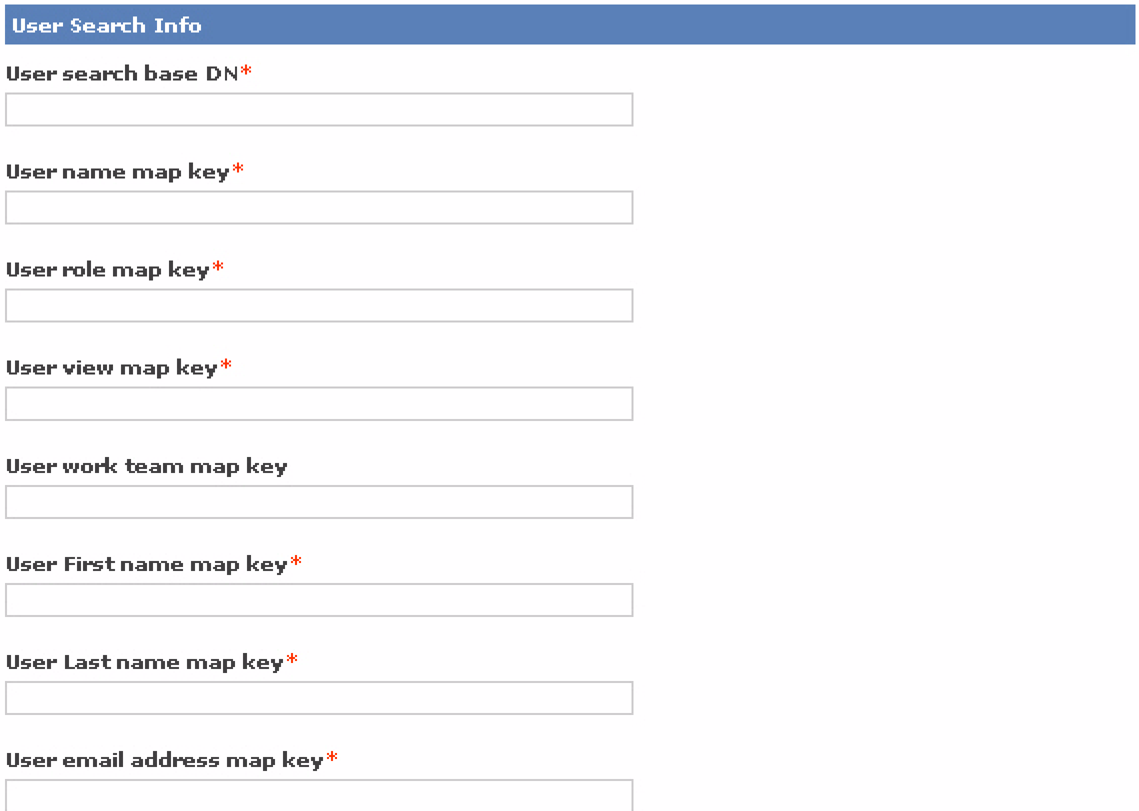


- Specify the following configuration parameters:

Parameter	Description
Enable LDAP Integration for Repository	Specify to enable LDAP authentication for all repositories by default (System), or for the current application repository.
Create Information Manager users if not available	Specify to automatically create Information Manager users based on information in the LDAP repository. Information Manager will automatically create Information Manager users for authenticated users. If this function is disabled, only users that are defined in the Information Manager repository will be able to log in. NOTE: Information Manager will synchronize its user information with information from the LDAP repository regardless of whether new user creation is enabled.
Obtain Roles from User	Specify to retrieve the role information directly from the user record in the LDAP repository. This saves a second lookup step in the LDAP server to retrieve the role information.
Search roles recursively	Specify to search the roles in the LDAP repository recursively to locate Information Manager roles.
Obtain Views from User	Specify to retrieve the view informationdirectly from the user record in the LDAP repository. This saves a second lookup step in the LDAP server to retrieve the view information.
Search views recursively	Specify to search all views in the LDAP repository recursively to locate Information Manager views.
Obtain Work Teams from User	Specify to retrieve the work team information directly from the user record in the LDAP repository. This saves a second lookup step in the LDAP server to retrieve the work team information.
LDAP Server Info	Specify the host name or IP address and port of the LDAP server for this repository (for System, specifies the default for all repositories) and whether to use Secure Sockets Layer (SSL) protocol (usually port 636). NOTE: SSL security requires some external configuration in the LDAP server.

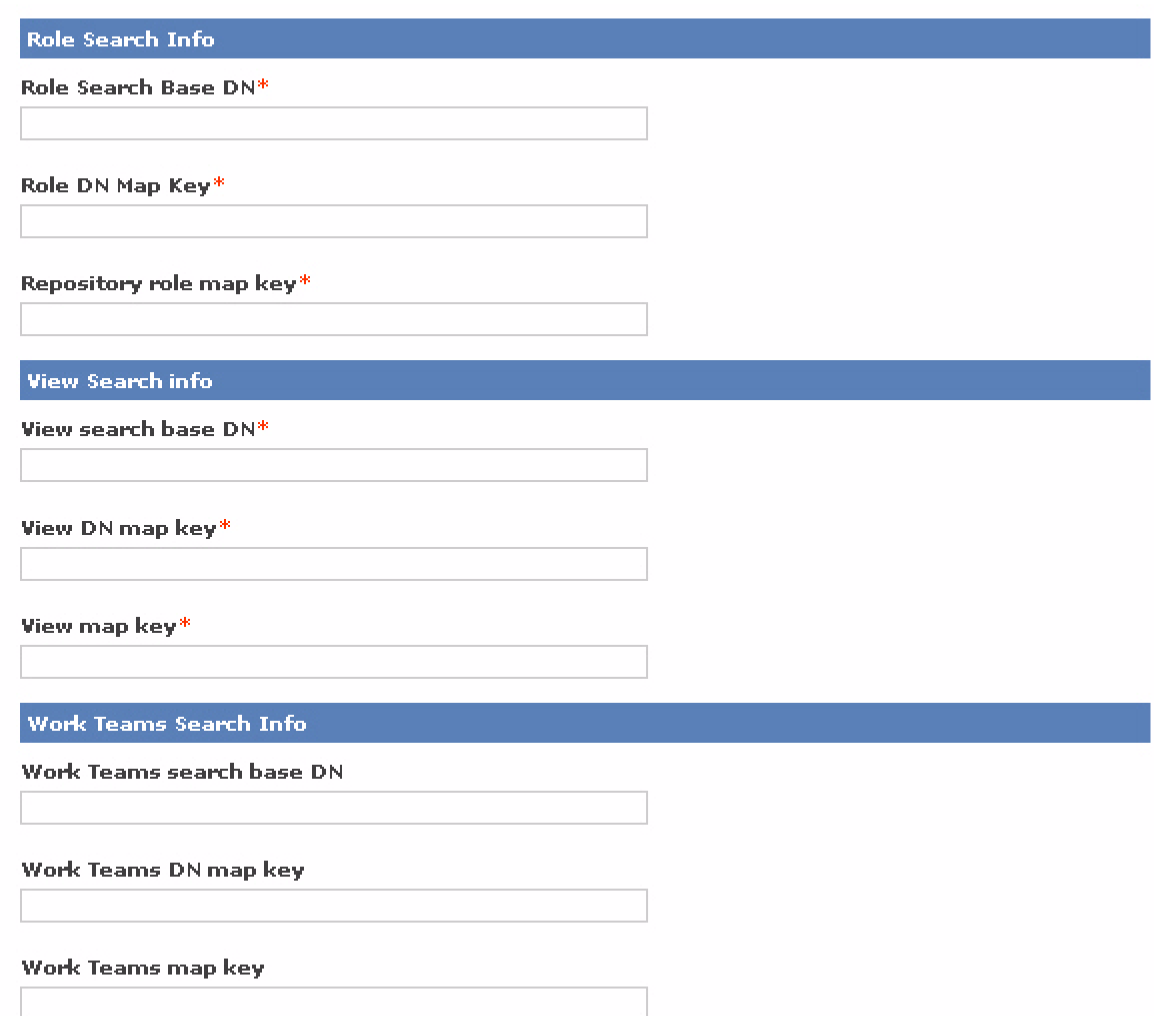


Parameter	Description
Enable single sign-on	Specify to enable single sign-on; Information Manager will not validate user passwords in this mode, since it is assumed that an external provider has authorizes the user. The user will automatically be logged in without having to re-authenticate. The application will still validate role and view information stored in the LDAP repository.
HTTP header key for the user name	Specify the HTTP request key to use for single sign on.
LDAP administrator user DN	Specify the ID of a user that can read the LDAP repository. This user must have permission to bind.
LDAP administrator password	Specify the password for the administrator user.



Parameter	Description
User search base DN	Specify the LDAP location where user information is stored. This is the staring point for a user search.
User name map key	Specify the LDAP attribute in the user DN that contains the Information Manager UserName.
User role map key	Specify the LDAP attribute in the user DN that refers to an LDAP DN containing IM Role Information, for example, memberOf.
User view map key	Specify the LDAP attribute in the user DN that refers to an LDAP DN containing Information Manager View Information, for example, memberOf.
User First name map key	Specify the LDAP attribute in the user DN that contains the user's first name.
User Last name map key	Specify the LDAP attribute in the user DN that contains the user's last name.

User email address map key	Specify the LDAP attribute in the user DN that contains the user's email address.



Parameter	Description
Role search base DN	Specify the DN Location in the LDAP hierarchy where role information is stored. This is the staring point for a role search.
Role DN Map Key	Specify the Unique Identifier for the role (the ldap DN). The value of this attribute must match the value of the User role map key attribute.

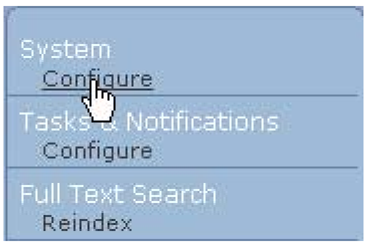
Repository role map key	Specify the LDAP attribute that contains the Information Manager role reference key.
View search base DN	Specify the DN Location in the LDAP hierarchy where view information is stored. This is the staring point for a view search.
View DN map key	Specify the Unique Identifier for the view (the LDAP DN). The value of this attribute must match the value of the User view map key attribute.
View map key	Specify the LDAP attribute that contains the Information Manager view reference key.
Work Teams search base DN	Specify the DN Location in the LDAP hierarchy where work team information is stored. This is the staring point for a work team search.
Work Teams DN map key	Specify the Unique Identifier for the work team (the LDAP DN). The value of this attribute must match the value of the work team map key attribute.
Work Teams map key	Specify the LDAP attribute that contains the Information Manager work team reference key.

Email Configuration

You can specify the default administrator email settings for all repositories (System) or for the current repository using the Email Configuration item on the Information Manager Settings page.

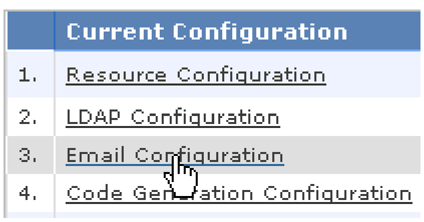
To specify email settings:

- Log onto the desired repository and select **Configure** under System on the Administration page:

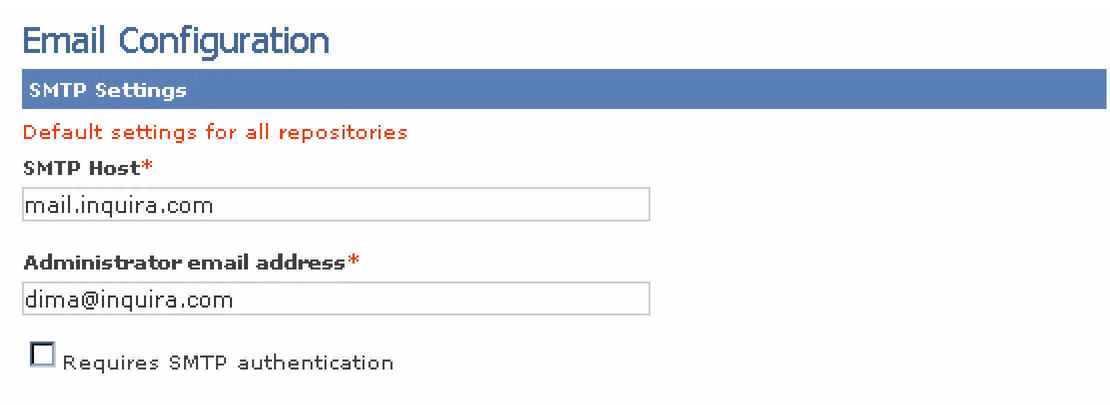


The Management Console displays the Information Manager Settings page.

- Select the **Email Configuration** item:



The Management Console displays the Email Configuration page:



- Select the **Override default configuration item** and specify the following configuration parameters:

Parameter	Description
SMTP Host	Specify the URL of the email server.
Administrator email address	Specify the Information Manager administrator email address.
Requires SMTP authorization	Specify whether to require SMTP authorization.

External Notification Delegate Class

The ExternalNotificationIterface enables you to intercept certain task notification emails and modify them before transit or stop them from being sent.

The Interface has the following signature:

```
public interface ExternalNotificationInterface {
    public boolean sendLostPasswordNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendContentExpirationNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendContentChangeNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendContentRecommendationNotification(Hashtable objectArray,
        Hashtable mailinfo);
    public boolean sendContentInLimboNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendDBForumModerationNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendInactiveAccountNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendRatingAnalysisNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendReviewDateNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendSurveyAnswerNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendSubscriptionExpirationNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendTranslationTaskNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendWorkflowChangedNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendWorkflowExpirationNotification(Hashtable objectArray, Hashtable mailinfo);
    public boolean sendWorkflowTaskNotification(Hashtable objectArray, Hashtable mailinfo);
```

Each method returns a Boolean value that tells Information Manager whether or not to use the modifications from the external class. By default, each method can return a “false” in order to indicate that no changes were made and it is ok to ignore the external class. If a “true” is returned, the method takes the values out of the mailinfo hashtable and uses them for the email transport.

Here is an example of a method that uses the interface:

```
public boolean sendWorkflowChangedNotification(Hashtable objectArray, Hashtable mailinfo) {
    mailinfo.put("htmlContent", mailinfo.get("htmlContent") + "\n" + print(objectArray) + "\n" +
        print(mailinfo));
    mailinfo.put("textContent", mailinfo.get("textContent") + "\n" + print(objectArray) + "\n" +
        print(mailinfo));
    mailinfo.put("subject", "workflow changed" );
    logger.debug(" " + print(mailinfo));
    return true;
}
```

The print() method above is just a helper method in the implementation to show what all of the values are and it looks like:

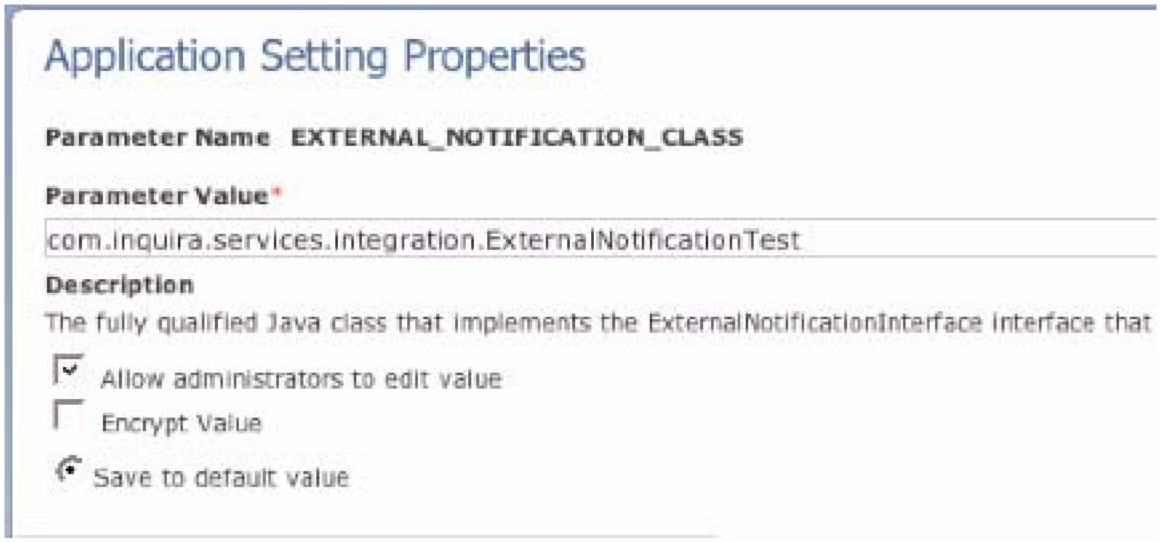
```
public String print(Hashtable objectArray) {
    String ret = "";
    Iterator i = objectArray.keySet().iterator();
    while (i.hasNext()) {
        Object key = i.next();
        ret += "Key " + key+ "<br>\n";
        Object o =  objectArray.get(key);
        if (o instanceof String){
            ret += "-> " + o+ "<br>\n";
        } else if (o instanceof HashMap){
            HashMap mp = (HashMap)o;
            Iterator p = mp.keySet().iterator();
            while (p.hasNext()) {
                Object pk = p.next();
                ret += " -------- key " + pk + " = " + mp.get(pk) +
                "<br>\n";
            }
        } else {
            logger.debug("-> " + o);
        }
    }
    return ret;
}
```

The objectArray is discarded when the method returns, but not the mailinfo hashtable. The objectArray passes available objects to the external class for its decision making process. The objectArray may not contain all information necessary to the external class, but it should be enough to be used for further database querying should you decide to do so.

The external notification class can be registered in Information Manager by assigning the fully qualified package and class name in the repository's config.properties file. You can also register the class in Management Console as follows:

- Go to the **Tools** tab
- Select **System Configuration**
- Select **Go to Expert Mode**
- Scroll down and select **EXTERNAL_NOTIFICATION_CLASS**

In the **Parameter Value** area, enter the name of the class that implements the EXTERNAL_NOTIFICATION_CLASS interface. In this example, we name the class com.inquira.services.integration.ExternalNotificationTest:



An example print out of the objectArray and mailinfo for a workflow changed would look like:

```
Key locale<br>
 -------- key active =3D Y
 -------- key dateAdded =3D 1192653073000
 -------- key timeFormat =3D %I:%M %p
 -------- key dateFormat =3D %m/%d/%Y
 -------- key localeValue =3D 1033
 -------- key encoding =3D UTF-8
 -------- key recordID =3D en_US
 -------- key dateModified =3D 1192653073000
 -------- key timeFormatDisplay =3D hh:mm
 -------- key localeDesc =3D English
 -------- key localeCode =3D en_US
 -------- key groupDefault =3D Y
 -------- key dateFormatDisplay =3D mm/dd/yyyy
Key user<br>
 -------- key dateAdded =3D 1194541357000
 -------- key reputationPoints =3D 30
 -------- key login =3D dan
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key defaultSubsite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key receivePerform =3D Y
 -------- key firstName =3D dan
 -------- key locale =3D en_US
 -------- key adminUser =3D Y
 -------- key active =3D Y
 -------- key passwordHint =3D =20
```

```
 -------- key subscriptionSchedule =3D 1
 -------- key subscribeOnTopicReply =3D Y
 -------- key banUser =3D =20
 -------- key preferredEmail =3D =20
 -------- key showEmail =3D 0
 -------- key userReputationLevel =3D =20
 -------- key alias =3D dan
 -------- key userImage =3D =20
 -------- key subscribeOnTopicCreation =3D Y
 -------- key password =3D 0EiBt+lVxDU=3D
 -------- key isDefaultAdministrator =3D =20
 -------- key receiveAssigned =3D Y
 -------- key lastName =3D dan
 -------- key showName =3D 0
 -------- key banUntilDate =3D =20
 -------- key dateModified =3D 1195052355000
 -------- key email =3D djones@inquira.com
Key content<br>
 -------- key dateAdded =3D 1194626701000
 -------- key displayEndDate =3D 1301157840000
 -------- key userID =3D 0076ab1cbf5011620353b20007fed
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key alias =3D =20
 -------- key locale =3D en_US
 -------- key displayReviewDate =3D 1301157840000
 -------- key longitude =3D =20
 -------- key query =3D =20
 -------- key userName =3D dan dan
 -------- key changesPending =3D N
 -------- key eventStartDate =3D =20
 -------- key contentChannel =3D 00761714ddaa01161b0abed6007fe8
 -------- key moderated =3D =20
 -------- key documentID =3D FD6
 -------- key displayStartDate =3D 1194626640000
 -------- key dateModified =3D 1195061510000
 -------- key latitude =3D =20
 -------- key eventEndDate =3D =20
 -------- key parent =3D =20
        Key replacement<br>
 -------- key OPEN =3D OPEN
 -------- key dan =3D dan
 -------- key dan =3D dan
 -------- key 00763753fe100116254a73fc007fe5 =3D 00763753fe100116254a73fc00=7fe5
 -------- key djones@inquira.com =3D djones@inquira.com
 -------- key dan =3D dan
 -------- key  =3D=20
 -------- key dan =3D dan
 -------- key FD6 =3D FD6
 -------- key /Users/djones/InfoManager/logs/test?taskid=3D29 =3D/Users/dj=ones/InfoManager/logs/
test?taskid=3D29
 -------- key   =3D =20
```

```
 -------- key fdsafsadf =3D fdsafsadf
 -------- key forRating =3D forRating
 -------- key APPROVED =3D APPROVED
 -------- key forRating =3D forRating
 -------- key /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf5011620353=b20007fed&ts=3D24
=3D /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf50=11620353b20007fed&ts=3D24
 -------- key 29 =3D 29
 -------- key  =3D=20
 -------- key  =3D=20
 -------- key  =3D=20
Key htmlContent<br>
-> tywwywyrtyrety
Key locale<br>
 -------- key active =3D Y
 -------- key dateAdded =3D 1192653073000
 -------- key timeFormat =3D %I:%M %p
 -------- key dateFormat =3D %m/%d/%Y
 -------- key localeValue =3D 1033
 -------- key encoding =3D UTF-8
 -------- key recordID =3D en_US
 -------- key dateModified =3D 1192653073000
 -------- key timeFormatDisplay =3D hh:mm
 -------- key localeDesc =3D English
 -------- key localeCode =3D en_US
 -------- key groupDefault =3D Y
 -------- key dateFormatDisplay =3D mm/dd/yyyy
Key user<br>
 -------- key dateAdded =3D 1194541357000
 -------- key reputationPoints =3D 30
 -------- key login =3D dan
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key defaultSubsite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key receivePerform =3D Y
 -------- key firstName =3D dan
 -------- key locale =3D en_US
 -------- key adminUser =3D Y
 -------- key active =3D Y
 -------- key passwordHint =3D =20
 -------- key subscriptionSchedule =3D 1
 -------- key subscribeOnTopicReply =3D Y
 -------- key banUser =3D =20
 -------- key preferredEmail =3D =20
 -------- key showEmail =3D 0
 -------- key userReputationLevel =3D =20
 -------- key alias =3D dan
 -------- key userImage =3D =20
 -------- key subscribeOnTopicCreation =3D Y
 -------- key password =3D 0EiBt+IVxDU=3D
 -------- key isDefaultAdministrator =3D =20
 -------- key receiveAssigned =3D Y
 -------- key lastName =3D dan
```

```
 -------- key showName =3D 0
 -------- key banUntilDate =3D =20
 -------- key dateModified =3D 1195052355000
 -------- key email =3D djones@inquira.com
Key content<br>
 -------- key dateAdded =3D 1194626701000
 -------- key displayEndDate =3D 1301157840000
 -------- key userID =3D 0076ab1cbf5011620353b20007fed
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key alias =3D =20
 -------- key locale =3D en_US
 -------- key displayReviewDate =3D 1301157840000
 -------- key longitude =3D =20
 -------- key query =3D =20
 -------- key userName =3D dan dan
 -------- key changesPending =3D N
 -------- key eventStartDate =3D =20
 -------- key contentChannel =3D 00761714ddaa01161b0abed6007fe8
 -------- key moderated =3D =20
 -------- key documentID =3D FD6
 -------- key displayStartDate =3D 1194626640000
 -------- key dateModified =3D 1195061510000
 -------- key latitude =3D =20
 -------- key eventEndDate =3D =20
 -------- key parent =3D =20

Key replacement<br>
 -------- key OPEN =3D OPEN
 -------- key dan =3D dan
 -------- key dan =3D dan
 -------- key 00763753fe100116254a73fc007fe5 =3D 00763753fe100116254a73fc00=7fe5
 -------- key djones@inquira.com =3D djones@inquira.com
 -------- key dan =3D dan
 -------- key  =3D=20
 -------- key dan =3D dan
 -------- key FD6 =3D FD6
 -------- key /Users/djones/InfoManager/logs/test?taskid=3D29 =3D /Users/dj=ones/InfoManager/logs/
test?taskid=3D29
 -------- key   =3D =20
 -------- key fdsafsadf =3D fdsafsadf
 -------- key forRating =3D forRating
 -------- key APPROVED =3D APPROVED
 -------- key forRating =3D forRating
 -------- key /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf5011620353=b20007fed&ts=3D24
=3D /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf50=11620353b20007fed&ts=3D24
 -------- key 29 =3D 29
 -------- key  =3D=20
 -------- key  =3D=20
 -------- key  =3D=20
Key htmlContent<br>
-> tywwywyrtyrety<br>
```

Key useAuth
Key textContent
-> hghfgd
Key tos
Key subject
-> =E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=
=E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=E
6=
=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C
Ke
y userName
-> djones@inquira.com
Key authPass
-> temp4u
Key from
-> djones@inquira.com
Key host
-> thecape.inquira.com

Key useAuth
Key textContent
-> hghfgd
Key tos
Key subject
-> =E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=
=E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=E
6=
=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C
Key userName
-> djones@inquira.com
Key authPass
-> temp4u
Key from
-> djones@inquira.com
Key host
-> thecape.inquira.com

```
------=_Part_1_5796122.1195069681284
Content-Type: text/html; charset=UTF-8
Content-Transfer-Encoding: quoted-printable

tywwywyrtyrety
Key locale<br>
 -------- key active =3D Y
 -------- key dateAdded =3D 1192653073000
 -------- key timeFormat =3D %I:%M %p
 -------- key dateFormat =3D %m/%d/%Y
 -------- key localeValue =3D 1033
 -------- key encoding =3D UTF-8
 -------- key recordID =3D en_US
 -------- key dateModified =3D 1192653073000
 -------- key timeFormatDisplay =3D hh:mm
 -------- key localeDesc =3D English
 -------- key localeCode =3D en_US
 -------- key groupDefault =3D Y
 -------- key dateFormatDisplay =3D mm/dd/yyyy
Key user<br>
 -------- key dateAdded =3D 1194541357000
 -------- key reputationPoints =3D 30
 -------- key login =3D dan
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key defaultSubsite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key receivePerform =3D Y
 -------- key firstName =3D dan
 -------- key locale =3D en_US
 -------- key adminUser =3D Y
 -------- key active =3D Y
 -------- key passwordHint =3D =20
 -------- key subscriptionSchedule =3D 1
 -------- key subscribeOnTopicReply =3D Y
 -------- key banUser =3D =20
 -------- key preferredEmail =3D =20
 -------- key showEmail =3D 0
 -------- key userReputationLevel =3D =20
 -------- key alias =3D dan
 -------- key userImage =3D =20
 -------- key subscribeOnTopicCreation =3D Y
 -------- key password =3D 0EiBt+IVxDU=3D
 -------- key isDefaultAdministrator =3D =20
 -------- key receiveAssigned =3D Y
 -------- key lastName =3D dan
 -------- key showName =3D 0
 -------- key banUntilDate =3D =20
 -------- key dateModified =3D 1195052355000
 -------- key email =3D djones@inquira.com
```

```
Key content<br>
 -------- key dateAdded =3D 1194626701000
 -------- key displayEndDate =3D 1301157840000
 -------- key userID =3D 0076ab1cbf5011620353b20007fed
 -------- key ownerSite =3D 1047061a3807a01151b8f1d4d00540a
 -------- key alias =3D =20
 -------- key locale =3D en_US
 -------- key displayReviewDate =3D 1301157840000
 -------- key longitude =3D =20
 -------- key query =3D =20
 -------- key userName =3D dan dan
 -------- key changesPending =3D N
 -------- key eventStartDate =3D =20
 -------- key contentChannel =3D 00761714ddaa01161b0abed6007fe8
 -------- key moderated =3D =20
 -------- key documentID =3D FD6
 -------- key displayStartDate =3D 1194626640000
 -------- key dateModified =3D 1195061510000
 -------- key latitude =3D =20
 -------- key eventEndDate =3D =20
 -------- key parent =3D =20

Key replacement<br>
 -------- key OPEN =3D OPEN
 -------- key dan =3D dan
 -------- key dan =3D dan
 -------- key 00763753fe100116254a73fc007fe5 =3D 00763753fe100116254a73fc00=7fe5
 -------- key djones@inquira.com =3D djones@inquira.com
 -------- key dan =3D dan
 -------- key  =3D=20
 -------- key dan =3D dan
 -------- key FD6 =3D FD6
 -------- key /Users/djones/InfoManager/logs/test?taskid=3D29 =3D /Users/dj=ones/InfoManager/logs/
test?taskid=3D29
 -------- key   =3D =20
 -------- key fdsafsadf =3D fdsafsadf
 -------- key forRating =3D forRating
 -------- key APPROVED =3D APPROVED
 -------- key forRating =3D forRating
 -------- key /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf5011620353=b20007fed&ts=3D24
=3D /Users/djones/InfoManager/logs/test?ut=3D0076ab1cbf50=11620353b20007fed&ts=3D24
 -------- key 29 =3D 29
 -------- key  =3D=20
 -------- key  =3D=20
 -------- key  =3D=20
```

```
Key htmlContent<br>
-> tywwywyrtyrety<br>
Key useAuth<br>
Key textContent<br>
-> hghfgd<br>
Key tos<br>
Key subject<br>
-> =E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=
E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C=
E6=8D=95=E3=81=BE=E3=82=8B=E3=80=8D=E3=80=8C=E8=8C=B6=E7=95=AA=E6=8D=9C<br>
Key userName<br>
-> djones@inquira.com<br>
Key authPass<br>
-> ppppppppppp<br>
Key from<br>
-> djones@inquira.com<br>
Key host<br>
-> thecape.inquira.com<br> �
```

In this example, the objects returned would be the locale, user, content, the replacement dictionary. The mailinfo has the keys of htmlContent, useAuth, textContent, tos, ccs, bccs, subject, userName, authPass, from, and host.

The replacement dictionary is a hashmap containing all of the tokens and their assigned values.

The mailinfo’s tos, ccs, and bccs (if not null) will come as “ArrayList”.

A list of objects for each method, as of this writing, are available below.

```
sendLostPasswordNotification:
    locale
    user
    ownersite
    replacement

sendContentExpirationNotification:
    locale
    user
    content
    ownersite
    replacement
sendContentChangeNotification:
    user
    CurrentTask
    content
    ownersite
    replacement
sendContentRecommendationNotification
    locale
    user
```

- CurrentTask
- ownersite
- recommendation

sendContentInLimboNotification

- locale
- contentchannel
- user
- content
- contenttext
- ownersite
- replacement

sendDBForumModerationNotification

- locale
- user
- forum
- CurrentTask
- ownersite
- replacement

sendInactiveAccountNotification

- locale
- user
- ownersite
- replacement

sendRatingAnalysisNotification

- locale
- contentchannel
- user
- content
- ownersite
- replacement

sendReviewDateNotification

- locale
- user
- CurrentTask
- content
- ownersite
- replacement

sendSurveyAnswerNotification

- locale
- user
- surveyresult
- survey
- ownersite
- replacement

sendSubscriptionExpirationNotification

- locale
- user
- ownersite
- replacement
- affectedsubscriptions (ArrayList)

sendTranslationTaskNotification
    contentLocaleRequest
    locale
user
CurrentTask
content
ownersite
replacement
sendWorkflowChangedNotification
    locale
    user
    content
    replacement
    workflowstep
sendWorkflowExpirationNotification
    locale
    user
    content
    workflowstep
    ownersite
    replacement
sendWorkflowTaskNotification
    locale
    user
    content
    workflowstep
    ownersite
    replacement

Code Generation Configuration

You can generate a basic sample site for use in validating your Information Manager application. The sample site is based on Information Manager-supplied meta-templates and the channels defined in your application repository. The meta-templates are a text files with special code tags.

The sample site consists of:

- A home page with links to each channel
- A list page for each channel
- A detail page for each channel

You configure the sample site by specifying:

- The location of the meta-templates (a basic set are deployed by default in the meta-templates folder)
- The destination of the generated sample site files

When you configure the sample site, the Management Console displays the **Generate Sample Site** option at the bottom of repository and channel management pages. Use this option to generate the sample site code based on the current state of the repository.

You configure the sample site using the Code Generation Configuration item on the Information Manager Settings page.

To configure the sample site:

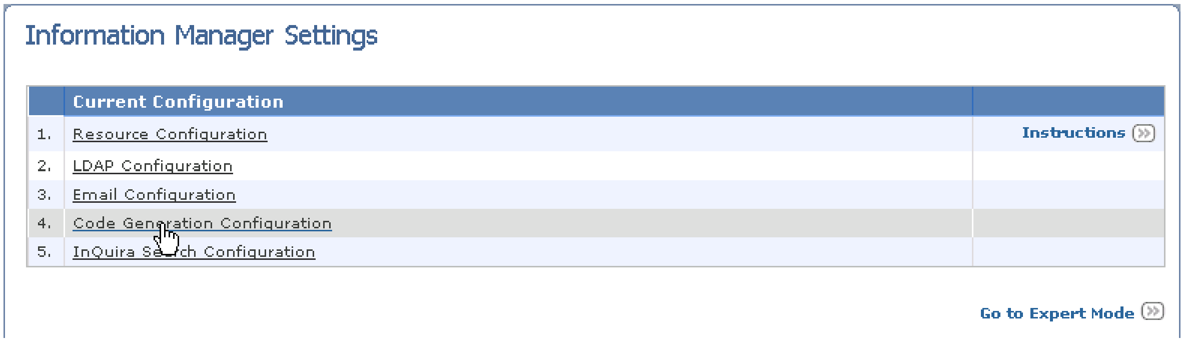
- Log onto the desired repository and select **Tools** in the navigation area:

The Management Console displays the Administration page for the current repository.

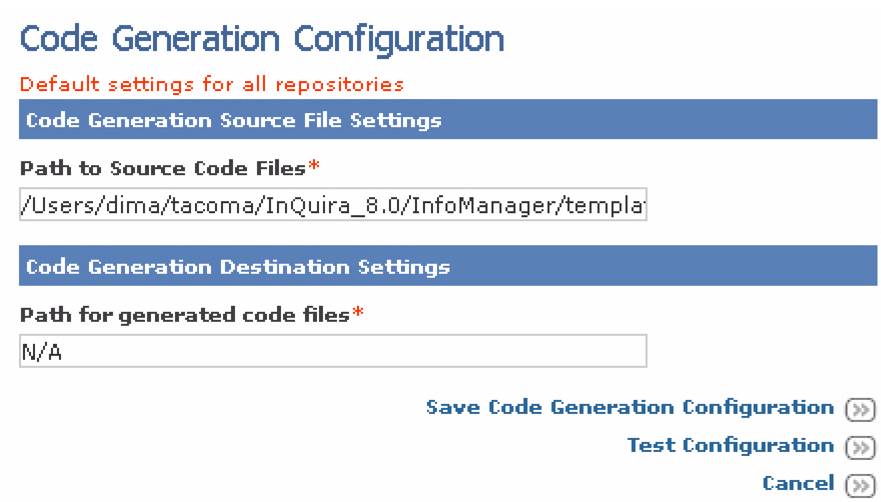
- Select **Configure** under System:

The Management Console displays the Information Manager Settings page:

- Select **Code Generation Configuration**:



The Management Console displays the Code Generation Configuration page:



- Select **Override default configuration** and specify the following parameters:

Parameter	Description
Path to Source Code Files	Accept the default value or specify a path to a set of custom templates.
Path for generated code files	Specify the destination of the generated files.

Integrating an Intelligent Search Application

You can specify an InQuira application to use for searching within the Management Console and configured Information Manager web applications. You specify an InQuira application to use for internal searching using the InQuira Search Configuration option of the Information Manager Settings page.

IMPORTANT: You must also configure the Intelligent Search application to acquire and index content from the Information Manager repository, as described in *Configuring Content Acquisition from Information Manager Repositories* in the *Intelligent Search Administrator's Guide and Reference*.

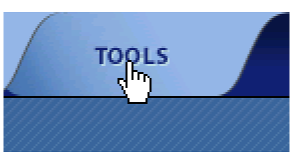
You can specify the InQuira application to use as the default for all repositories when logged onto the System repository, or for the current application repository when logged onto that repository.

When you configure InQuira search, Information Manager adds a Search tab to the main navigation area. You can then use the Search page to locate Information Manager and other Intelligent Search content.

Search Configuration

To configure the InQuira application for internal search:

- Log in as SUPER user, select the desired repository and then **Tools** from the navigation area:

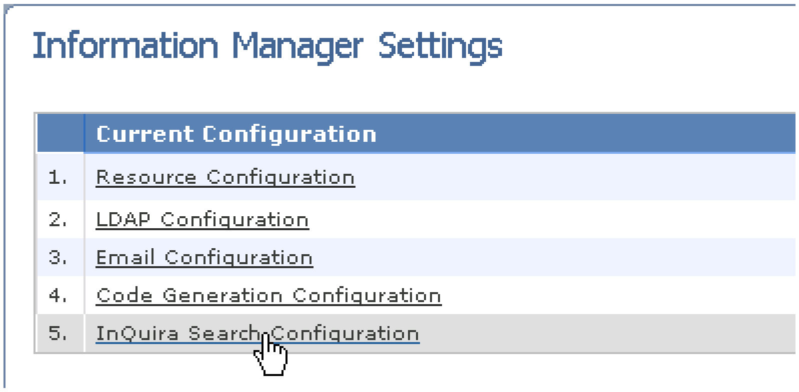


The Management Console displays the Administration page for the current repository.

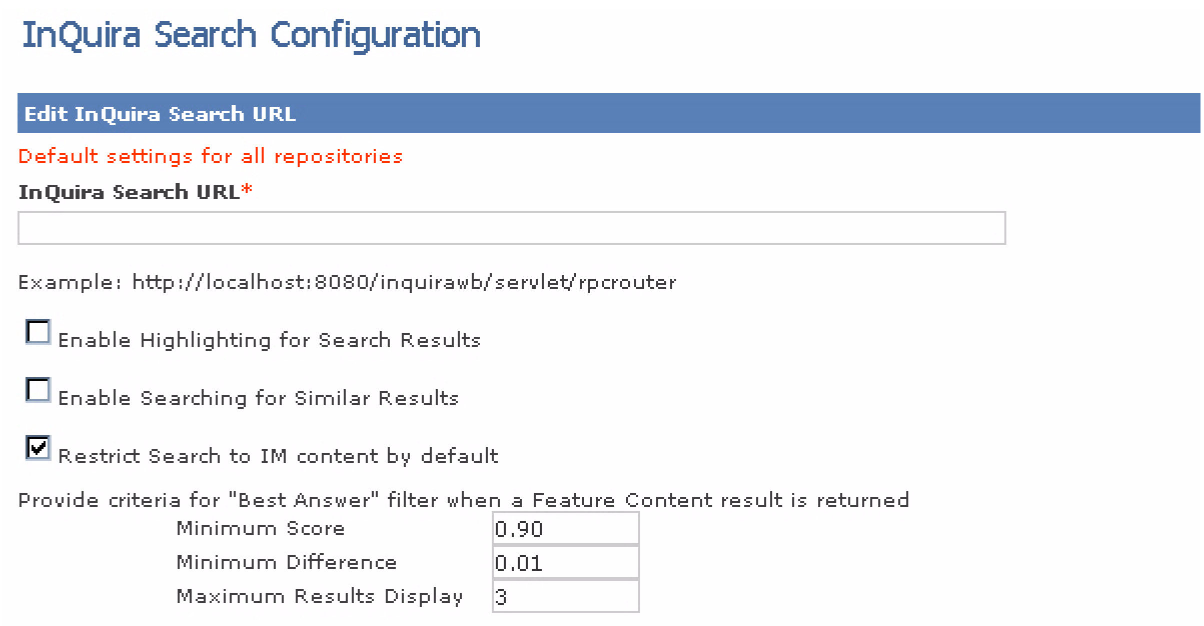
- Select **Configure** under the System option

The Management Console displays the Information Manager Settings page:

- Select **InQuira Search Configuration**:



The Management Console displays the InQuira Search Configuration page:



The InQuira Search Configuration page indicates whether the current configuration is inherited from the system default, or is specific to the application repository.

NOTE: In the System repository, the InQuira Search Configuration page displays the default InQuira 8.1 internal search application for all repositories.

- Enter the URL of the servlet for the InQuira 8.1 search application, for example:

  http://localhost:8222/inquiragw/servlet/rpcrouter

- Select the **Enable Highlighting for Search Results** to highlight the search words in the search result excerpts.

- Select the **Enable Searching for Similar Results** option to display similar results for search results.
- By default, Management Console Search searches all of the content in the Knowledgebase. To change the default to limit the search to Management Console only, select the **Enable Searching for Similar Results** option.
- Change the default criteria for the "Best Answer" filter, if desired. This filter determines the level of relevancy required for content to be displayed in the Featured Content portlet when it is enabled.

  There are 3 criteria that you can edit to determine what the best answers are. The minimum score, minimum difference and the max results to display. The minimum difference value is stored but not currently used. Up to max results will be displayed provided their score is equal to or greater than the minimum score field.
- Select **Save**

The Management Console adds a Search tab in the navigation area:

Searching External Content

When you click the Search tab, the search page is displayed and an empty request is made to the servlet to get the facets to choose from.

By default, only InQuira documents will be searched. To allow external documents to be viewed, click the InfoManager Documents facet:

When you do a search, the search results indicate whether documents are internal or external using two icons:

-  for a content record that belongs to the repository
-  for a content record that is external to the repository

If a user is not logged in, the default user roles will be used as user groups. The current user's views can be passed into the InQuira Search request tag through a plus (+) delimited string of Search reference keys.

In order to determine if the Inquira Search is configured and enabled, use the `<IM:is.inquirasearch.enabled>` tag. Set the negate parameter to `negate="true"` to negate.

The main tag for conducting a search is `get.inquirasearch.data`. You pass it an ID for iterating over the results (dataset), and it returns the ResultFacets (filters) and the "answers" as an array of InquiraResult objects by calling each with a ".facets" or a ".answers" from the variable passed in.

For example, if `dataset` was set to `dataset="rsdata"`, you retrieve the facets using:

```
<IM:iterate.dataset dataset="rsdata.facets">
```

and the answers using:

```
<IM:iterate.dataset dataset="rsdata.answers">
```

The type parameter

The `type` parameter specifies the type of request and can be one of the following:

- **empty** – this is the first call to the search in order to get all of the facet filters.
- **search** – perform a search based on the `searchstring` parameter.
- **narrow** – turn a facet on or off by passing in the `facetid` in the `facettoggle` parameter.
- **forward, backward** – for paging: go to the next or previous set of answers.
- **more** – pass in the `facetid` of a facet that has its `isHasMore()` property set to "true". There will be more sub-facets returned for a particular facet.
- **open** – open an external document with the highlighting. In order for this request to work, you will need to pass in the `answerid`, `highlightinfo`, `iqaction`, and `url` of the answer you want to open. All 4 fields are members of the search answer variable (`InquiraResult`).
- **wizard** – available, but not used by the TagLibrary. Use the `form.wizardfields` tag instead.
- **link** – used to open a click-thru link in order to log the analytics. Any time a search result link is opened or a portlet link is opened, a link request should be made and then redirect to the link by getting the `id.clickthrough value`.

- **feedback** – record a feedback from the user. The request can send the `feedbackcomments` with a user's text comments, or with a `feedbackrating` with a numeric value rating the question, or both.
- **similar** – you can check if a search result includes similar results using `rsAns.similar_count > 0.` If there are one or more similar results, you can create a link that will set the type to "similar" and pass in the `answerid` and the `relatedIds` so that the page also contains the similar answers.
- **same** – to return to the last search results that were displayed, simply pass in the type of "same". This will obtain the last search objects that were set to the page.
- **InitialContact** – this is an equivalent of the empty request for a Submit A Case Online search request. Before calling AnswerContact when the user searches before submitting a case, this needs to be called to initialize the search.
- **AnswerContact** – this search request is used to perform a search in order to satisfy the submit a case request for escalation.
- **RespondContact** – this will inform the search instance of whether or not the user was satisfied. If the escalate field is populated with "true", then a case escalation will be logged in the search instance for analytics to record. If the escalate is set to false, then the user was satisfied with one of the search results.
- There are 4 optional parameters to handle the highlighting of the text of a search result. Each snippet of an excerpt is rated in relevancy from 0 – 3. The snippets are put together using <span> tags and a corresponding snippet CSS class is used to format the string. The default values are the classes `snippetClass0`, `snippetClass1`, `snippetClass2`, `snippetClass3`. You can override these defaults by passing in the parameters "`classlevel0`" through "`classlevel3`".
- In order to restrict the results, you can pass in a parameter of "restrict" set to the following 3 values:
  - **IM** – InfoManager documents only
  - **IM_DISCUSSION** – InfoManager documents that are discussion board results
  - **IM_CHANNEL** – InfoManager documents that are Content records

The segment Parameter

Another parameter you can pass in the search request is the `segment` parameter, which you can use to pass a string into the SOAP request. Use the following values in conjunction with the segment parameter:

- **escalate –** set to true or false for a RespondContact request. Indicates whether there should be an escalation or not for analytics.
- **iqaction –** this parameter indicates the type of click through we want to perform with a "link" type.
  - **5** indicates that the value is a combination of "or'ed" constants.
  - **1** is an HTML highlight. The result of this request contains the highlighted HTML derived from the `id.parsedHTML` scripting variable.
  - **2** indicates that the result is a PDF document that needs highlighting. The resulting `id.parsedHTML` is a small XML node that is used to pass into the PDF document indicating how the PDF should be highlighted, such as:

    `http://www.pdf.com/mypdf.pdf#xml=http://pagethatreturnsthexml`
  - **4** means that the search instance should simply record the click-thru. Typically the **4** is added to one of the other values for highlighting.
  - **8** means show similar results. You shouldn't need to pass this in. When you set the type to "similar", the action code of 12 automatically gets set with the SOAP request.
  - **1024** means that the answer is is a "Managed Answer" and not an "unstructured" result. In order for the click-thru to work on content that is not of ansType "unstructured", you would normally pass in 1028 (i.e., 1024 + 4). For example:

```
<% if (!rsAns.ansType.equalsIgnoreCase("unstructured"))
{ %><a href="index?page=answerlink&url=<%=rsAns.escurl%>&answerid=
<%=rsAns.answerid%>&iqaction=1028"
...
<% } %>
```

The pageobj Parameter

The pageobj parameter provides a way to get specific information about the result set that was returned. You could, for example, find out if there are more results to navigate to. The pageobj is called using whatever the `id` parameter is set to as shown in the example below.

```
id="myid"
....
myid.pageobj.totalResults
```

The example above would return the total number of results.

The id Parameter

You can get other information from the `id` parameter, such as:

- **iqxml –** the iqxml that is returned by the SOAP response (helpful for debugging)
- **parsedHTML –** the highlighted HTML that is returned from an "open" call
- **pageobj –** page statistics (see *ResultFacet Objects* on page 282 for more information about the `pageobj` object)
- **facetcount –** number of facets returned
- **wizardcount –** number of process wizards returned
- **portletcount –** number of portlets returned
- **question –** the question that was asked
- **clickthrough –** in the case of a link request, this will be the link that needs to be redirected to
- **allowhighlight –** Boolean representing the search configuration setting for the repository that specifies whether document highlighting should be used
- **allowsimilar –** Boolean representing the search configuration setting for the repository that specifies whether similar results should be used
- **showingsimilar –** if the search results are returned due to a similar answer link, this will be set to true
- **pagewarp –** if `pagewarp` is not null after the search call, redirect the user to the `pagewarp` value (a URL)

Iterating Over Returned ResultFacets

To get the facets call:

```
iterate.dataset dataset="yourvar.facets"
```

and pass in the `dataset` value passed into the request tag. In the iteration, retrieve each facet using the `get.inquirasearch.facet` which returns a ResultFacet object with the same name as the `id`. The ResultFacet objects and how to use them are explained in the section on *ResultFacet Objects* on page 282.

Since the facets are hierarchical, each ResultFacet in the list has a level variable to tell you which node the facet is on. If the facet is active, you can get the top level category name by using the following code:

```
if (crFacet.active ) {
  while(crFacet.parent != null){
     crFacet = crFacet.parent;
  }
out.println("The top level facet is " + crFacet.display +" <BR>");
  crFacet = crFacet.childInEffect;
  %>
```

The active facet is now `<%= crFacet.display %>`.

ResultFacet Objects

The calls to `<IM:iterate.dataset dataset="mydata.facets"> and <IM:get.search.facet id =”fac”>` both return an object of type ResultFacet. Use the ResultFacet object to determine the following:

- `<%= fac.active %>` – returns "true" if this facet is being used as a filter
- `<%= fac.count %>` – the number of sub-facets in existence (not necessarily the number of facets returned)
- `<%= fac.display %>` – the text description to display
- `<%= fac.referencekey %>` – a unique ID for this facet returned by Inquira Search (for example, CMS-CATEGORY-GILTEST-SPORTS.Football)
- `<%= fac.childInEffect %>` – a sub-facet of type ResultFacet, if any, that is being used as a filter
- `<%= fac.parent %>` – a sub-facet's reference to its parent facet
- `<%= fac.subFacets %>` – a list of all sub-facets under the next level on the current facet's tree

- <%= fac.hasMore %> – indicates whether or not there are more sub-facets that could be retrieved. If, for example, there are 1000 authors, at first request, maybe only 10 of them are returned
- <%= fac.level %> – indicates the level that this facet is in the hierarchy, starting at level 1

The request, get.inquirasearch.data, with the id parameter set to "myid" (i.e.,“id=”myid””) will return an object of type Page as “pageobj”, from which you can retrieve the following properties:

- <%= myid.pageobj.getPageMore() %> – how many result pages there are
- <%= myid.pageobj getPageNumber() %> – the index of the current result page
- <%= myid.pageobj getPageSize() %> – number of results per page
- <%= myid.pageobj getPageStart() %> – the first page number
- <%= myid.pageobj getTotalResults() %> – possible number of results

When iterating through the datasetanswers from the request, after calling <IM:get.inquirasearch.answer id=”ans”>, an InquiraResult object is returned with the following information available:

- <%= ans.display %> – the text to show for the link (the heading)
- <%= ans.excerpt %> – a convenience method to return an html formatted string of all the snippets. It will use the supplied css class levels or default to snippetClassx where x is a value from 0-3.
- <%= ans.clickThrough() %> – the click through link that is returned by Inquira Search

The next 3 are for creating a relevancy “progress bar” table:

- <%= ans.scoretext %> – determine the "score" html bar's percentage text
- <%= ans.scorewidth %> – determine the "score" html bar's width
- <%= ans.nonscorewidth %> – determine the "score" html bar's width (the right side of the two-celled table)
- <%= ans.score %> (Float) – how closely this answer matches the question
- <%= ans.uimode %> – currently must be set to “answer”
- <%= ans.highlightinfo %> – used by the InQuira engine to highlight relevant text inside an external document – not much use for the tags
- <%= ans.answerid %>
- <%= ans.iqaction %>
- <%= ans.url %> – a URL to get to the actual document

- <%= ans.cmsstatus %> – information on the Infomanager document containing if the content record is published or not
- <%= ans.cmsguid %> – the GUID for an InfoManager record
- <%= ans.isExternalContent %> (Boolean) – an InfoManager content document in an external repository
- <%= ans.isInternalContent %> (Boolean) – an InfoManager content document in the current repository
- <%= ans.isExternalDocument %> (Boolean) – not an InfoManager document
- <%= ans.iscontentdeleted %> (Boolean) – an InfoManager document that has been indexed but has since been deleted (True if the content GUID cannot be found in the database)
- <%= ans.docType %> (String) – the document type of this answer
- <%= ans.snippets %> (NSMutableArray) – each part of the text is contained in snippets which have various levels as to how closely the search term is qualified. Each snippet is concatenated into the excerpt for convenience into span tags with the appropriate class levels
- <%= ans.similar_count %> (Integer) – the number of similar results for the current answer
- <%= ans.relatedIds %> (String) – the IDs of related answers (used for a “similar” request)
- <%= ans.escurl %> (String) – the HTML-escaped URL that is used to pass in a “link” request

Each snippet is of type InquiraSnippet and simply contains `getLvl()` and `getText()` methods

- <%= ans.isWizard %> (Boolean) – true if the answer is a type Process Wizard (if the answer is a wizard, you can modify the <a> to append the `wizardid` and the `wizardstepid` in order to pass the arguments into a `form.wizardfields` tag)
- <%= ans.wizardLabel %> (String) – the Process Wizard’s display label
- <%= ans.wizardDesc %> (String) – a description of the Process Wizard
- <%= ans.wizardFirstStep %> – identifies which step id the Process Wizard should start at
- <%= ans.wizardId %> (String) – identifies which Process Wizard to use
- <%= ans.wizardDefaultStep %> (String) – not currently used
- <%= ans.wizard %> (Wizard) – contains the actual raw Wizard object

The Wizard fields above can be used like this:

```
if (rsAns.isWizard){ %>
<a  href="http://10.0.20.76:8080/TagLibrary/
index?page=<%=myPage%>&type=wizard&answerid=
<%=rsAns.answerid%>&iqaction=<%=rsAns.iqaction%>&wizardid=<%=rsAns.wizardId%>&wiz
ardstepid=
<%=rsAns.wizardFirstStep%>&wizardnextstep= "><%=rsAns.wizardLabel%> <br>
</a> <%=rsAns.wizardDesc%><br>
```

Using the Process Wizard

The following tags allow the user to use the process wizard:

```
<IM:form.wizardform wizardid="<%=wizid%>" wizardstepid="<%=wizstep%>" id="id2"
success="searchtest" error="http://www.drudgereport.com">
```

The `form.wizardform` should be displayed if the parameter “type” is equal to “wizard”.

To display the previous choices that have been in made in a Process Wizard, you can use the `iterate.wizard.previous.responses` tag as shown below:

```
<IM:iterate.wizard.previous.responses>
  <IM:get.wizard.previous.response id="wpr">
    <font color=blue size="3"><%= wpr.question %></font><br>
    <font color=blue size="2"><%= wpr.answer %></font> <br><br>
  </IM:get.wizard.previous.response>
</IM:iterate.wizard.previous.responses>
```

There are two properties available to you using the scripting variable: a question and an answer.

After calling the `form.wizardform`, you can iterate over the wizardform fields like this:

```
<IM:iterate.wizardform.fields><br>
  IM:get.wizardfield.record id="wizf">
<% if (wizf.type.equals("select")) { %>
  <IM:input.wizardfield.record css="dropdown"/>
<% } else if (wizf.type.equals("checkbox")) { %>
  <IM:input.wizardfield.record css="chekbx"/>
<% } else if (wizf.type.equals("text")) { %>
  <IM:input.wizardfield.record css="letext"/>
<% } else if (wizf.type.equals("radio")) { %>
  <IM:input.wizardfield.record css="amfm"/>
<% } else { %>
    <br><b><%=wizf.text%></b> <br>
<% } %>
  </IM:get.wizardfield.record>
</IM:iterate.wizardform.fields>
```

A `form.wizardform` generates the following hidden fields:

```
<input name="action" value="SearchWizardAction" type="hidden">
<input name="success" value="answers" type="hidden">
<input name="error" value="answers&amp;er=y" type="hidden">
<input name="wizardid" value="WizardOfTime" type="hidden">
<input name="wizardstepid" value="1A" type="hidden">
<input name="wizaction" value="next" type="hidden">
```

(`wizaction` is available starting in version 8.0.1.1)

The `wizaction` hidden field indicates which submit button was pressed. Currently, there are three options; “next”, “back”, and “cancel”. Use a script to set this parameter whenever a button is clicked. The following excerpt uses JavaScript to set each of the three values as in `onclick="javascript:wizaction.value = 'cancel';">`

```
<button value="cancel" name="inqwiz" onclick="javascript:wizaction.value =
'cancel';">Cancel</button>
<% if (id2.showback) { %><button type="submit" value="Back" name="inqwiz"
onclick="javascript:wizaction.value = 'back';">Back</button><% } %>
<button type="submit" class="button-feature" name="inqnext"
onclick="javascript:wizaction.value = 'next';">Next</button>
```

You can give the buttons whatever name you wish as long as the hidden `wizaction` is set to one of the three values listed above.

Portlets

The side panel portlets are answers or either type “custom” or “dictionary”. The field .name will contain the name of the box that the answer belongs to. The following names are currently used:

- PROMOTE = Promotions
- ACT = Act Now
- RELATED_TOPIC = Related Topics
- DEFINE = Definitions

Other names may be created on the Search side.

The way to obtain the portlets is to iterate over the new answer property “portlets” and iterating over the portlet’s “items” such as in this example:

```
<Table border=0 align=right width=20%><tr><td>
<IM:iterate.search.portlets dataset="rsData.portlets">
   <IM:get.inquirasearch.portlet id="porter">
   <% if (porter.type.equals("feedback")) { %>
         <form name="feedbackform" action="index" method=get>
         <input type=hidden name=page value="<%=myPage%>">
         <input type=hidden name=type value=feedback>
   <% } %>
   <table border=1 width=100%> <tr><th class="im-lightblue"><%= porter.name %></th> </tr>
         <IM:iterate.dataset dataset="porter.items" id="pitems">
         <IM:get.inquirasearch.portlet.item id="item">
         <TR><td>Answer ID = <%= item.answerid %>
         <% if (porter.type.equals("feedback")) { %>
            <%= item.excerpt %><BR>
            <% if (pitems.index == 4) { %>
               <input type=submit name=type value=submit>
               </form>
            <% } %>
            <% } else { %>
            <% if (item.ansType.equals("dictionary")) { %>
               <a href="index?page=<%=myPage%>
                  &type=search&showdef=true&title=<%=item.getLinkText()%>
                  &def=<%=item.excerpt%>
                  &answerid=<%=item.answerid%>
                  &iqaction=<%=item.iqaction%>">
               <%= item.getLinkText() %>
            </a> <br>
            <%= item.excerpt %>
            <BR><BR>
         <% } else {%>
            <a href="<%=item.titleUrl%>"><%= item.getLinkText() %></a> <br>
            <%= item.excerpt %><BR><BR>
         <% } %>
      <% } %>
      </td></tr>
      </IM:get.inquirasearch.portlet.item>
      </IM:iterate.dataset>

   </IM:get.inquirasearch.portlet>
   </IM:iterate.search.portlets>

</td><tr></Table>
```

A portlet item has two available properties: `name` and `type`. As you can see, there is a special portlet whose type is `feedback`. This is the feedback form found at the last of the portlets. The item object is of type InquiraResult which has the same member fields and methods as the answer object explained above.

In the case of a “dictionary” portlet, I am passing the type=search and showdef=true back to the page so that I can display its definition title (item.getLinkText()) and its definition (item.excerpt) as in the example below:

```
<% if (showdef != null) { %>
<table width=80% border=1><tr><td> <%= deftitle %> <br></td></tr><tr><td>
<%= defexcerpt %></td><tr></table>
<% }
```

The above variables `deftitle` and `defexcerpt` are simply representing the values passed in as `title=<%=item.getLinkText()%>&def=<%=item.excerpt%>`

You can specify the order of the portlets to be returned by passing an order parameter into the tag such as:

```
<IM:iterate.search.portlets dataset="rsData.portlets"
order="PROMOTE+DEFINE+RELATED_TOPIC+FEEDBACK">
```

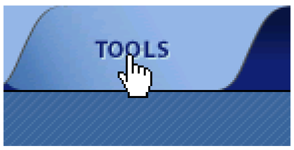
Any keys not passed into the order parameter will not be returned. If a parameter is entered into the order that does not return, it is simply ignored. Not supplying an order parameter will result in the returning of all portlets returned by the SOAP call in the order we receive them.

Delegate Classes Configuration

The delegate classes configuration allows you to specify Java methods to execute when given events occur. You can configure custom methods in the SYSTEM repository to specify a default for all repositories, or configure custom methods in an application repository to override the default methods.

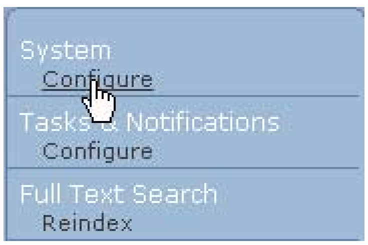
To configure delegate classes:

- Log onto the desired repository and select **Tools** from the navigation bar:



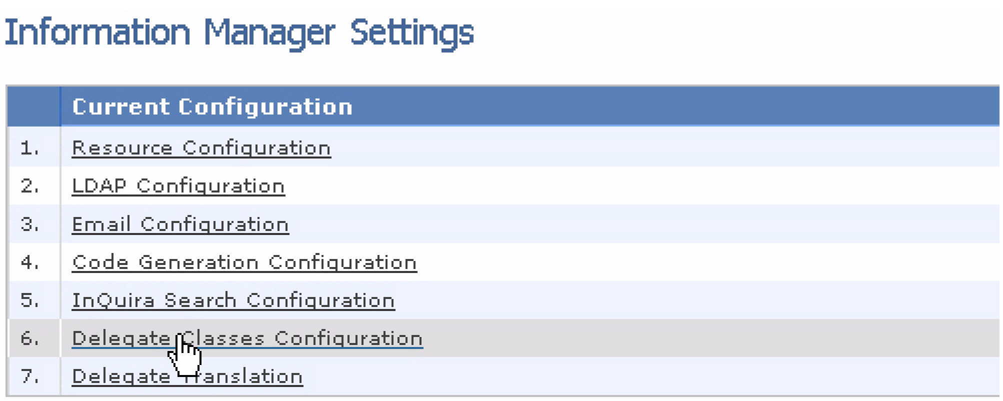
The Management Console displays the Administration page for the current repository.

- Select **Configure** under System:

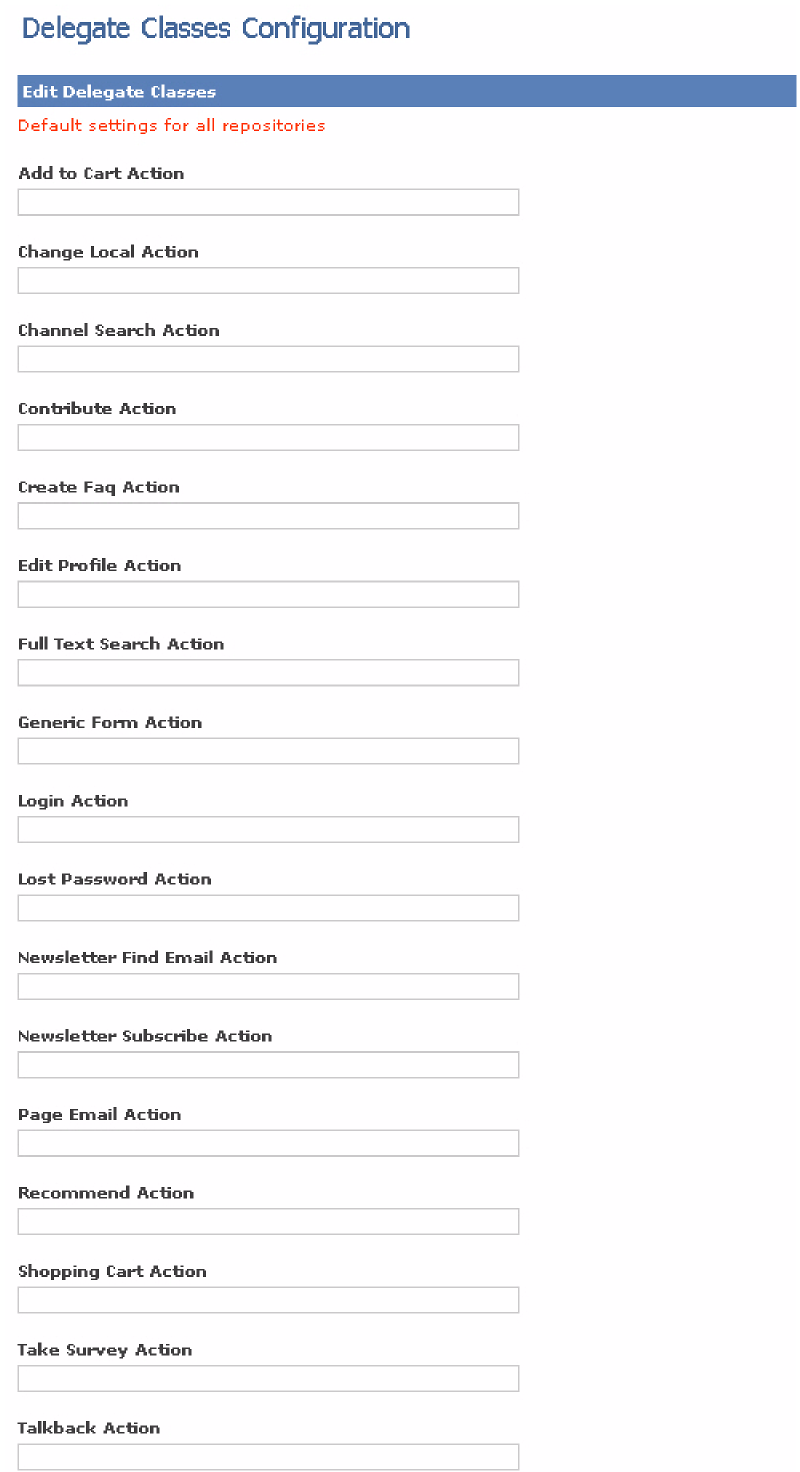


The Management Console displays the Information Manager Settings page.

- Select the **Delegate Classes Configuration** item:



The Management Console displays the Delegate Classes Configuration page. Specify the custom methods to execute for the selected actions:

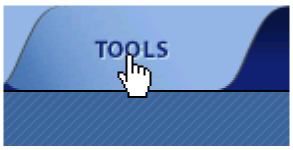


Translation Delegate Class Configuration

It is possible to integrate to an external application to do machine translation of content. This is done by specifying a custom method to call an external translation service using the Delegate Translation option under the Task Configuration list in the Tools area.

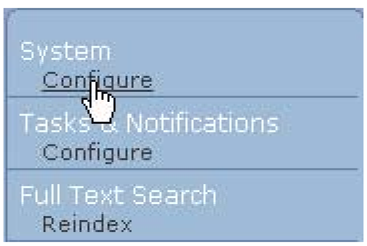
To configure a translation delegate class:

- Log onto the desired repository and select **Tools** from the navigation bar:



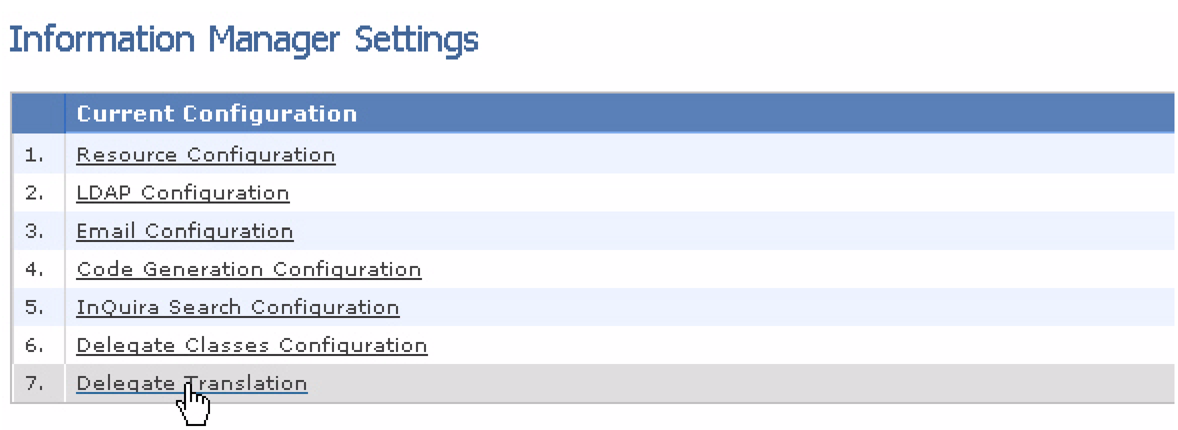
The Management Console displays the Administration page for the current repository.

- Select **Configure** under System:

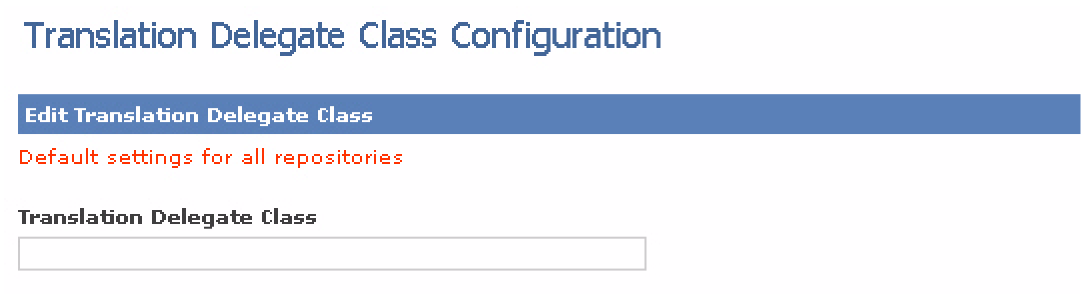


The Management Console displays the Information Manager Settings page.

- Select the **Delegate Translation** item:



The Management Console displays the Translation Delegate Class Configuration page. Specify the custom method to handle translation tasks:



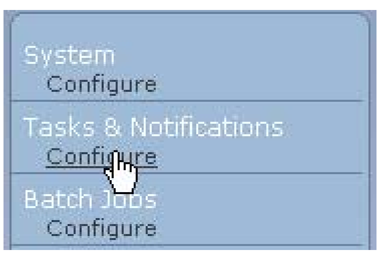
Configuring Tasks and Task Notifications

You can configure the content management tasks provided by Information Manager to customize them for use with your application and business environment. Task configuration options include:

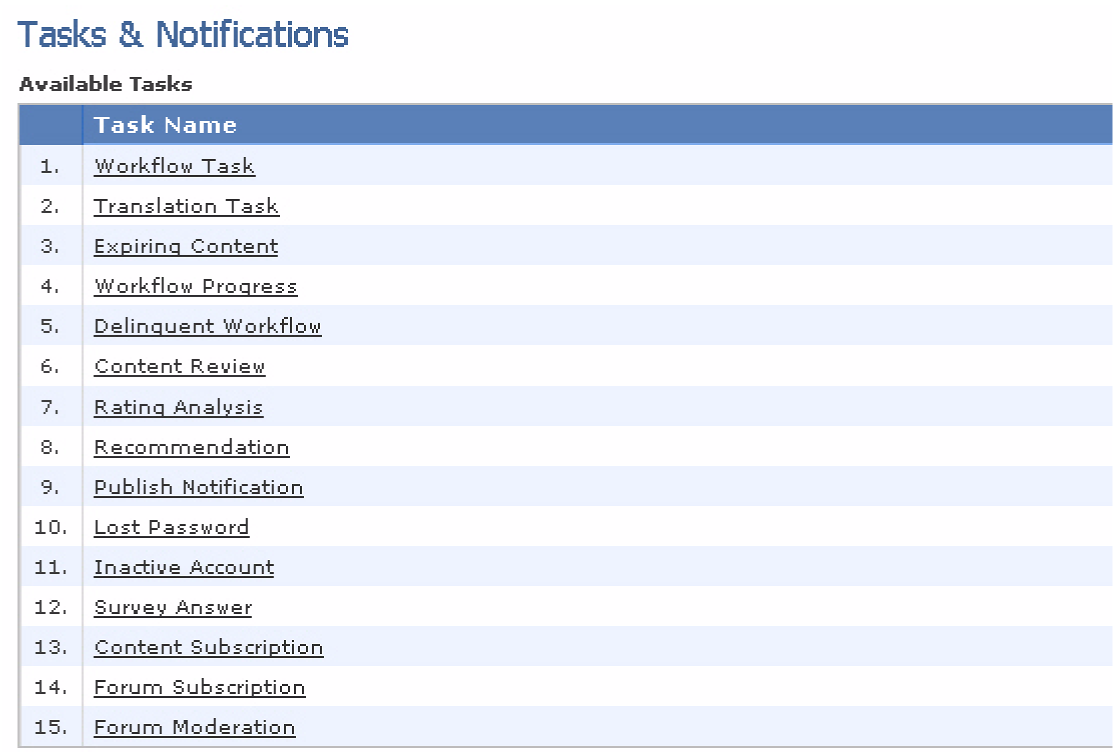
- Enabling and disabling tasks
- Enabling and disabling email notifications about tasks
- Editing the content of the task notifications

To enable or disable tasks and notifications:

- Log onto the System repository and select **List** under Task Configuration on the Administration page:



The Management Console displays the Task Configuration page:



- Select the desired task (see Action and Notification Tasks for a description of each task type).

The Management Console displays the **Tasks & Notifications** configuration page, and displays the default settings inherited from the SYSTEM repository.

To enable or disable the selected task:

- Select **Enable this task type**

To enable or disable notification for the selected task:

- Select **Enable notifications for this task** and fill in the fields described in *Editing Notification Templates* on page 294.

IMPORTANT: The **Enable this task type** option must be enabled in order to assign a workflow task or to enable any tasks or notifications associated with the workflow task. For example, if this option is not enabled, then the **Enable email notifications for this task** option is disabled, regardless of whether it is selected.

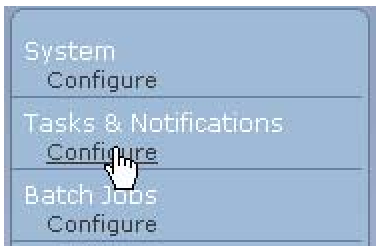
Editing Notification Templates

You can edit the content of the email notifications that Information Manager sends in response to tasks created within the application.

NOTE: Information Manager also sends email notifications about other system events, which you can edit as described in *Editing Notification Templates* on page 294.

To customize task notifications:

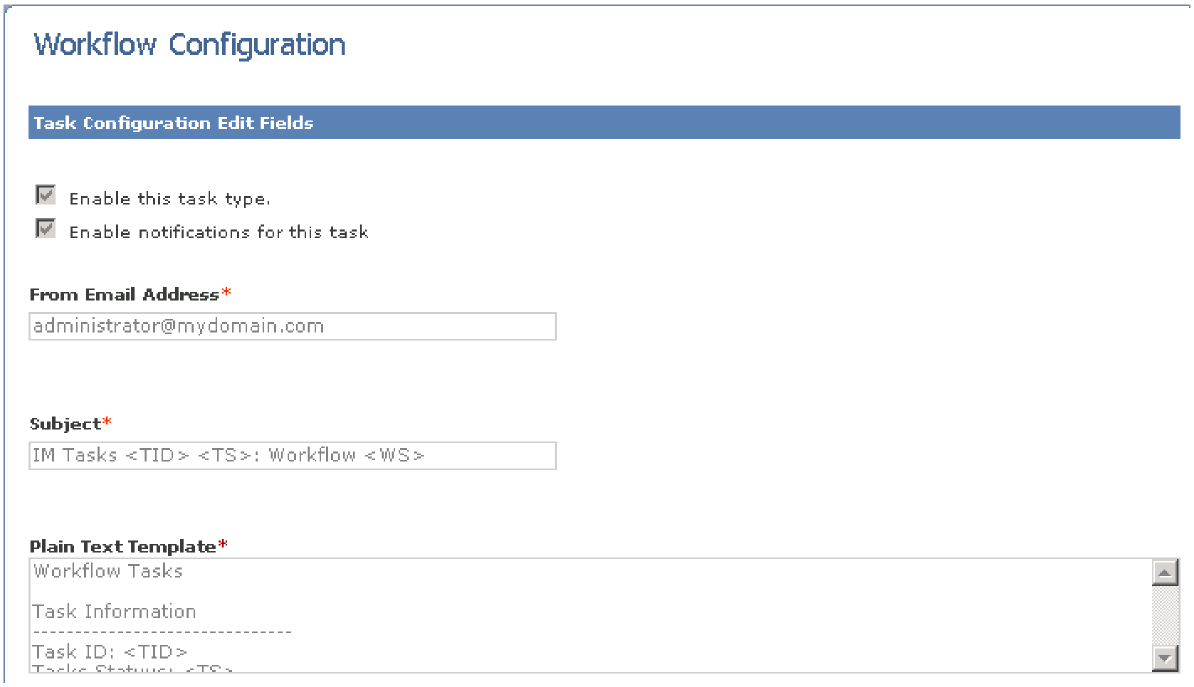
- Log onto the System repository and select **List** under Task Configuration on the Administration page:



The Management Console displays the Task Configuration page:

- Select the desired task

The Management Console displays the Workflow Configuration page, and displays the default notification content inherited from the SYSTEM repository:



- Select the Override Default Values option to edit the notification content

---

NOTE: See *Keyword/Variable Substitution within Email Notifications* on page 296 for information about the Information Manager-defined variables for use within notifications.

Keyword/Variable Substitution within Email Notifications

Information Manager defines a set of static variables that you can use to include specific repository, application, and user information in notification messages.

NOTE: You cannot edit these variables.

When Information Manager issues a notification, it replaces the variables with values obtained from the event context. For example, the variable <TID> will be replaced with the specific ID of the task associated with the notification.

The Information Manager- defined variables are:

Variable	**Value**
<D1>	Repository
<S1>	Repository View
<N1>	First Name
<N2>	Last Name
<U1>	User ID
<P1>	Password
<E1>	Email
<TS>	Task Status
<TID>	Task ID
<COM>	Task Comments
<TASKURL>	Task URL
<UA>	Unlock account URL
<RECID>	Content ID
<DOCID>	Document ID
<MID>	Master Identifier
<CHANNEL>	Channel
<WC>	Workflow Comments
<WS>	Workflow Status
<CWFS>	Current Workflow Step Name
<PWFS>	Previous Workflow Step Name

Scheduling Batch Jobs

You can schedule batch jobs to perform various Information Manager administrative functions. You can schedule batch jobs only within an application repository.

You define and schedule batch jobs by:

- Specifying basic job parameters
- Specifying job-specific parameters
- Specifying the job schedule

Available Batch Jobs

Information Manager provides the following batch jobs for scheduling:

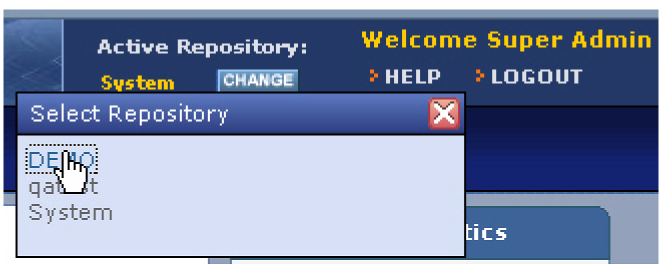
Job	Description
Resource File Cleaner	Delete unused files from the configured file system or content resource location via FTP, as described in *Deleting Unused Attached Files* on page 301.
URL Connect	Connect to a URL for the purpose of executing an external web service, as described in *Connecting to an External Web Service* on page 302.
Export All Data	Export the current repository data and compress the file for backup purposes, as described in *Exporting Data for Backup* on page 341.
Expiring Content	Locate content within a selected channel that will expire within a specified number of days, as described in *Identifying Expiring Content* on page 302.
Content Review Scheduler	Locate content within a selected channel that should be reviewed within a specified number of days, as described in *Identifying Content to be Reviewed* on page 304.
Rating Analysis	Locate content that uses a selected rating form and is rated lower than a specified threshold, as described in *Identifying Content by Rating Level* on page 307.
Delinquent workflow steps	Locate content that is delinquent within a selected workflow, as described in *Identifying Delinquent Content* on page 306.
Delete closed and ignored Tasks	Locate and delete tasks that have been closed or ignored for a specified number of days, as described in *Deleting Closed Tasks* on page 305.

Case Link Cleanup	Locate and delete any Case Link objects associated with obsolete content, as described in *Associating Content Records with CRM Cases* on page 131.
Send Subscription Emails	Send content-update notification emails to subscribers.
Expiring Subscriptions Notification	Search for subscriptions that will expire within a certain number of days and send notification emails to subscribers.
Delete Expired Subscriptions	Search for expired subscriptions and delete them.
Indexer Scheduling	Reindex the repository data, as described in *Indexing Data for Full Text Search* on page 242
Content Batch Monitor	

Specifying Batch Job Details and Schedules

To schedule Information Manager batch jobs:

- Log into Information Manager as SUPER user and select the SYSTEM repository, as described in Logging on as the Super User.
- Switch from the **SYSTEM** repository to the application repository the batch job is to run on (**DEMO** in this example):

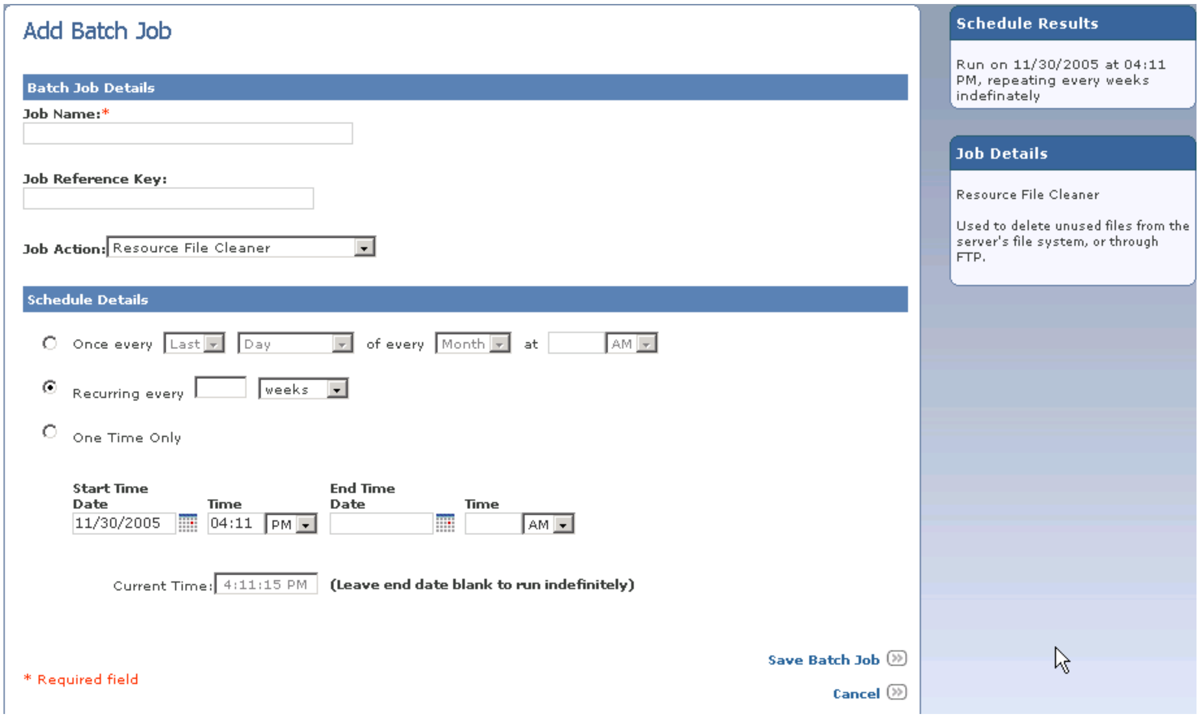


- Select the Tools tab.

- Select **Configure** under Batch Jobs on the Administration page:

- Select **Add Batch Job**:

- The Management Console displays the Add Batch Job page:

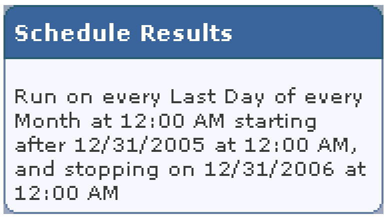


- Specify the following general scheduling parameters:

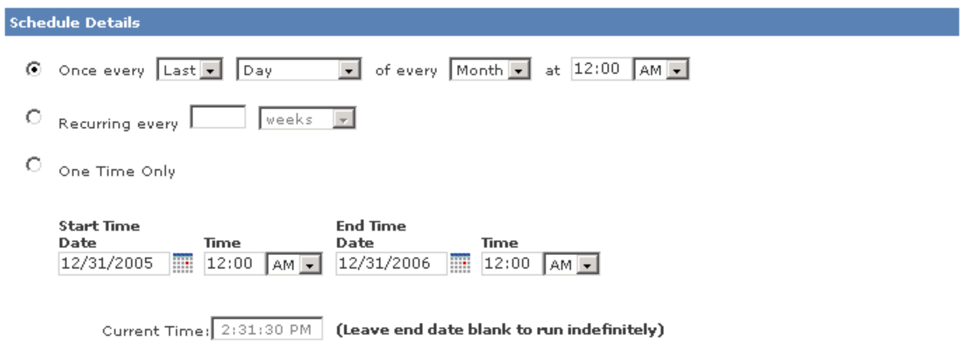
Parameter	Description
Job Name	Specify a name for the batch job
Job Reference Key	Accept the default value supplied by the Management Console or specify a string to use as an internal identifier. See *A Note On Reference Keys* on page 62 for more information on reference keys and how they are used within the Information Manager.
Job Action	Select the type of job as described in *Available Batch Jobs* on page 297.
Schedule Details	Select one of the following scheduling methods and complete the scheduling fields: • Once every... • Recurring every... • One Time Only
Start Date and Time	Specify the date and time after which the scheduling detail logic will apply.

End Date and Time	Specify the date and time up to which the scheduling detail logic will apply. Leave this field blank to specify that the task will run indefinitely.

The **Schedule Results** area displays a narrative summary of the scheduling details. For example, the **Schedule Results** display:



describes the following job schedule details:



Deleting Unused Attached Files

You can schedule a batch job to delete unused files that are stored as content resources (files attached to content records). Information Manager considers a file in the configured file system or FTP location to be unused if the guaranteed unique identifier (guid) associated with the attachment no longer represents a valid content record.

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Resource File Cleaner** as the Job Action

Connecting to an External Web Service

You can schedule a batch job to connect to a URL for the purpose of executing an external web service. You can use this job to schedule Information Manager to execute custom code for any purpose.

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **URL Connect** as the Job Action

The Management Console displays an additional Target URL field.

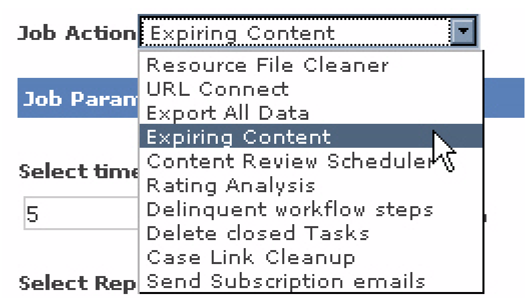
- Specify the URL of the web service to which you want to connect

Identifying Expiring Content

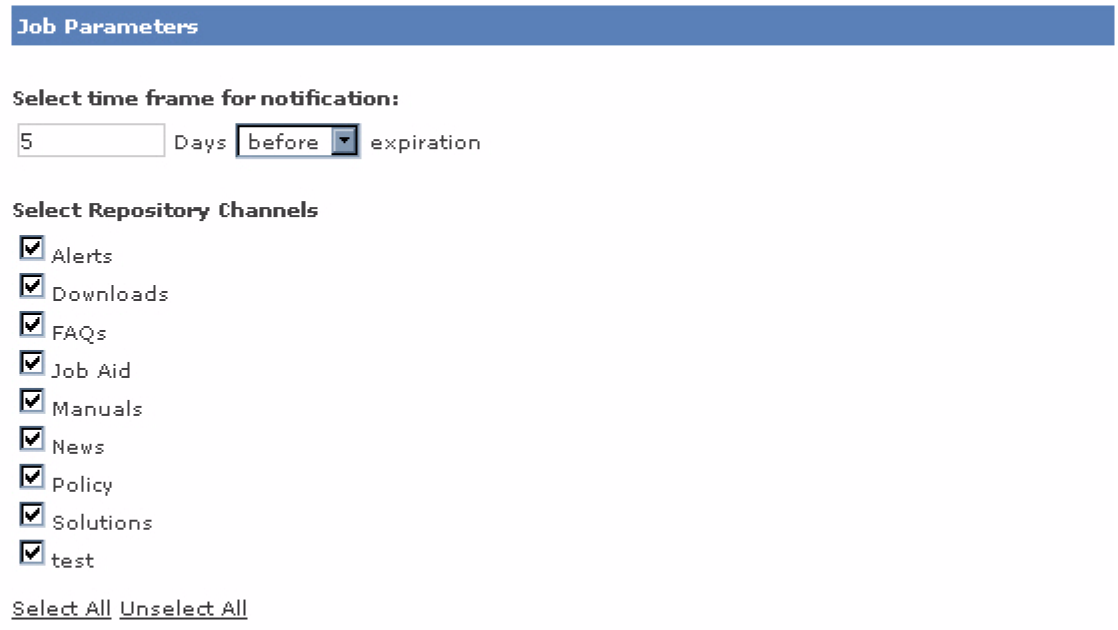
You can schedule a batch job to identify content that is approaching its expiration date. Information Manager will use the results of this job to create tasks and send notifications to the appropriate users.

NOTE: Regardless of whether the expiring content batch job is run or not, the content will still expire if the expiration date is set. When the content expires, it is not deleted or unpublished, but it will not be loaded (e.g., for an IM click-thru page) and the crawler will not pick it up in the crawl.

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Expiring Content** as the Job Action:



The Management Console displays additional content expiration criteria fields:



- Specify the following content expiration criteria:

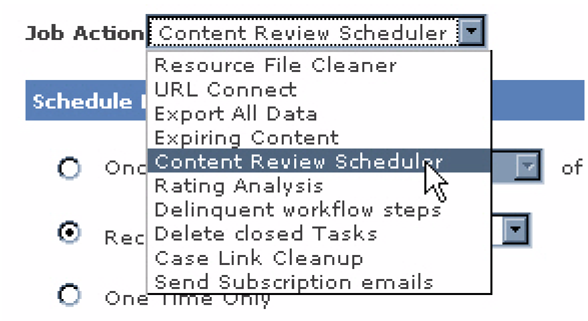
Parameter	Description
Select time frame for notification	Specify the number of days before or after expiration that must elapse to qualify a record for inclusion in the results set.
Select Repository Channels	Specify the content channels in which to search for expiring content.

Identifying Content to be Reviewed

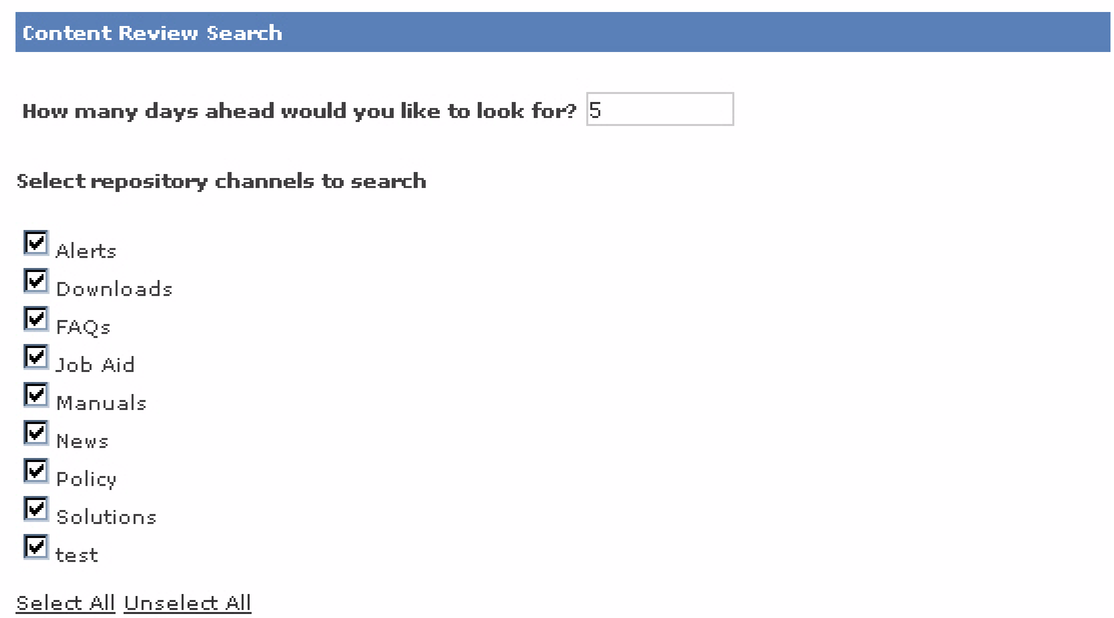
You can schedule a batch job to identify content that have reached the review date specified when the content record was created. Information Manager uses the results of this job to create tasks and send notifications to the appropriate users.

This batch job is configurable to allow notifications to be sent out prior to or after the scheduled review date. It runs on a schedule looking for content records that have specified review dates and applies the rules for the batch job. If the rules match, the notification is sent. The review is independent of the state of the record (i.e., published or in process).

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Content Review Scheduler** as the Job Action:



The Management Console displays additional content review criteria fields:



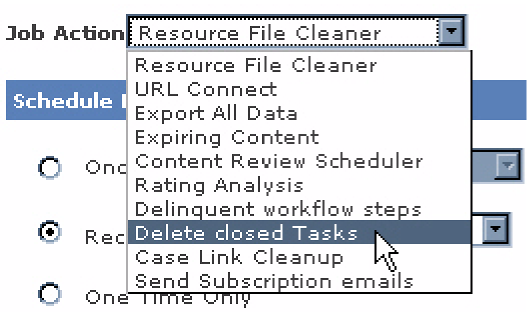
- Specify the following content expiration criteria:

Parameter	Description
How many days ahead would you like to look for?	Specify the number of days prior to delinquency that you want to locate content for.
Select Repository Channels	Specify the content channels in which to search for expiring content.

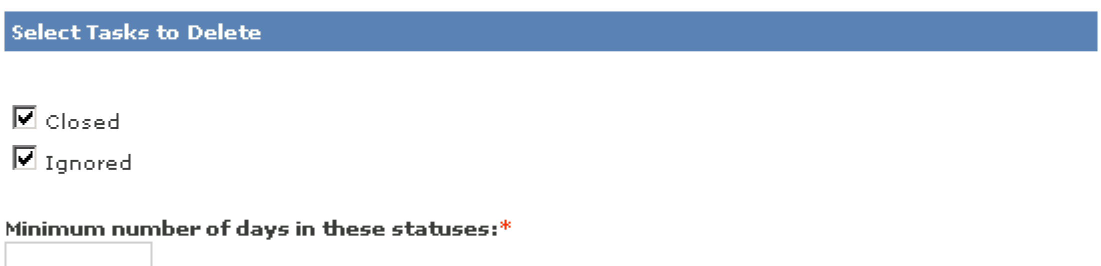
Deleting Closed Tasks

You can schedule a batch job to delete closed tasks from the application. You delete closed tasks by scheduling the Delete Closed Tasks batch job:

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Delete Closed Tasks** as the Job Action:



The Management Console displays an additional task criteria fields:



- Specify the following task criteria:

Parameter	Description
Closed	Select this checkbox to delete tasks that have been closed at least as many days as the specified minimum.
Ignored	Select this checkbox to delete tasks that have been ignored at least as many days as the specified minimum.

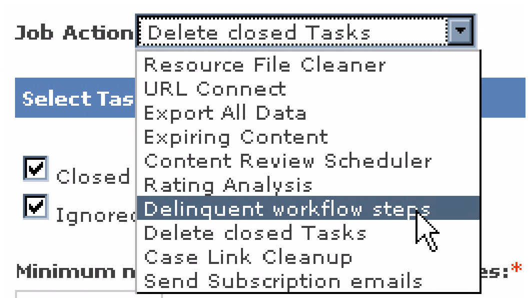
Minimum number of days in this status	Specify the minimum number of days that a task must be closed or ignored to qualify for deletion.

Identifying Delinquent Content

You can schedule a batch job to identify content that has remained in a workflow step longer that the specified time period. The Management Console will use the results of this job to schedule tasks for and send notices to the appropriate users.

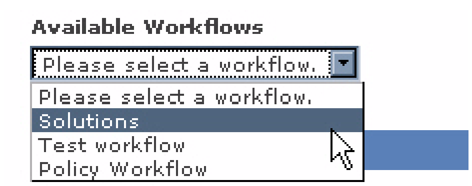
You identify delinquent content by scheduling the Delinquent Workflow Steps batch job:

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Delinquent Workflow Steps** as the Job Action:



The Management Console displays an additional Available Workflow drop-down menu.

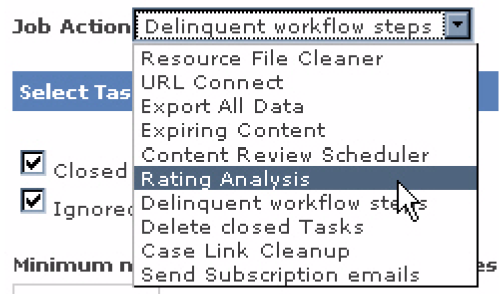
- Select the workflow for which you want to identify delinquent content:



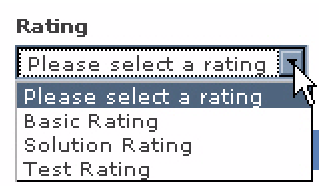
Identifying Content by Rating Level

You can schedule a batch job to identify content that has received ratings higher than or lower than a specified value using the Rating Analysis batch job. Information Manager will use the results of this job to send notifications to the content owners.

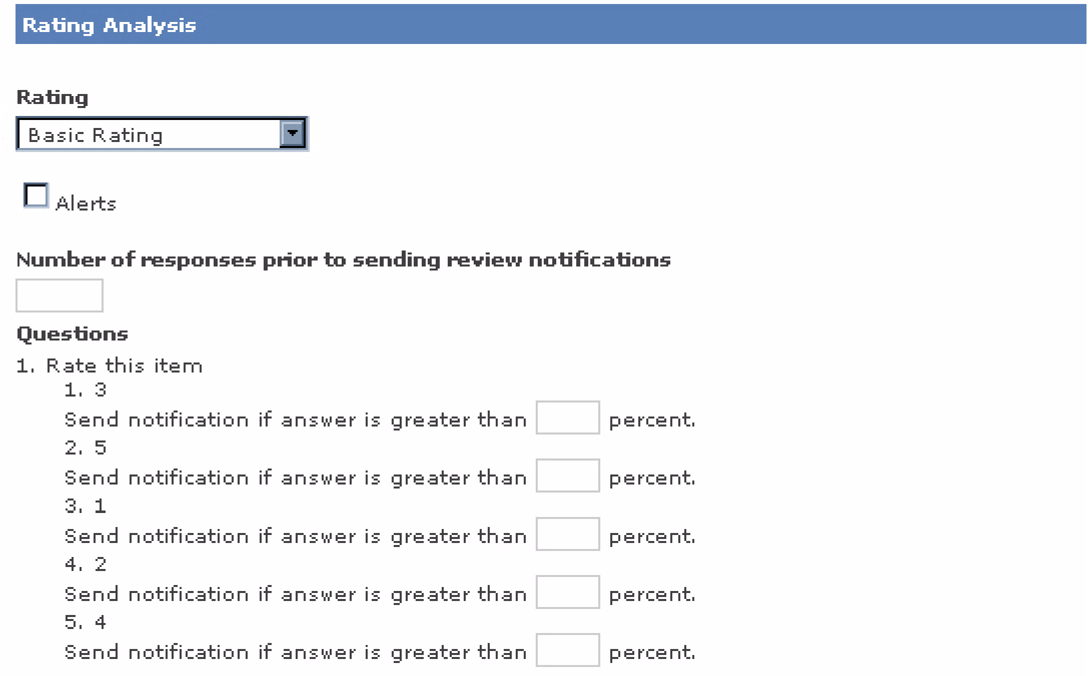
- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Rating Analysis** as the Job Action:



- Select the rating form (survey) that you want to identify low-rated content for. These rating forms are created in the Feedback section under Ratings, as described in *Creating Rating Forms* on page 223.



- Specify threshold values, such as the number of responses prior to sending review notifications. For example:



Deleting Unused Case Links

You can schedule a batch job to locate and delete any Case Link objects associated with obsolete content.

- Define and schedule the job as described in *Specifying Batch Job Details and Schedules* on page 298, and select **Rating Analysis** as the Job Action

Subscription Batch Jobs

There are three batch jobs related to subscriptions:

Send Subscription Emails	Use this job to send content-update notification emails to subscribers. The frequency setting can be overridden for individual users, as described in *Creating and Managing Subscriptions* on page 181.
Expiring Subscriptions Notification	Use this job to search for subscriptions that will expire within a certain number of days and send notification emails to subscribers. By default, the expiration period is 90 days. See *Subscription Expirations* on page 183 for information on how to change the expiration value.
Delete Expired	Use this job to search for expired subscriptions and delete them.

Managing Supported Locales

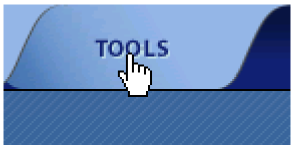
You can configure Information Manager to support any recognized locale. The Management Console provides a list of supported locales from which you can select to make active at the system or application repository level. You can also add locales to the list of supported locales at the system and application level as described in *Adding a Locale* on page 310.

When you activate a locale at the system level, it will be available for use within all application repositories. When you activate a locale at the application level, it will be available for use within that repository. See *Activating a Locale* on page 312 for more information.

Adding a Locale

To add a locale to the list of supported locales that will be available to application repositories:

- Log onto the desired repository and select **Tools** from the navigation area:

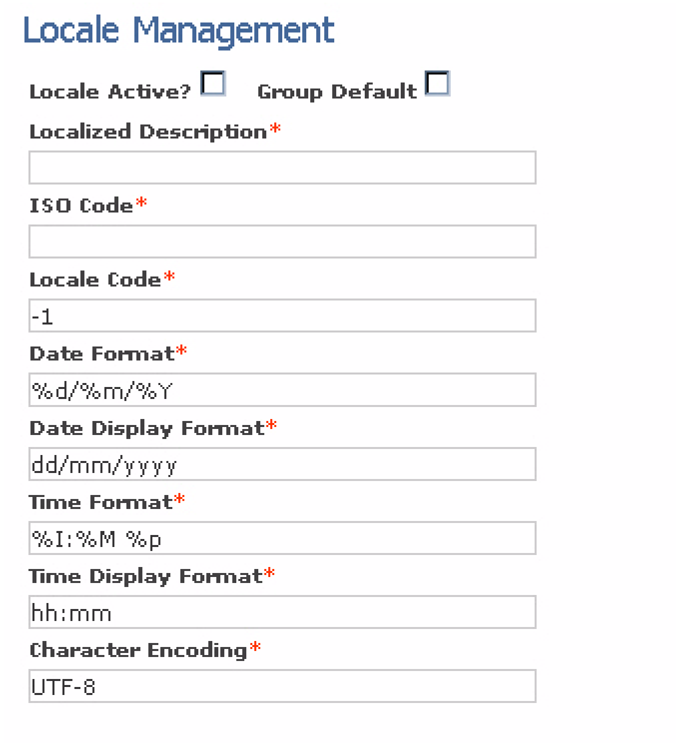


The Management Console displays the Administration page for the current repository.

- Select the **Add** option under Locale Management on the Administration page:

Select **Add Locale** at the bottom right-hand corner of the page:

The Management Console displays the Locale Management page:



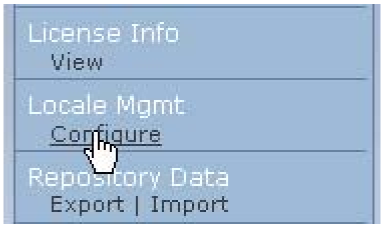
- Specify the following information for the supported locale:

Parameter	Description
Locale Active?	Specify whether this locale will be available for application repositories.
Group Default	Specify that the default locale (such as 'en' for English) is to be used. This box should be checked for all locales.
Localized Description	Specify the descriptive name for the locale, for example, English Australian.
ISO Code	Specify the standard code for the locale; for example, en_au identifies English Australian.
Locale Code	Specify the locale ID decimal value; for example, 3081 identifies English Australian.
Date Format	Specify the internal data date format. The default is `%d/%m/%Y`.
Date Display Format	Specify the display date format. The default is `dd/mm/yy`.
Time Format	Specify the internal data time format. The default is `%I:%M:%p`
Time Display Format	Specify the display time format. The default is `hh:mm`
Character Encoding	Specify the data character encoding. The default is `UTF-8`.

Activating a Locale

To activate a Locale in the System repository:

- Select the **List** option under Locale Management on the Administration page:



The Management Console displays the Locale Management page.

Locale Management

Active Locales

Description	ISO Code	Character Encoding	Date Format	Time Format	Group Default
Deutsch	de_DE	UTF-8	%d/%m/%Y	%I:%M %p	Yes
English	en_US	UTF-8	%m/%d/%Y	%I:%M %p	Yes
Español	es_ES	UTF-8	%d/%m/%Y	%I:%M %p	Yes
Français	fr_FR	UTF-8	%d/%m/%Y	%I:%M %p	Yes
Italiano	it_IT	UTF-8	%d/%m/%Y	%I:%M %p	Yes

Inactive Locales

Description	ISO Code	Character Encoding	Date Format	Time Format
British English	en_GB	UTF-8	%d/%m/%Y	%I:%M %p
日本語	ja_JP	UTF-8	%Y/%m/%d	%I:%M %p
한국어	ko_KR	UTF-8	%d/%m/%Y	%I:%M %p
Portuguese Brasileiro	pt_BR	UTF-8	%d/%m/%Y	%I:%M %p
中国	zh_CN	UTF-8	%d/%m/%Y	%I:%M %p
中文	zh_TW	UTF-8	%d/%m/%Y	%I:%M %p

Add locale

The Locale Management page display is divided into two sections:

Active Locales	These supported locales are active in the current repository. You can select active locales for use within an application repository.
Inactive Locales	These supported locales are inactive in the current repository. Inactive locales are not available to application repositories.

- Select a locale from the Inactive Locales list:

Inactive Locales

Description	ISO Code	Character Encoding	Date Format	Time Format
British English	en_GB	UTF-8	%d/%m/%Y	%I:%M %p
日本語	ja_JP	UTF-8	%Y/%m/%d	%I:%M %p
한국어	ko_KR	UTF-8	%d/%m/%Y	%I:%M %p
Portuguese Brasileiro	pt_BR	UTF-8	%d/%m/%Y	%I:%M %p
中国	zh_CN	UTF-8	%d/%m/%Y	%I:%M %p
中文	zh_TW	UTF-8	%d/%m/%Y	%I:%M %p

Add locale

The Management Console displays details for the selected locale on the Locale Management page:

- Select the **Locale Active?** checkbox to activate the locale

---

NOTE: Edit the locale information if necessary. See *Adding a Locale* on page 310 for more information on the locale definition fields.

Chapter 10 Importing and Exporting Data

You can import data into and export data out of, Information Manager. You can export and import data for translation, as described in *Importing and Exporting Repository Data for Translation* on page 316, or import data from an external source (such as content records, forms, and user profiles), as described in *Importing Data to an Application Repository* on page 329.

You can also export and import an entire repository, while maintaining its data relationships, as described in *Backing Up and Restoring Information Manager Data* on page 341.

Importing and Exporting Repository Data for Translation

You can import and export repository data to be translated for use in applications that support multiple or non-English locales. You can import and export:

- Management Console resource files, for translation of navigation and repository elements.
- Information Manager content data within a specified channel, for translation of application content.

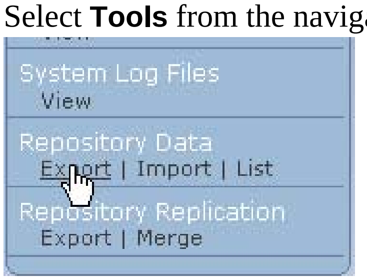
Content to be translated can be exported/imported either explicitly, as described in *Exporting Repository Channel Data for Translation* on page 319 and *Importing Repository Channel Data from Translation* on page 320, or automatically by means of a batch job, as described in *Automatically Exporting and Importing Content Batches for Translation* on page 322.

Exporting Management Console User Interface Resources for Translation

You export Management Console resource files for translation by an external service using the Resource Translation option of the Administration page.

To export Management Console resource files for translation:

- Select **Tools** from the navigation area, then select **Export** under Repository Data:



- Select **Resources for Translation** from the Export Options and select **Next**:

The Management Console displays the Information Manager Resources Export page:

- Specify the following export parameters:

Select Locale to Export	Select the locale that is the source for the translation.
Target Locale for Localization	Select the locale that you want to translate to. Information Manager uses this information to set appropriate parameters and directory structure for the translated resources when imported.

- Select **Create Export File**

  The Management Console creates the export data file. The file is named in the format:

  <repository_reference_key>ExportData.zip

- Select whether to open or save the file

  The Management Console displays a file browser.

- Select the desired location for the export file, or open the file from its temporary location

  The Management Console displays the Export Summary page, which displays information about the exported repository objects.

Importing Management Console User Interface Resources from Translation

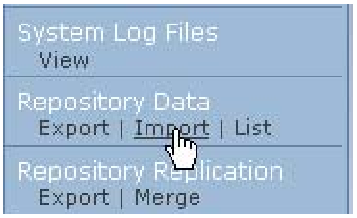
You import previously exported Management Console resource files after translation by an external service using the Repository Data Import function.

To import Management Console translated resource files:

- Select **Tools** from the navigation area

The Management Console displays the Import Data Administration page.

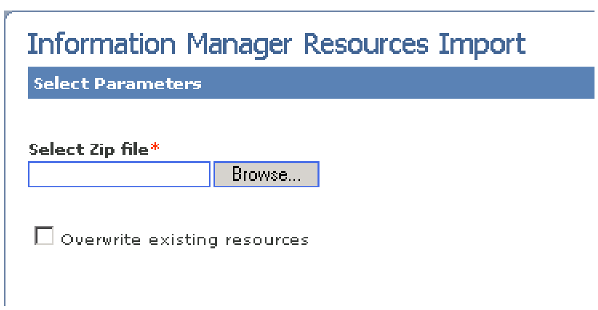
- Select **Import** from the Repository Data menu



The Management Console displays the Import Data page:

- Select the **Resources for Translation** option
- Select **Next**

The Management Console displays the Information Manager Resources Import page:



- Select an archive that contains the translated versions of the previously exported resources
- Select whether to overwrite any previously translated files
- Select **Next**

The Management Console displays the Import Summary page, which displays information about the imported repository objects.

Exporting Repository Channel Data for Translation

You export Management Console content files for translation by an external service using the Content Translation option of the Administration page.

To export Information Manager channel content for translation:

- Select **Tools** from the navigation area, then select **Export** under Content Translation on the Administration page:

- Select **Content for Translation** from the Export Options and select **Next**:

The Management Console displays the Information Manager Content Export page:

- Specify the following export parameters:

Select Channel	Select the content channel to translate
Select Locale to Export	Select the locale for translation
Target Locale for Localization	Select the locale that you want to translate to. Information Manager uses this information to set appropriate parameters and directory structure for the translated resources when imported.
Requested Content Only	Specify whether only content records having open translation requests will be exported
All Master Documents	Specify whether all master content records (those which were created in the selected export locale) will be exported
All Records	Specify whether all records (regardless of the locale in which they were created) will be exported

- Select **Create Export File**

  The Management Console creates the export data file. The file is named in the format:

  <repository_reference_key>ExportData.zip

- Select whether to open or save the file

  The Management Console displays a file browser.

- Select the desired location for the export file, or open the file from its temporary location

  The Management Console displays the Export Summary page, which displays information about the exported repository objects.

Importing Repository Channel Data from Translation

You can import translated content records into an application repository from previously exported content.

To import content records from a prepared translation file:

- Select **Tools** from the navigation area

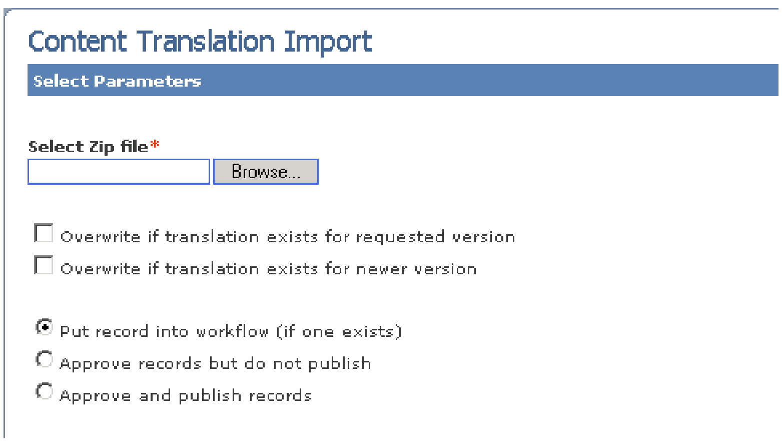
The Management Console displays the Import Data Administration page.

- Select **Import** from the Repository Data menu

The Management Console displays the Import Data page:

- Select the **Content for Translation** option
- Select **Next**

The Management Console displays the Content Translation Import page:



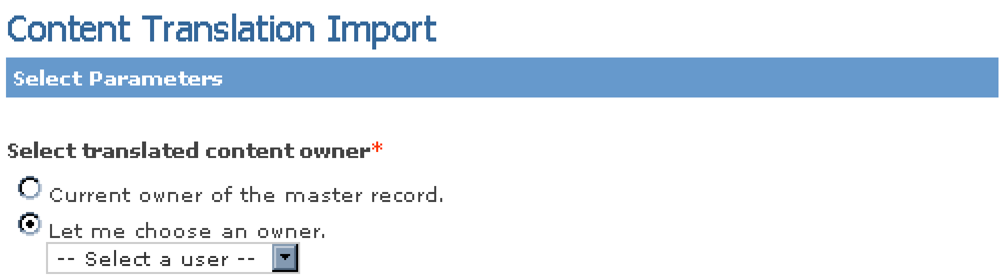
- Specify the following import parameters:

Select Zip file	Use the file browser to locate and select the translated content archive to import.
Overwrite if translation exists for requested version	Specify whether existing translations of content records should be preserved or overwritten by the version in the imported archive.
Overwrite if translation exists for newer version	Specify whether existing translations of content records that have been updated since the translation export occurred should be preserved or overwritten by the version in the imported archive.
Put record into workflow (if one exists)	Specify whether translation versions will enter the an existing workflow as if they had been manually translated.
Approve records but do not publish	Specify whether translation versions will bypass any configured workflow steps, but will not be immediately published.

Approve and publish records	Specify whether translation versions will bypass any configured workflow steps and be immediately published.

- Select **Next**

The Management Console displays the Content Translation Import page:



- Specify the owner of the translated content
- Select **Next**

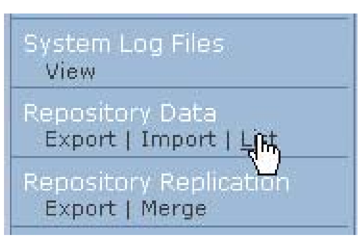
The Management Console imports the specified file and displays the Import Process Complete page.

Automatically Exporting and Importing Content Batches for Translation

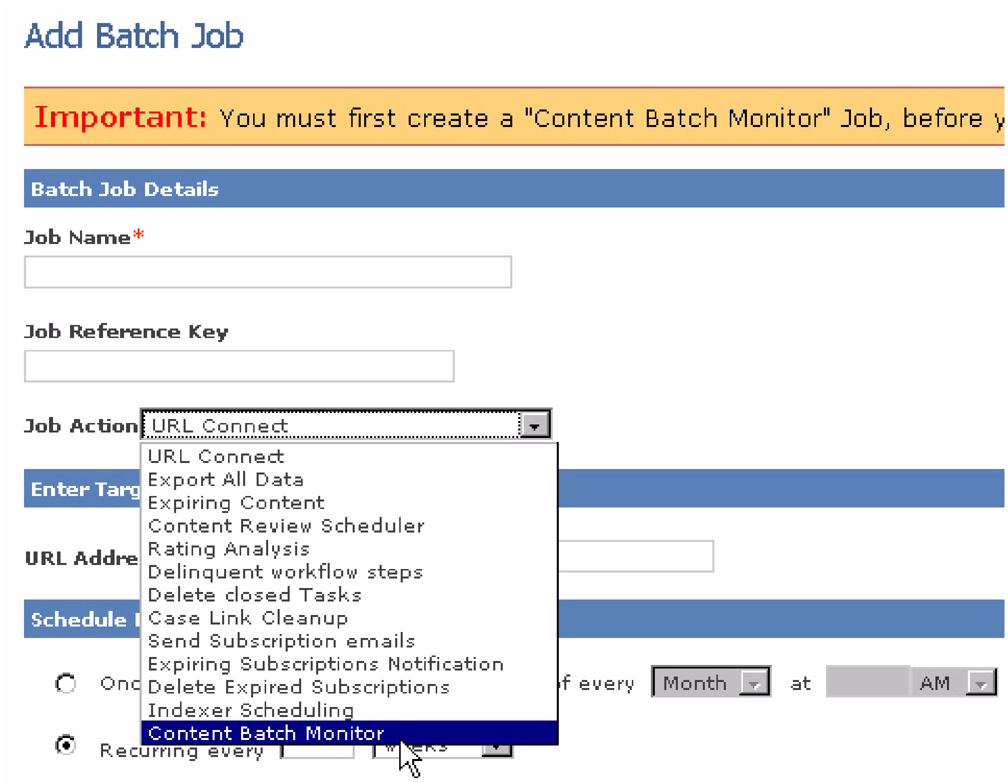
You can create a Content Batch Monitor job that automatically exports to-be-translated IM content records to a directory and imports translated documents from a directory into IM. You can schedule the export/import process to occur at any frequency.

To set up a Content Batch Monitor job:

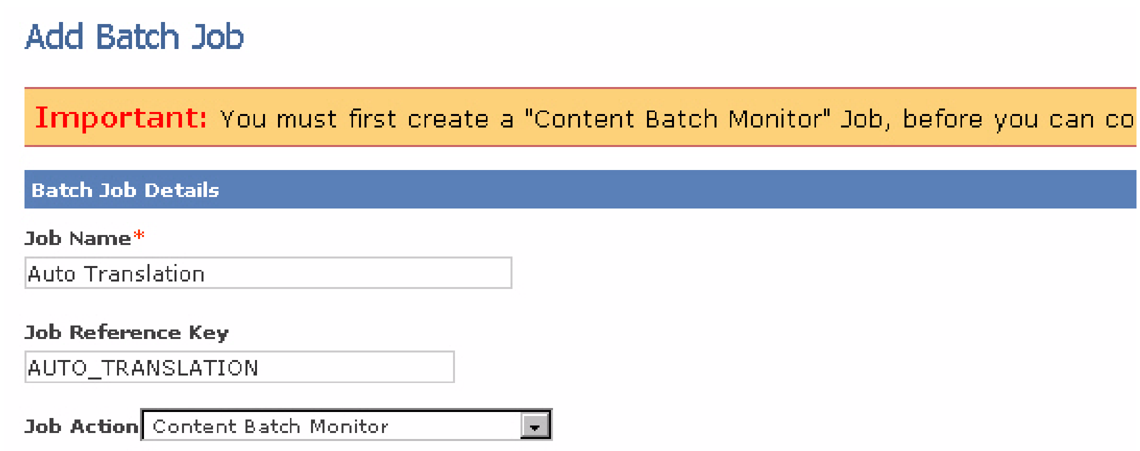
- Navigate to the Tools tab and select **List** under Repository Data:



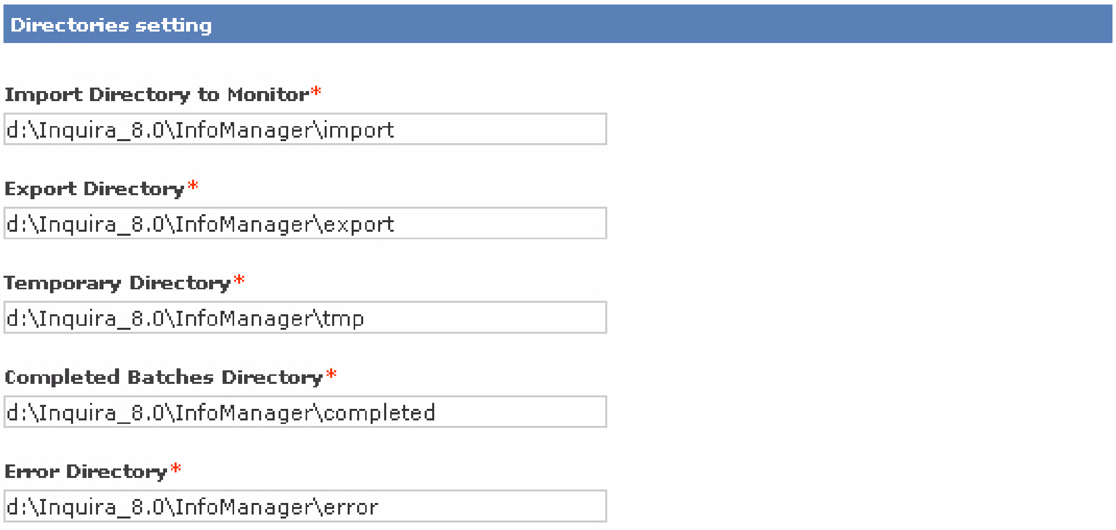
- Select **Content Batch Monitor** from the Job Action list:



- In the Add Batch Job page, specify a name for the batch job:



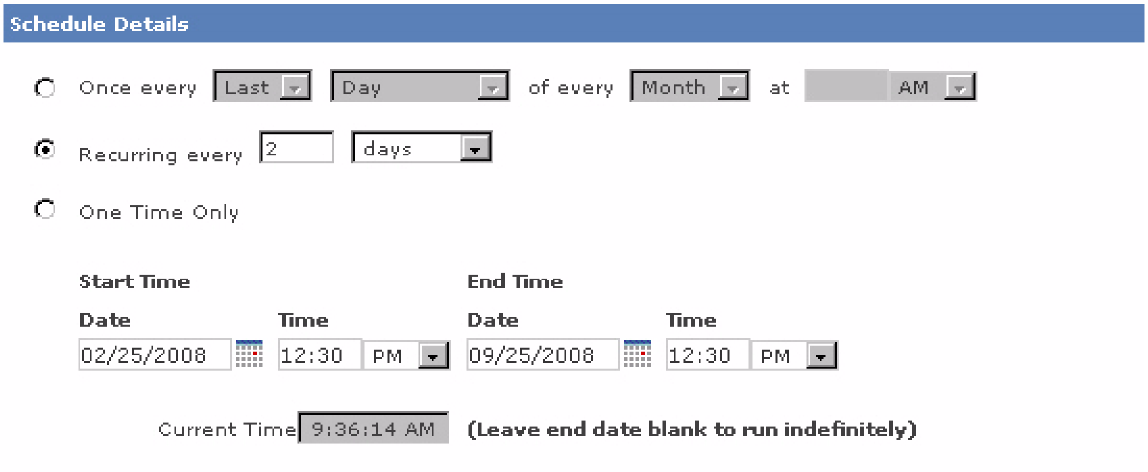
Set up five directories to hold the translation content and related data on the local files ystem or on a mapped directory on a remote file system. Specify the directories in the Directories Setting portion of the batch job page:



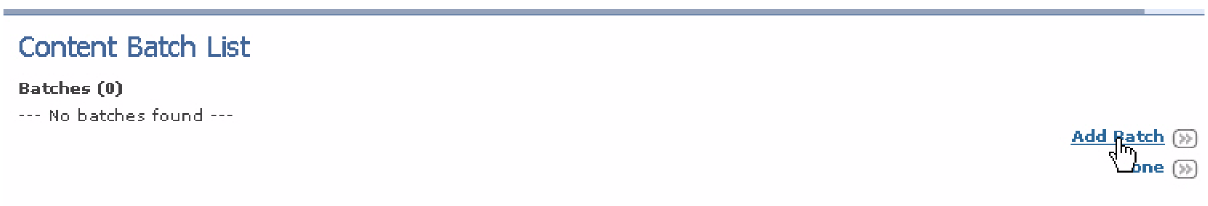
NOTE: All directories must be expressed as absolute pathnames.

Import Directory to Monitor	Directory to hold the translated files. These files will be imported the next time the Content Batch Monitor job runs.
Export Directory	Directory to hold the to-be-translated files exported from IM.
Temporary Directory	Directory to hold temporary files created by the Content Batch Monitor.
Completed Batches Directory	Directory to hold the translated files that have already been imported. When the Content Batch Monitor job runs, those files that are sucessfully imported into IM are moved from the Import directory to this directory.
Error Directory	Directory to hold errors generated by the Content Batch Monitor.

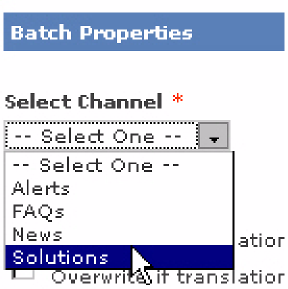
- Specify the frequency of the Content Batch Monitor job:



- After completeing all of the needed fields, select **Save Batch Job**.
- Select **Add Batch** from the Content Batch List page.



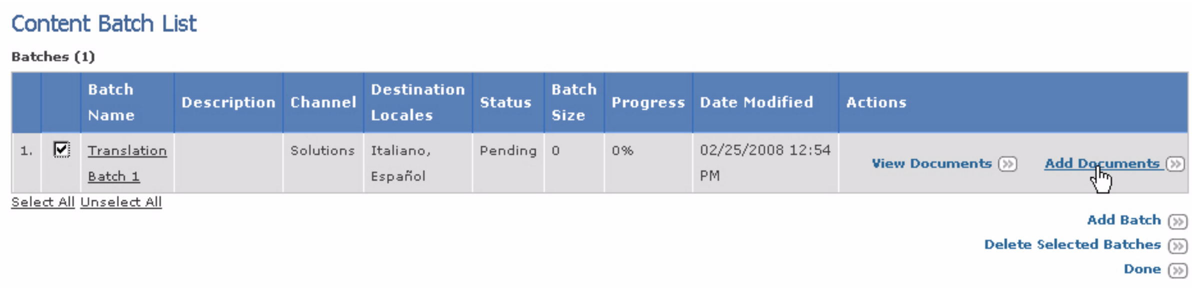
- In the Add Batch page, name the batch and select the channel containing the documents to be translated:



- Specify which language(s) the content is to be translated to; which user is to own the translation task for the content, and how IM is to manage the translated content.imported from the import directory:

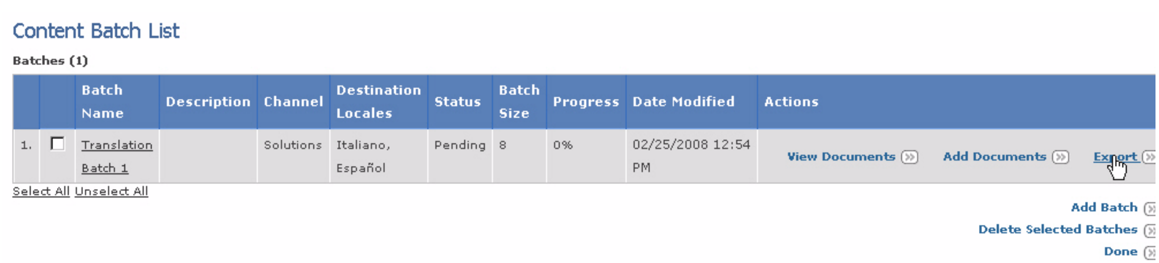
Overwrite if translation exists for requested version	Specifies whether to overwrite content records that have been manually translated since the content was exported for translation..
Overwrite if translation exists for newer version	Specifies whether to overwrite content records that have been manually translated for documents that have been updated since the.content was exported for translation.
Put record into workflow (if one exists)	Specifies whether to place the imported content records into a workflow.
Approve records but do not publish	Specifies whether to automatically approve the current workflow step for the imported content record.
Approve and publish records	Specifies whether to automatically publish the imported content record.

- Select **Add Documents** for the created content batch in the Content Batch List:



- The console displays the Find page, as described in *Searching for Content* in the *Information Manager Content Authoring Guide*. Select the search criteria to locate the documents to be translated.
- Select the documents to be translated from the returned list.

- Select **Add to Batch.**
- The content batch displays the number of documents to be translated (in this case, we picked four content records to be translated into two languages -- eight in total) and the job status (either pending, exported, or cancelled)
- When you are ready to export the documents for translation, select **Export**:



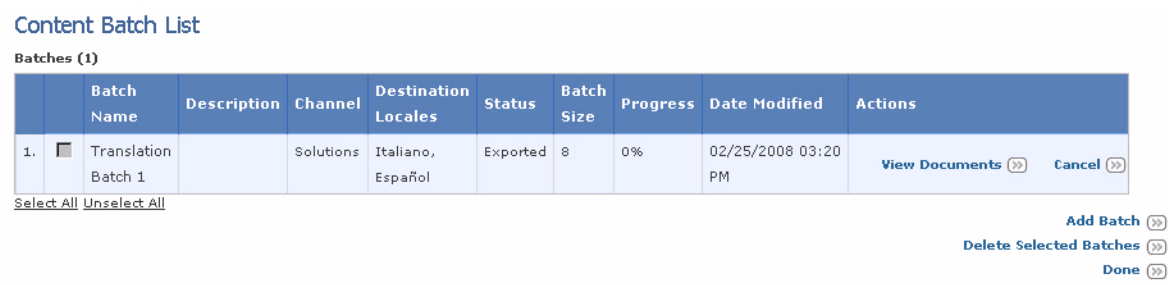
- Select **Done** in the Export Summary page:

Export Summary

Summary of items exported

8 record(s) were exported successfully.

- After the files have been scheduled for export, you can either view the list of to-be-exported documents or cancel the export.



Content Batch List

Batches (1)

		Batch Name	Description	Channel	Destination Locales	Status	Batch Size	Progress	Date Modified	Actions
1.	☐	Translation Batch 1		Solutions	Italiano, Español	Exported	8	0%	02/25/2008 03:20 PM	View Documents Cancel

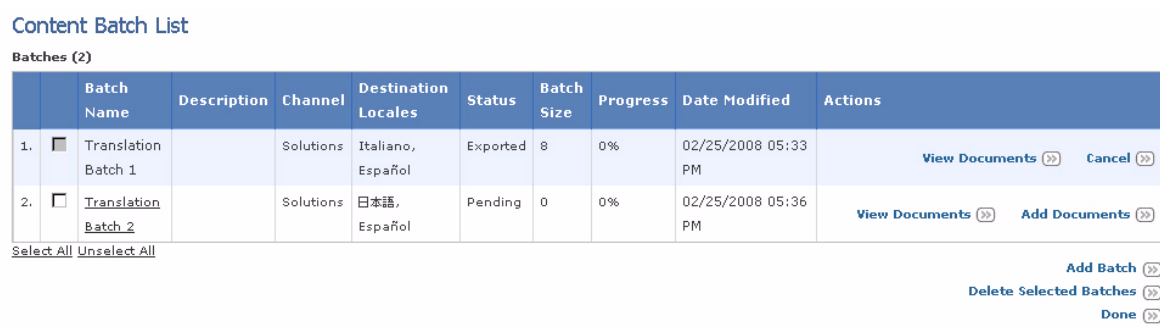
Select All Unselect All

Add Batch

Delete Selected Batches

Done

- You can create additional translation batches by selecting **Add Batch** in the Content Batch List and repeating the steps described in this section:



Content Batch List

Batches (2)

		Batch Name	Description	Channel	Destination Locales	Status	Batch Size	Progress	Date Modified	Actions
1.	☐	Translation Batch 1		Solutions	Italiano, Español	Exported	8	0%	02/25/2008 05:33 PM	View Documents Cancel
2.	☐	Translation Batch 2		Solutions	日本語, Español	Pending	0	0%	02/25/2008 05:36 PM	View Documents Add Documents

Select All Unselect All

Add Batch

Delete Selected Batches

Done

When the scheduled Content Batch Monitor job executes, the exported content records are written as a zip file to the export directory and the files in the import directory are imported into IM.

Importing Data to an Application Repository

Use the Repository Data Import function to import translated resource or content files, or import repository data that has been created outside Information Manager. To import external data it must be formatted so that it is compatible with Information Manager. Refer to the section on *The Import File Format* on page 329 for information on how to prepare an input file.

IMPORTANT: You cannot import data into attributes within a node.

You import repository data by:

- Preparing an input file in the proper format, as described in *The Import File Format* on page 329
- Using the Management Console data import process to import:
  - Content records, as described in *Importing Content Data* on page 332
  - Form data, as described in *Importing Forms Data* on page 335
  - User profile information, as described in *Importing User Data* on page 338

The Import File Format

The file that you import into Information Manager must conform to the format described in this section.

The import file format consists of the following sections:

- The header record
- The data records

The header record lists all of the data attributes that are present in the data records section. The data records contain all of the data associated with the attributes listed in the header record.

There are two types of header record attributes:

- Schema attributes
- System attributes

Schema attributes indicate the location in the content channel schema that the data should be imported into. System attributes indicate which system field data should be imported into, such as a content record's "publish date". System attributes are pre-defined; see *Content Data Import System Attributes* on page 330 for a description of the available system attributes. You specify system attributes in the form:

```
$<attribute_name>$=<attribute_value>
```

where:

$<attribute_name>$	Is the name of the pre-defined system attribute for which you have included corresponding data in the data record section of the import file
<attribute_value>	Is the value of the attribute

You can specify any character as a delimiter to separate attributes. The Management Console import pages provide a drop-down menu of the most popular delimiters, as well as the option to specify an alternative character as the delimiter.

The end of a record is indicated by a carriage return. If a record ends before reaching the total number of attributes as indicated by the header record, the Information Manager import facility assumes that the remaining attributes are empty.

Content Data Import System Attributes

The following system attributes are pre-defined for importing content data.

System Attribute	Description
$ALIASID$	The ID of the content record to which users accessing this content record are redirected. (See *Redirecting Content Records* in the *Information Manager Content Authoring Guide* for more information.)
$DATEADDED$	The date that the content record was added. If not specified this value will default to the date and time of the import process.
$DATEMODIFIED$	The date that the record was last modified.
$DISPLAYSTARTDATE$	The first day that the record is eligible for display in the web application. This value must conform to the date and time format selected for the import process.
$DISPLAYENDDATE$	The last day that the record is eligible for display in the web application.

$DOCUMENTID$	Specifies the Document ID. If no Document ID is specified, Information Manager will automatically define one based on the channel properties.

$CATEGORY$	The content category that the record should be assigned to. The value must match the reference key for of the corresponding Information Manager category exactly.
	
	Information Manager uses an internal process to automatically format the category fields in the data. This procedure will automatically convert:
	
	• Any non-alphanumeric characters, including spaces, to underscore characters "_"
	• All alphabetical characters to upper case
	
	You can use multiple category system attributes to associate content with more then one category.
	
	Information Manager ignores blank category system attribute fields; records within the import file are not required to have the same number of categories.
	
	For example, the following header and records, consisting of four category system attributes would be valid:
	
	`$CATEGORY$|$CATEGORY$|$CATEGORY$|$CATEGORY$|...`
	`DOG||||...`
	`CAT|DOG|||...`
	`|BIRD||CAT|...`
	`|||PIG|...`

$CREATEDBY$	The name of the original content author. This value can be any text and does not need to match a defined Information Manager user.
$EVENTSTARTDATE$	The event start date.
$EVENTENDDATE$	The event end date.
$EVENTSTARTTIME$	The event start time.
$EVENTENDTIME$	The event end time.
$EVENTSTARTDATETIME$	The event start date and time.
$EVENTENDDATETIME$	The event end date and time.

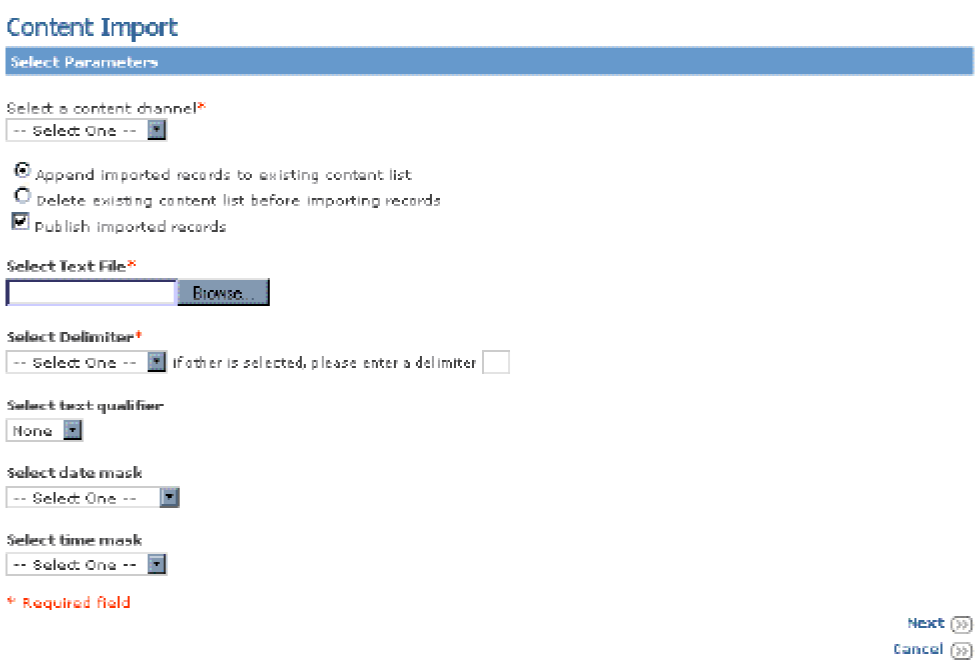
"//META/<attribute ref key>"	This schema manages data that does not affect the workflow or version incrementing processes.
$OWNER$	Specifies the Information Manager User ID of the Document Owner. If this field is blank, Information Manager will use the default value, which is specified during the import process.

Importing Content Data

You can import content records into an application repository. To import content records from a prepared import file:

- Select **Tools** from the navigation area
- Select **Import** under Repository Data on the Administration page

The Management Console displays the Content Import page:

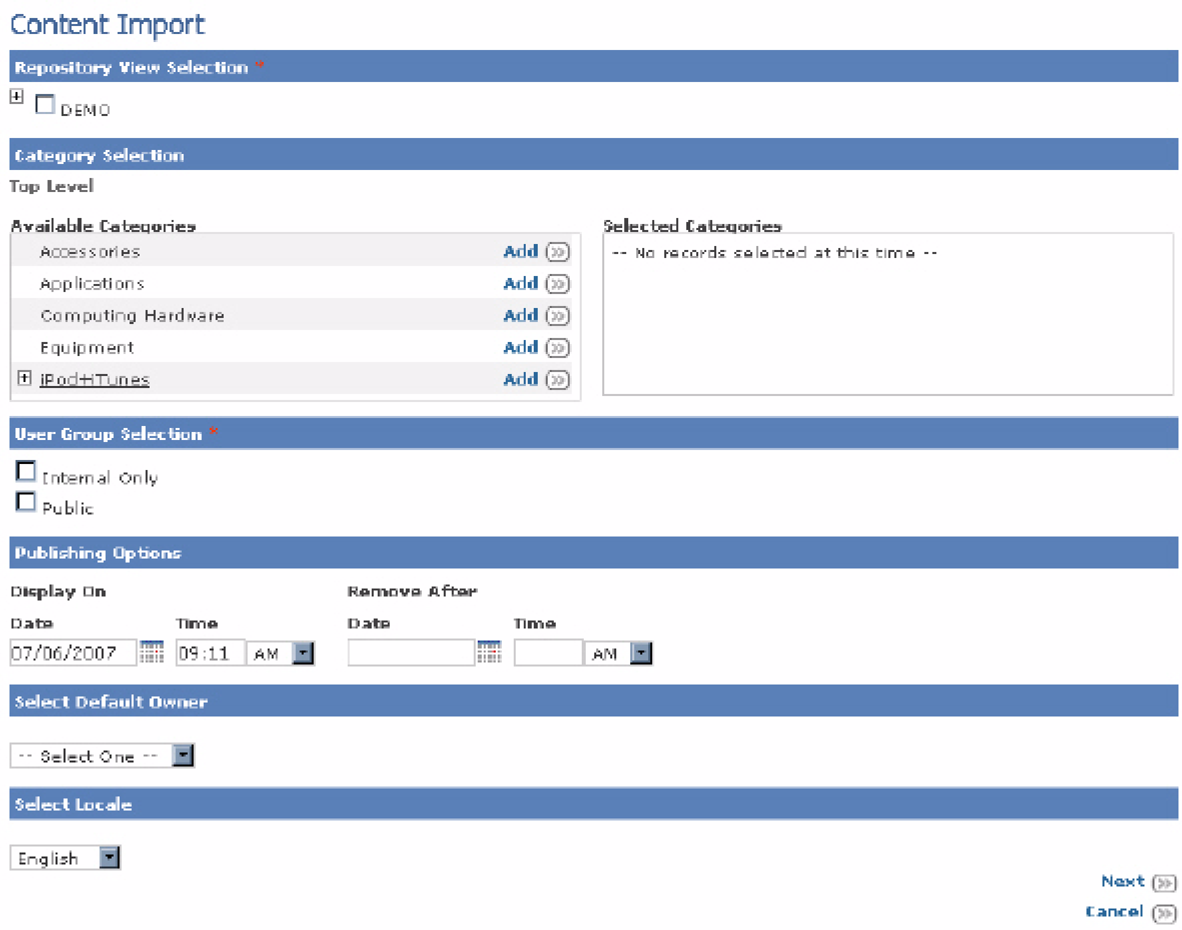


- Specify the following import parameters:

Parameter	Description
Select a content channel	Select the content channel into which to import the content.
Append imported records to existing content list	Select this option to add content records to an application repository.
Delete existing content list before importing records	Select this option to replace the existing content records with the imported content records.
Publish imported records	Specify that all imported records will automatically be published (available to the end-user web application).
Select Text File	Select the prepared import file.
Select Delimiter	Select the delimiter used in the import file. Popular options include: • Tab • Space • Semicolon • Comma • Pipe You can also use the **Other** option to specify an alternate delimiter.
Select text qualifier	Select the qualifier, if applicable, used in the import file to enclose text that should be interpreted literally by the import process. • None • ' • "
Select date mask	Select the date format used in the import file.
Select time mask	Select the time format used in the import file.

- Select **Next**

The Management Console displays the Content Import page:



- Specify the following import parameters:

Parameter	Description
User Group Selection	Specify the user groups that can view the imported content.
Display On Date/Time	Specify a publish date and time for the imported records The default is the current date and time.
Remove After Data/ Time	Specify a date and time to remove the imported records from display in the end user web application, if applicable.
Select Default Owner	Specify a content owner for content status notification purposes.
Select Locale	Specify the Locale for the content.

- Select **Next**

The Management Console imports the specified file and displays the Import Process Complete page.

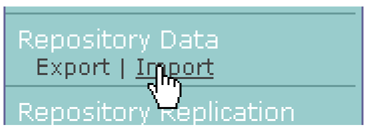
Importing Forms Data

You can import subscriber or contact data into existing forms definitions using the Data Forms import option.

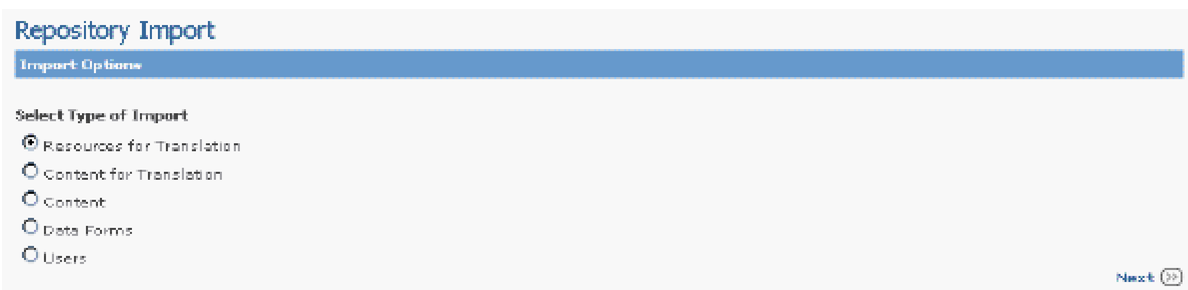
To import form response data, specify the form schema attribute reference key. To import data associated with a multi-select list, specify additional columns with the same schema attribute header. The imported data must match the code value (static or dynamic) of the selected form.

To import forms data:

- Select **Tools** from the navigation area
- Select **Import** under Repository Data Forms

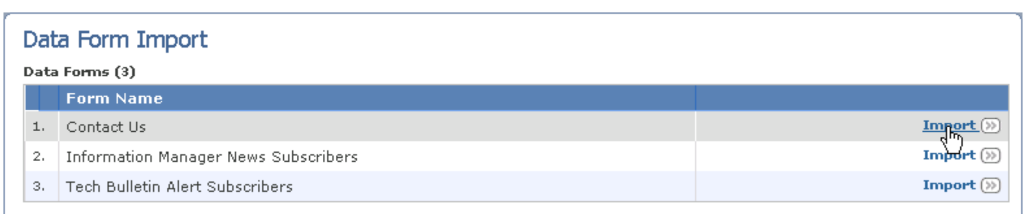


The Management Console displays the Repository Data Import page.



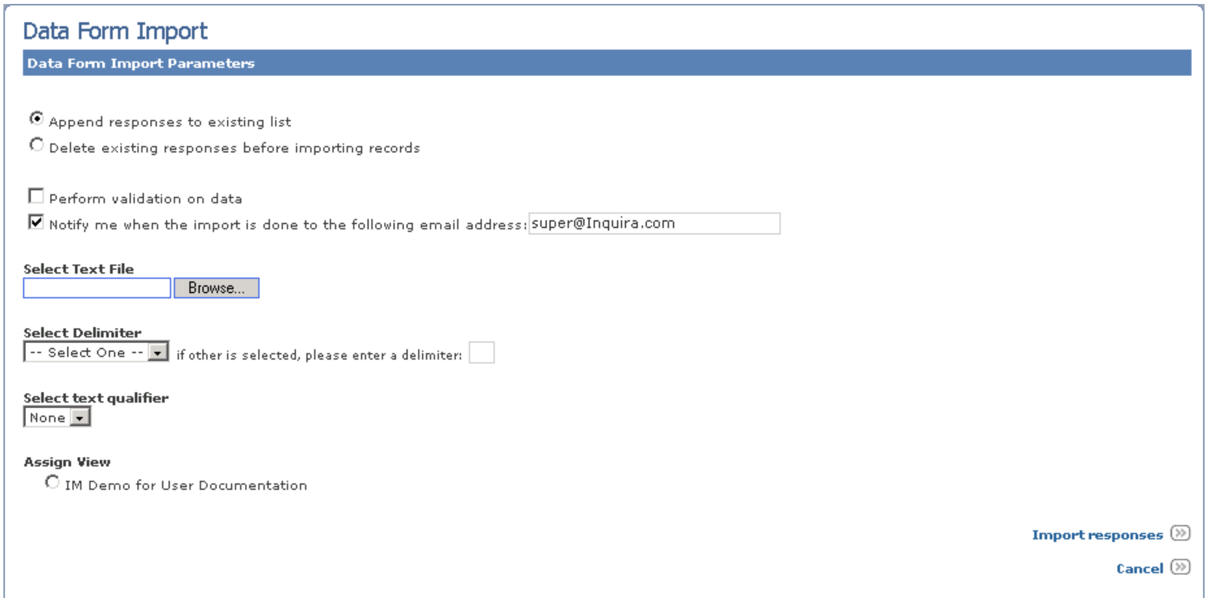
- Select the **Data Forms** option
- Select **Next**

The Management Console displays the Data Form Import page.



- Select **Import** for the form to import

The Management Console displays the Data Form Import page:



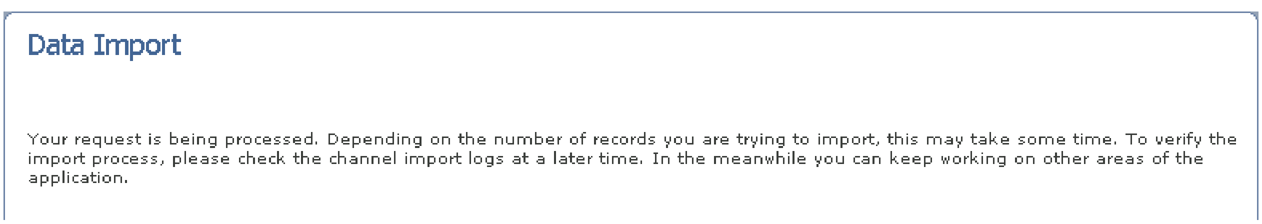
- Specify the following data form import parameters:

Parameter	Description
Append responses to existing list	Select this option to add subscriber or contact records to an application repository.
Delete existing responses before importing records	Select this option to replace the existing subscriber records with the imported content records.
Perform validation on data	Specify to validate the imported information against existing subscription information.
Notification email after completion	Specify to send email to this address when the import process completes.
Select Text File	Select the target import file.

Select Delimiter	Select the delimiter used in the import file. Popular options include: • Tab • Space • Semicolon • Comma • Pipe You can also use the **Other** option to specify an alternate delimiter.
Select text qualifier	Select the qualifier, if applicable, used in the import file to enclose text that should be interpreted literally by the import process. • None • ' • "
Assign View	Specify to assign the imported records to a specific repository view if applicable.

- Select **Import responses**

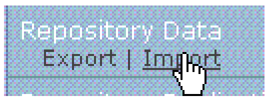
The Management Console displays the Data Import Progress page:



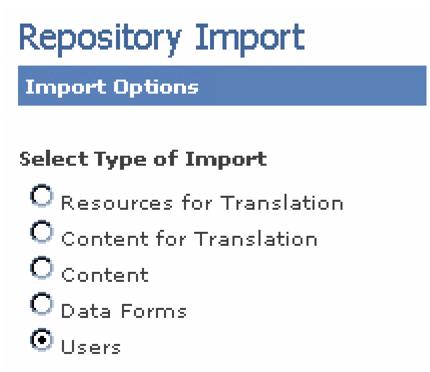
Importing User Data

You can import user records into an application repository. To import user records from a prepared import file:

- Select **Tools** from the navigation area
- Select **Import** under Repository Data on the Administration page

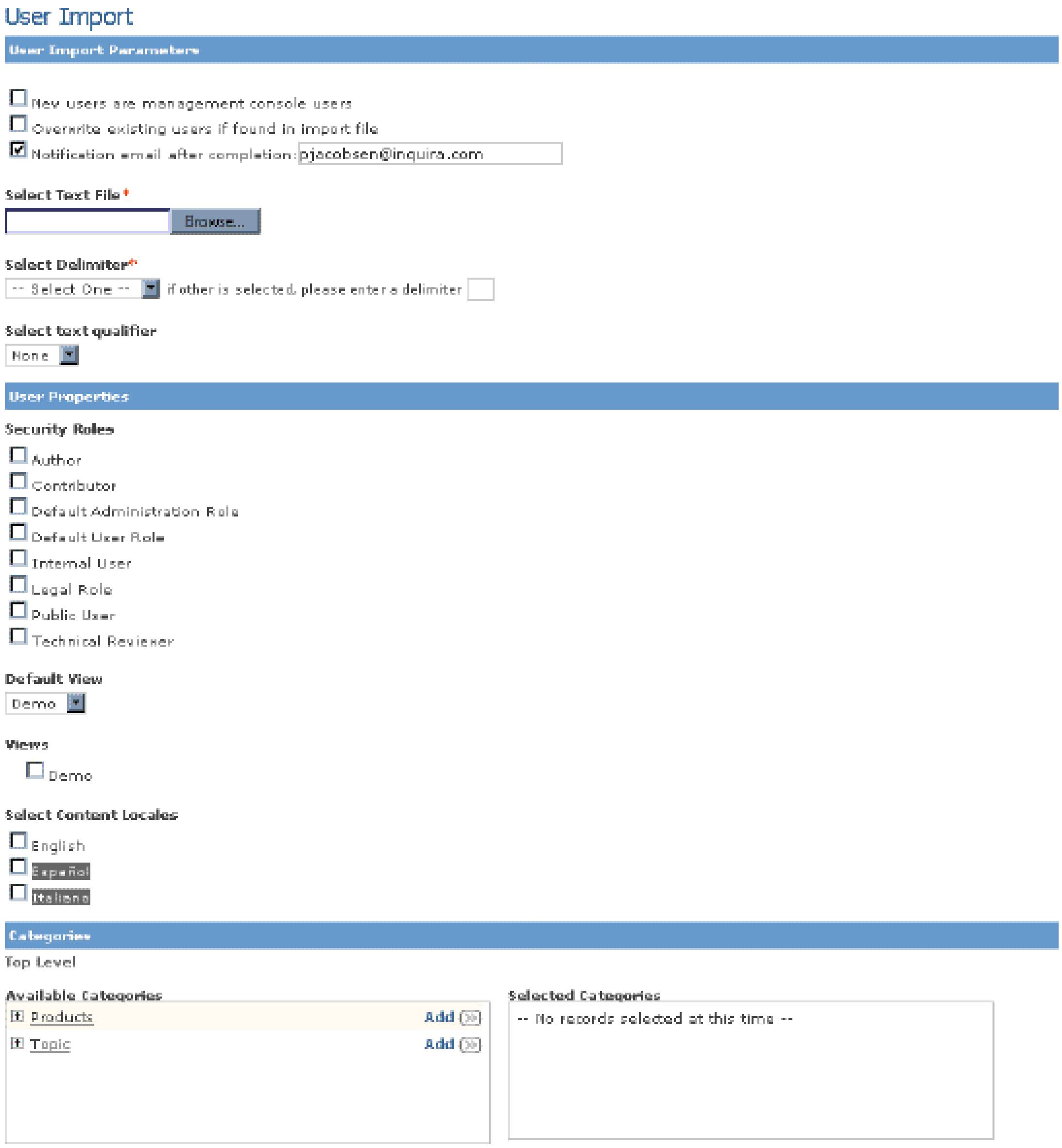


The Management Console displays the Repository Data Import page.



- Select the **Users** option
- Select **Next**

The Management Console displays the User Import page:



- Specify the following import parameters:

New users are management console users	Specify whether the imported users are Management Console users. NOTE: All users are Web users.

Overwrite existing users if found in import file	Specify whether to overwrite existing Information Manager users with imported user data.
Notification email after completion	Specify to send email to this address when the import process completes.
Select Text File	Select the target import file.
Select Delimiter	Slect the delimiter used in the import file. Popular options include: • Tab • Space • Semicolon • Comma • Pipe You can also use the **Other** option to specify an alternate delimiter.
Select text qualifier	Select the qualifier, if applicable, used in the import file to enclose text that should be interpreted literally by the import process. • None • ' • "
Security Roles	Select the security roles to assign to the imported users.
Default View	Specify a default view for the imported users.
View	Select the views available to the imported users.
Select Content Locales	Select the locales available to the imported users.
Categories	Select the categories available to the imported users. Use the **Add** button to move categories to include over to the Selected Categories column.

- Select **Import Users**

The Management Console displays the Data Import Progress page.

Backing Up and Restoring Information Manager Data

Use the Repository Replication functions to back up and restore data from an entire repository while maintaining its data relationships from the same or another instance of Information Manager.

NOTE: Use the Repository Data functions to export and import parts of a repository, such as a content channel or resource files for translation. Using the Repository Data functions does not preserve data relationships and should not be used for backups.

To export data, use the Repository Replication Export function, as described in *Exporting Data for Backup* on page 341. To preprocess and merge data, use the Repository Replication Merge function, as described in *Restoring Repository Data* on page 342.

Exporting Data for Backup

Use the Repository Replication Export function to back up an entire repository while maintaining its data relationships.

NOTE: The Repository Replication Export function produces pseudo XML (which may include illegal XML) that is turned into SQL statements when it is imported into a new repository, and should not be used for translation or other purposes. Use the Repository Data Export function to export repository content for a channel for translation, or to export only the content resources for translation.

To back up a repository:

- Select **Tools** from the navigation area
- Select **Export** under Repository Replication on the Administration page:

The Management Console displays the Repository Backup page:

- Select the destination for the data archive. You can choose to leave the backup archive on the Information Manager server, or save it to your local hard drive. If you choose to choose to leave the backup archive on the Information Manager server the file is will be saved to:

  $IM_HOME/backups/REPOSITORY/

  where `REPOSITORY` is the reference key assigned to that repository.
- Check **Enable Email Notification After Completion** and supply an email address if you want to be notified when the backup is complete
- Select **Create Backup** start the backup

The Export Summary page displays a summary of the items that were exported.

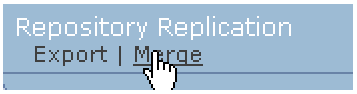
Restoring Repository Data

Use the Repository Replication Merge function to merge a repository that has been previously exported using the Repository Replication Export function. Prior to merging, the repository must first be pre-processed using the **Select Repository Data File on Server** option. The pre-processing compares the repository with the current repository and creates a set of Deltas (content in the pre-processed repository not found in the current repository). Once the repository has been pre-processed, it appears in the **Select a Pre-Processed Repository Merge** dropdown list from where it can be merged.

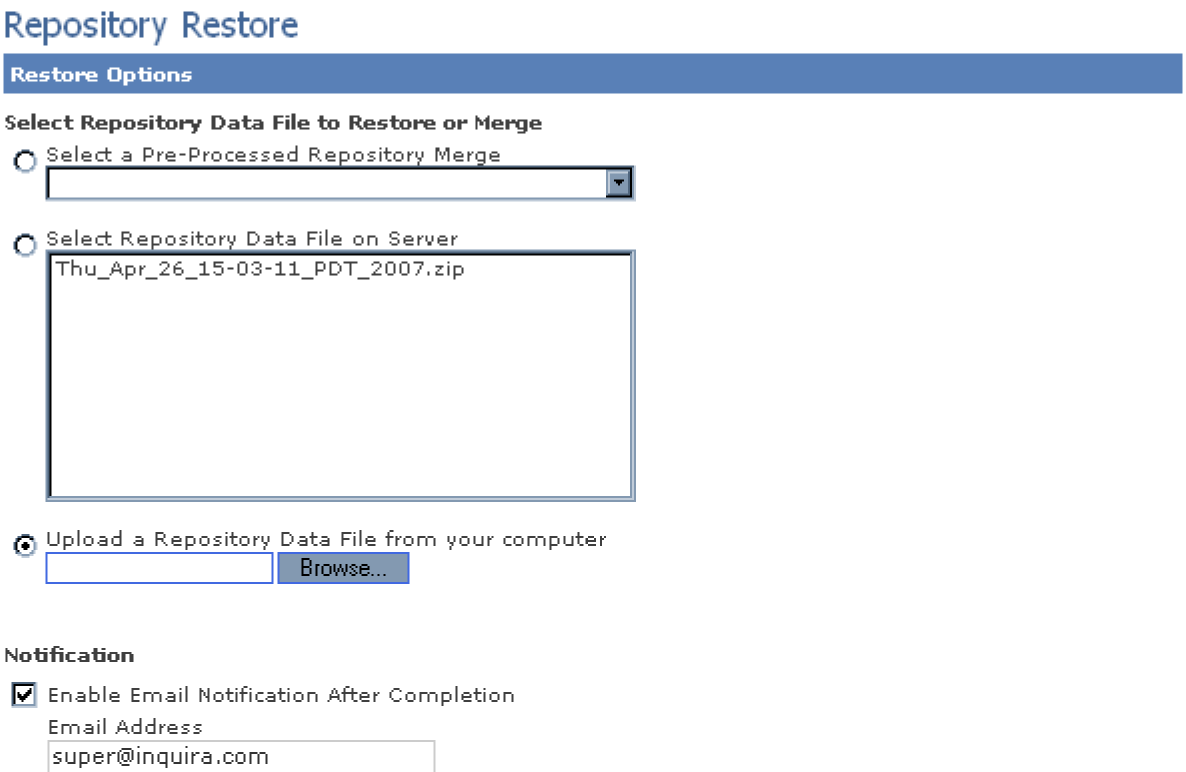
IMPORTANT: Use the Repository Replication Merge function only with repositories backed up using the Repository Replication Export function. To import other kinds of content use the Repository Data Import function.

To import an exported repository:

- Select **Tools** from the navigation area
- Select **Merge** under Repository Replication on the Administration page



The Management Console displays the Repository Restore page:



To pre-process a repository:

- Select the repository to pre-process using one of the two options:

Option	Description
Select Repository Data File on Server	Select a repository archive from the Information Manager server to pre-process. The repository must have been exported and stored on the Information manager server in order for it to appear in this list.
Upload a Repository Data File from your computer	Select a previously exported repository archive from your computer to pre-process. Use the **Browse** button to locate and specify the repository file.

- Check **Enable Email Notification After Completion** and supply an email address if you want to be notified when the pre-processing is complete
- Select **Next** to start the pre-processing

NOTE: The pre-processing may take a long time to complete depending on the size of the repository. When the pre-processing is complete the repository will appear in the **Select a Pre-Processed Repository Merge** dropdown list.

To merge a pre-processed repository:

- Pre-process the repository to merge as shown above
- Select **Select a Pre-Processed Repository Merge** and chose the repository to merge from the dropdown list
- Select **Next**

The Repository Options page is displayed, showing the New, Modified, and Deleted data that is available to merge.

- Select the data to merge
- Select **Done** to complete the merge

Chapter 11 Managing Information Manager Applications in Multiple Languages

Information Manager supports the creation, management and publishing of content in multiple languages, or locales, within a single repository, enabling you to:

- Support web applications in multiple languages from a single repository
- Create and manage content specific to any supported locale
- Manage content translation workflows and publishing processes for all supported locales
- Define and manage user security to support desired content access and translation workflows
- Specify a default repository locale, which determines the master content locale

You specify the master locale and additional supported locales for a repository as described in *Specifying Repository Properties* on page 60.

Defining Multi-Language Repositories

You can specify that an application repository will support content in more than one language by defining:

- A default locale (language)
- One or more additional supported locales

for the repository.

The default locale is the base language for the repository. The default locale specifies the base language that will be assumed for content records and notifications.

Supported locales are additional languages in which content can be created and published. You can translate and store content translations for each supported locale. Information Manager maintains the translated versions of a content record as separate instances of the same content record.

You define the default and supported locales as described in *Specifying Repository Properties* on page 60.

The default list of supported locales is defined in the System repository. You can modify the list of supported locales using the Locale Management facility as described in *Managing Supported Locales* on page 309.

You control whether Management Console and web application users can view, create, and translate content in each supported locale by defining:

- Default and supported locales for each user as described in *Defining Management Console Users* on page 162 and *Defining Web Users* on page 169.
- Repository and content channel privileges as described in *Managing Security Roles* on page 145.

You define the content creation, translation, and publication processes associated with content for each locale by defining translation workflows as described in *Chapter 7, Workflow Processes* .

Information Manager provides detailed document information related to translated content as described in Translated Document Version Information.

Managing Document Translation

Authorized users can translate documents into multiple locales using:

- Manual translation within the Management Console, as described in *Manually Translating a Document* on page 348.
- An external translation service on a single document-basis, as described in *Using an External Translation Service* on page 351.
- A batch job to submit content to a configured external translation service, as described in *Importing and Exporting Repository Data for Translation* on page 316.

NOTE: Users can view documents in any locale; however, they can modify documents only in the locales defined in their user profile.

You can control the document translation process by defining translation workflow processes to create tasks and notifications, as described in *Chapter 7, Workflow Processes*.

Authorized users can request translations of master documents, as described in *Requesting Translation for a Selected Document* on page 347 and monitor their progress thru the workflow.

Requesting Translation for a Selected Document

Authorized users can submit a document into a translation workflow using the Request Translation tab on the translation information area of the Content Preview page.

To request a document translation:

- Locate and select the desired document

The Management Console Content Preview page displays the translation information area.

- Select the **Request Translate** tab

The Request Translate tab displays the following information:

Request Update to Version n.n	The Management Console displays the current version of the document.
Locale	Select the locale for the request
Comments	Enter an optional comment, which will display in the document history and within the translation task information

- Select the **Request** option

The Management Console creates a translation request, and the Request Translation tab displays a summary of the request.

Manually Translating a Document

Authorized users can manually translate documents on an ad hoc basis or in response to a translation task.

The translation area of the Content Preview page contains tabbed sections that provide access to:

- Translation requests as described in *Requesting Translation for a Selected Document* on page 347.
- Manual translation options

To translate a document for a supported locale:

- Locate and select the document

The Management Console Content Preview page displays the translation information area.

- Select the **Translate** tab

The Translate tab displays information about the current versions of translations for this document as described in Translated Document Version Information:

- Select the **Translate** option for the desired locale

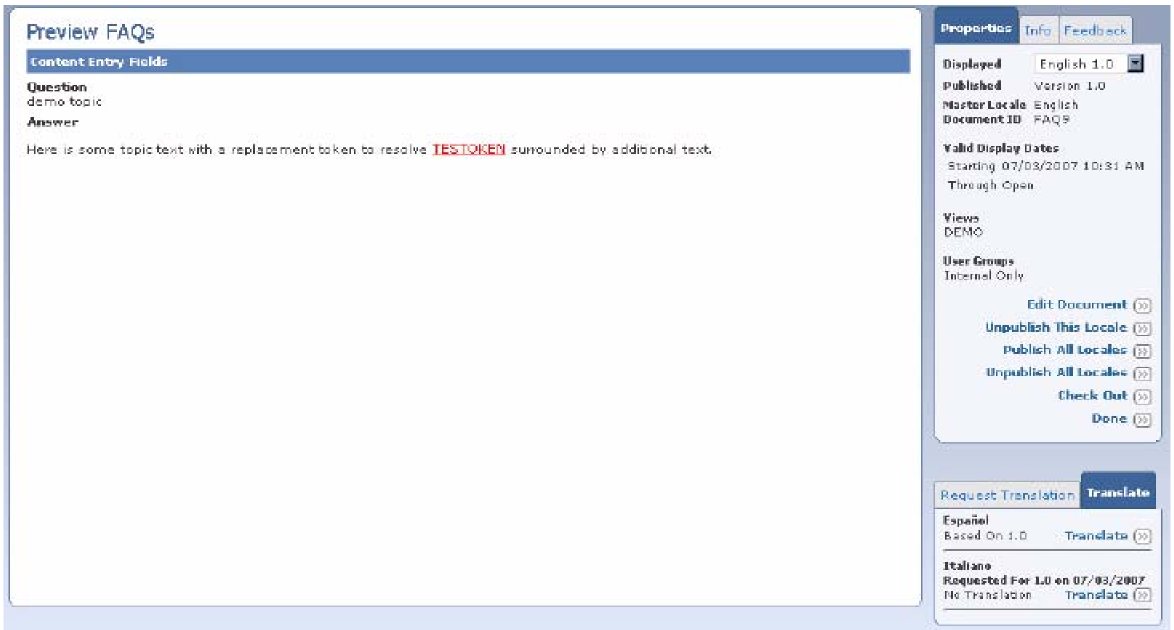
The Management Console displays the Translate page as described in *Content Translation Example* on page 349.

Content Translation Example

This section shows the translation process for a content record created in a channel (Release Note) for which English is the default locale and Spanish is a supported locale.

NOTE: You can define translation steps within workflow processes to generate translation tasks that will display to qualified users. See *Chapter 7, Workflow Processes* for more information.

When a content record is created in this channel, the Management Console displays the Preview page:



The Preview page displays an item in the Translate area for each supported locale.

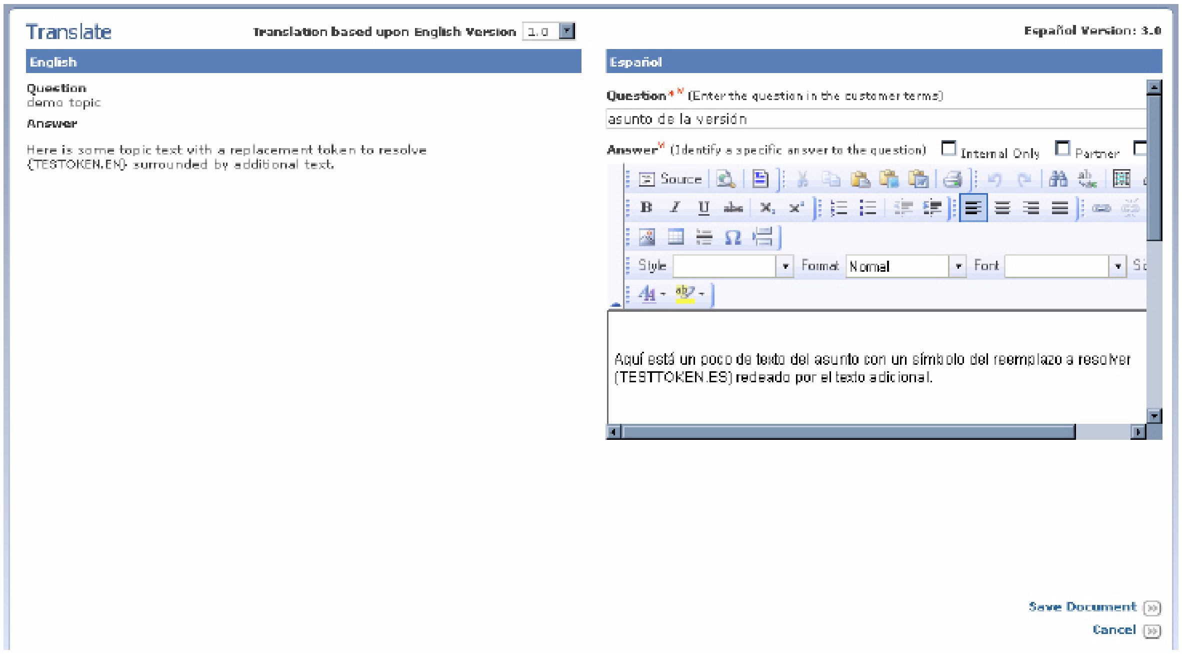
To add localized (translated) content for the record:

- Select **Translate** for the desired locale:

The Management Console displays the current content for the default locale, and corresponding fields for the selected locale.

NOTE: You can use the Master Version drop-down menu to select any published version of the document for translation. You can use the Show Differences drop-down menu to highlight differences between the current version and a previous version.

- Enter the localized content as appropriate, and save the content record:

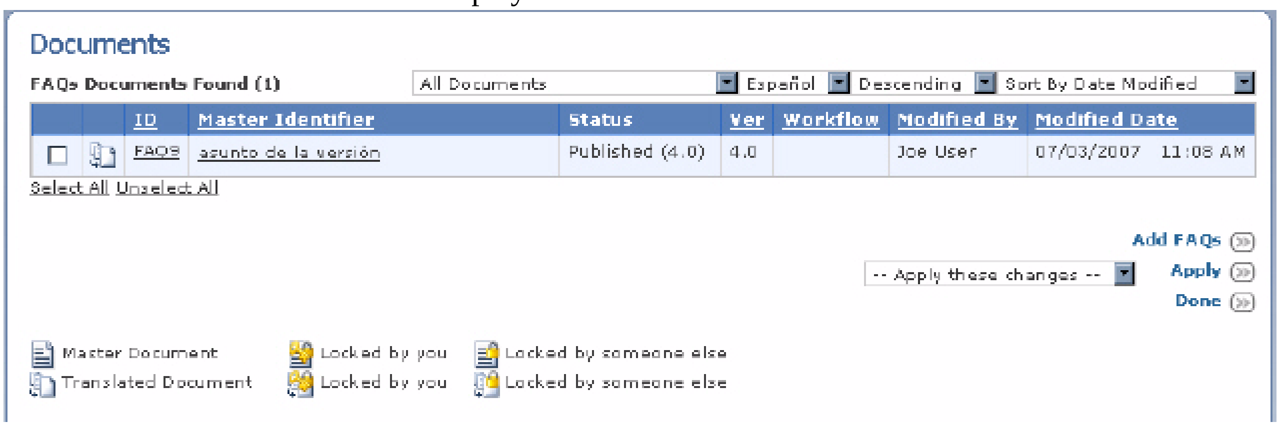


- Select **Save Document** or **Save and Publish Document** as appropriate

The Management Console displays a preview of the translated document:

The Management Console displays updates the Translate area of the preview page to indicate that the translated version has been created:

The translated document will display in lists of content in its locale:



NOTE: The Translated Document icon in the Type field indicates that this document is translated from a master document in another locale. The localized document has the same ID as the Master.

Using an External Translation Service

You can configure Information Manager to use an external translation service to translate content on a single-document basis.

The Management Console will display an Auto-Translate option in the translation area of the Content Preview page, which will invoke the configured method to send and return translation work.

You specify a custom method to call an external translation service using the Delegate Translation option under the Task Configuration list in the Tools area. You can configure custom translation methods in the SYSTEM repository to specify a default for all repositories, or configure a custom method in an application repository to override the default method.

You can export and import repository data for external translation using the process described in *Importing and Exporting Repository Data for Translation* on page 316.

Working with Master and Translation Documents

Information Manager categorizes original and translated documents as follows:

Master or base document		This is the original document, which can be created in any supported locale, by any authorized user. Authorized users can create or request translations based on this document. You can delete only master documents. Deleting a master document automatically deletes all of its translations.
Translated document		This is one of any number of documents in any supported locale that is based on the master or base document. Authorized users can update, request an update, or edit the current version of the document. NOTE: Editing a translated document (which is distinct from translation) does not affect the "based on" reference; a localized document can be edited up to any number of versions without affecting the fact it is based on a specified version of the master document. Version numbers between the various localized versions are independent from each other; however, you can determine which version of the original master document a translated document is based on. You cannot delete translated documents; you can remove them from user access by unpublishing.

Localizing the Management Console

You can localize the Management Console so that it displays navigation, operation, and standard field labels in a selected locale (language).

You localize the Management Console by:

- Specifying the desired locale as the default locale for the repository
- Specifying the desired locale as the default locale for the user

You can also localize labels for attributes, content channels, and other objects that you defined within the repository by:

- Specifying the desired locale as the default locale for the repository
- Exporting and importing resource files for translation as described in *Importing and Exporting Repository Data for Translation* on page 316.

IMPORTANT: The Management Console currently supplies localiized resource files only for Italian (Italiano).

Chapter 12 Configuring Content for Display on a Web Client

You configure the Information Manager to display content on your site by creating and deploying custom Java Server pages (JSPs) using the Information Manager TagLibrary.

You deploy the JSPs by placing them in the directory:

```
<Information Manager_HOME>/server/webapps/
```

where:

`<Information Manager_HOME>` specifies the Information Manager installation directory.

You can use any text editor to create JSPs. This section provides examples of the following JSPs:

- The page template
- The template definition
- The listing page
- The detail page

NOTE: If you use Dreamweaver (Macromedia/Adobe), you can load the Information Manager Tag Library Descriptor located in the `/WEB-INF/tlds/Information Manager.tld` file where your web application is installed.

The Page Template

Page templates define the overall appearance of the page. Page templates can contain style sheets, static images, constant navigation, copyright information, and any other data that is consistent over many pages.

This template defines:

- The basics of an HTML page
- One named region, `contents`

Most templates would require many named regions, such as title, subnavigation, and footer.

The two unique and important lines of code in the following example are the first, which makes the Information Manager Tag Library available to this page:

```
<%@ taglib uri="/IMtaglib" prefix="IM" %>
```

and the seventh, which defines the named region with the `template.get` tag:

```
<IM:template.get name="contents" />
<%@ taglib uri="/IMtaglib" prefix="IM" %>
<html>
   <head>
         <title>Demo</title>
   </head>
   <body>
         <IM:template.get name="contents" />
   </body>
</html>
```

The Template Definition

Template definitions contain the definitions for the page elements that make up the general site layout.

```
<%@ taglib uri="/CAStaglib" prefix="CAS" %>
<% String id = request.getParameter("id"); %>
<IM:sitemap pagename="news"/>
<IM:template.definition template="t_template.jsp">
  <% if (id != null) { %>
      <IM:template.put name="contents" content="detail.jsp"/>
  <% } else { %>
      <IM:template.put name="contents" content="list.jsp"/>
  <% } %>
</IM:template.definition>
```

The `sitemap` tag;

```
<IM:sitemap pagename="news"/>
```

defines the name of the page, which is how it will be accessed via navigation; so that the URL of this page would end `index?page=news`.

The template.definition statement;

```
<IM:template.definition template="t_template.jsp">
```

selects the template, in this case a file in the root directory named `t_template.jsp`.

The following adds the content into the named region (content, as described in *The Page Template* on page 356):

```
<% if (id != null) { %>
  <IM:template.put name="contents" content="detail.jsp"/>
<% } else { %>
  <IM:template.put name="contents" content="list.jsp"/>
<% } %>
```

The template definition specifies that the news content will contain a detail and a list. A value that is made present in the querystring for accessing the detail determines which jsp will be used.

If the value is present;

```
<% if (id != null) { %>
```

then the rendered detail code is displayed in the named region contents;

```
<IM:template.put name="contents" content="detail.jsp"/>
```

If the value is not present, the rendered list code is used:

```
<IM:template.put name="contents" content="list.jsp"/>
```