



Intelligent Search Administration Guide

Configuring and Administering Intelligent Search

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InQira
851 Traeger Ave.
Suite 125
San Bruno, CA 94066

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Preface About This Guide

The *Intelligent Search Administrator's Guide* is intended for systems and application administrators who need to configure an InQira application.

This preface includes information on:

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

In This Guide

The *Intelligent Search Administrator's Guide and Reference* is divided into the following sections:

- | | |
|--|--|
| <i>Chapter 1, InQuira Application Overview</i> | This section provides an overview of the product architecture, components, and the logical and physical environments in which these components operate. |
| <i>Chapter 2, Configuring Content Acquisition</i> | This section describes how to configure InQuira to collect and index content from supported content sources, including unstructured documents and structured data. |
| <i>Chapter 3, Translating Content to the InQuira Format</i> | This section describes preprocessing, which translates the documents collected by the content acquisition process from their native formats to a standard simplified XML format. |
| <i>Chapter 4, Operating InQuira and Scheduling Jobs</i> | This section describes how to operate InQuira by defining and scheduling jobs using the scheduler facility of the Advanced Configuration Facility, and using supported Installation Configuration Environment commands. |
| <i>Chapter 5, Integrating InQuira with a Production User Interface</i> | This section describes how to configure InQuira request processing instances to communicate with the presentation environment, such as an application server, in which the InQuira web-based User Interface is deployed. |
| <i>Chapter 6, Configuring Distributed Applications</i> | This section describes how to configure an InQuira instance to distribute content processing and request processing work among multiple configured instances. |
| <i>Chapter 7, Moving Data Between Instances</i> | This section describes how to transfer application data, such as indexes, dictionaries, and configuration data, between development, staging, and production runtime instances using synchronization and propagation. |
| <i>Chapter 8, Implementing InQuira User Authorization</i> | This section describes how to implement user authorization within your InQuira environment: |

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 <i>InQuira Customer Support</i> on page 4 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.inquiracom.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 `/inquire` directory, for example:

```
<InQuira_install_dir>/inquire/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 6](#)
- [Intelligent Search Analytics Documentation on page 7](#)
- [Information Manager Documentation on page 8](#)
- [Contact Center Documentation on page 9](#)

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 4](#).

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 InQuira Application Overview

This section provides an overview of the product architecture, components, and the logical and physical environments in which these components operate.

InQuira Components

InQuira is installed with the following major components configured for use. Some of these components operate as InQuira services, as described in [InQuira Services on page 13](#).

- **The Natural Interaction Engine:** The Natural Interaction Engine provides the runtime request-response processing functions.
- **The Content Processor:** The Content Processor makes your site content available to the application by crawling, preparing, and indexing documents.
- **The Semantic Index:** The semantic index encodes semantic and location information for each document within the application content.
- **The Dictionary:** The Dictionary, which contains the hierarchy of semantic relationships that define the words and phrases used in your business environment, and the rules that determine how the application uses content to respond to user requests.
- **The Rules Engine:** The Rules Engine operates at runtime to compare user questions with the set of Rules in the Dictionary. Each Rule that is true for a request generates an action to perform, ultimately resulting in the application presenting the best possible response to the user.

Application Configuration and Management Tools

InQuira provides a complete set of application configuration, management, and analysis tools, including:

- The System Manager, which provides content processing, job scheduling, and log viewing facilities
- The Advanced Configuration Facility, which provides access to the application configuration and administration functions, including content processing and user interface configuration, and Analytics administration interfaces
- The InQuira Language Workbench, which contains the Dictionary Manager, user management, application testing and quality monitoring

InQuira Architecture

The InQuira architecture is based on components that run as services. When you install and configure InQuira, these services communicate with one another by requesting and responding to requests for data.

The InQuira installation process installs and configures the various services as default application that you can use to begin working with InQuira.

The default InQuira application is configured as a set of components that perform the basic application functions.

See [InQuira Services on page 13](#) for more information about InQuira services.

InQuira Services

InQuira services are long-running processes that respond to requests from other InQuira services to send and receive data.

InQuira services include:

- *Infrastructure services*, which transport data within and between instances to define the roles and control the behavior of the various InQuira components
- *Application data services*, which store InQuira application data, such as processed application content and Dictionary data

You can configure InQuira services as members of more than one application; however, a service can only operate within one application at a time. See [InQuira Applications on page 17](#) for more information.

You can create distributed InQuira application by establishing communication between services on separate instances, as described in [Chapter 6, Configuring Distributed Applications](#)

Infrastructure Services

The InQuira infrastructure services include:

Service	Description
Configuration Service	Maintains configuration data associated with defined instances.
Scheduler Service	Provides the mechanism to schedule and assign (distribute) scheduled tasks.
Gateway Service	Provides the entry point for requests into the system.
Synchronization Service	Provides the mechanism to update applications with new application data and configuration information within a production environment.

NOTE: This section describes only the important infrastructure services from an implementation perspective; it is not a complete list of the InQuira services.

Application Data Services

The InQuira application data services include:

Service	Description
Content Service	Maintains the acquired application content and additional document metadata, including any InQuira document attributes assigned during the acquisition process.
Dictionary Service	Maintains the Dictionary Rules and additional objects, such as domains, domain groups, and users.
Excerpt Service	Provides the mechanism to construct answers from unstructured content.
Index Service	Stores the indexes, which contains the data that supports answer retrieval from unstructured content.
Log Service	Provides the mechanism for writing logs, in particular for generating data from production instances for the InQuira Analytics application.
Ontology Service	Maintains the concepts and other linguistic data used to analyze language within application content and user requests.

NOTE: This section describes only the important infrastructure services from an implementation perspective; it is not a complete list of the InQuira services.

InQuira Instances

When you install and configure InQuira, the result is a configured application, containing configured InQuira services, suitable for general InQuira development such as defining and performing content processing and working with the Dictionary Manager.

You can install and configure additional instances to perform specialized functions, such as language development, content processing, testing, and production request processing, and share the resulting application and configuration data in a distributed production environment.

You define specialized instances by specifying an instance role. The default instance is defined as a Scheduler instance. See [InQuira Instance Roles on page 15](#) for more information on the various instance roles.

InQuira Instance Roles

You can define and configure InQuira instances to perform the following supported roles within your environment.

Role	Description
Tools	An instance configured to support application development activities, particularly in language development within environments that support remote updates to a central Dictionary repository.
Scheduler	An instance configured to distribute work to configured work client instances.
Work Client	An instance configured as a client to receive scheduled tasks from a central scheduler instance.
Runtime	An instance configured to receive application data from configured staging instances.
Controller	An instance configured to receive data during the synchronization process to minimize runtime instances downtime during the update process.
Query Worker	An instance configured to perform unstructured searches as part of a distributed runtime processing environment.

Instances configured within production environments operate in either content processing or request processing mode, as described in the following table:

Processing Mode	Role
Content Processing	Tools Scheduler Work Client
Request Processing	Runtime Controller Query Worker

Communication Between Instances

InQira instances communicate with one another using defined transport methods.

Services within a single instance communicate using local transports that are configured by default. Remote services communicate using transports that you configure.

In development and staging environments, you configure communication between instances by deploying one or more services to one or more transport methods that are supported in your network environment.

In production environments, you import one or more transport methods that are supported in your network environment.

Transports

You can use the following InQira transports to communicate between Java 1.4 runtime and presentation environments:

- local
- SOAP
- RMI
- EJB
- socket

You configure transports to access a specified set of services. Each transport definition specifies the services that the transport can access. For example, to configure a SOAP transport for front-end integration, specify the InQira gateway as service within the SOAP transport configuration.

InQuira Applications

An InQuira application contains one or more InQuira instances, configured to perform one or more of the basic content processing or request processing functions. The standard installation and configuration process defines a fully functional default standalone application, consisting of a content processing instance and a request processing instance.

You can define distributed InQuira environments that share application configuration and data between specialized instances. You can also configure InQuira services within a single instance to support multiple applications.

When you start an InQuira instance (JVM), the default application is invoked unless otherwise specified. You can invoke a specified application by calling the application when you start the InQuira instance.

InQuira Environments

InQuira architecture supports the following environments in which you can configure and deploy instances defined, as described in [InQuira Instance Roles on page 15](#) to support and control the creation and distribution of application data.

Environment	Description
Development	Development environments can contain multiple Tools, Scheduler (default), Work Client, and Runtime instances used for developing and testing application components and data. The default settings in the Installation Configuration Environment application configuration program configures a Development (also referred to as Standalone) environment.
Staging	Staging environments are intended as separate testing environments. They support all operations. Staging environments can contain multiple Scheduler (default), Work Client, and Runtime instances used for validating application components and data prior to synchronization with production instances. The only way to get information into the staging environment is via propagation.

Production	<p>Production environments are intended to support scheduled operations and hands-off administration; they support only scheduled indexing operations and question-answering operations.</p> <p>You move data into production environments using the propagation process. The production environment can contain:</p> <ul style="list-style-type: none"> • One or more Runtime instances configured to receive application data from configured Scheduler instances and to communicate with the production application server • One or more Controller instances for use by the data synchronization process • One or more Query Worker instances for use in distributed request processing environments
-------------------	---

Environment Roles

Environment roles allow you to create independent development, staging, and production environments. You use the development environment to change and test various aspects of the application, such as configuration, Dictionary objects, and advanced features. You can then use the propagation process to move the updated application configuration and data to the staging or production environment.

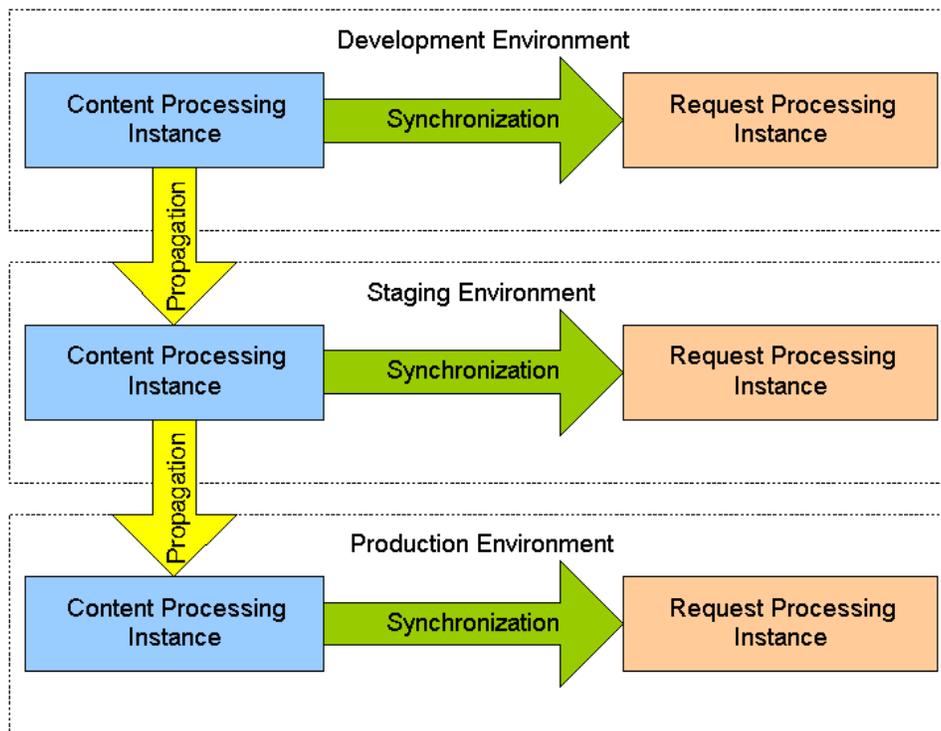
InQuira supports the following environment roles, which are applicable to the environments as indicated:

	Tools (content processing)	Indexing (content processing)	Runtime (request processing)
Development	X	X	X
Staging	X	X	X
Production		X	X

Data Synchronization and Propagation

You can move InQuira configuration and application data between instances using the following methods:

- *Synchronization* is the method by which you move configuration and application data from a content processing instance to a request processing instance.
- *Propagation* is the method by which you move application configuration and data from development and staging environments to production environments.



NOTE: We do not recommend using the synchronization process to move data between separate environments.

See [Chapter 7, Moving Data Between Instances](#) for more information on Synchronization and Propagation.

The Installation Configuration Environment

The Installation Configuration Environment is a common operational environment for InQira applications that is installed and configured as part of the standard installation process. The Installation Configuration Environment contains tools and utilities that assist in creating, administering, and maintaining InQira instances and applications, enabling you to easily:

- Create and configure applications and instances
- Apply and remove patches and updates to product code
- Build and maintain customized InQira web applications
- Automate operations using external utilities, such as shell scripts

The Installation Configuration Environment provides system administration benefits, including:

- A single point of control for managing environment configuration
- Support for implementations using only one instance of InQira product code
- Support for a central Dictionary repository, shared by all applications
- Separate and standard locations for InQira product code and custom code
- Simplified integration and configuration of custom code that uses InQira services
- Access to commonly used environment variables

Chapter 2 Configuring Content Acquisition

InQira responds to end-user requests by providing answers derived from your organization's content. InQira acquires content from a variety of sources, including unstructured documents and structured data.

InQira acquires unstructured content using its content processing system to collect, translate, and index documents for use by the request and response processing components. InQira acquires structured data by connecting directly to the source database, issuing user requests as SQL queries, and presenting the results.

You configure the content acquisition process using various types of content Collections to access your organization's content. You can configure content acquisition to access content from multiple servers, file systems, databases, and other repositories, as described in [Accessing Unstructured Documents on page 23](#) and [Accessing Structured Content on page 65](#).

You can also configure the application to use both the structured data and unstructured data retrieval modules to return answers from text fields within database content.

Additional elements of the content acquisition system are described in [Content Acquisition Components on page 22](#).

NOTE: You must have a configured Content Store available to use the content acquisition process. See Configuring the Content Store Data Source [Intelligent Search Installation Guide](#).

The Content Acquisition Process

The content acquisition process is the first step in content processing. Content acquisition makes your organization's documents and data available to the application for request processing. The content acquisition system comprises components that:

- Copy content from configured servers, file systems, and repositories
- Store the content in a compressed form within the Content Store
- Provide content to the Preprocessor, which converts the content to a standardized format for use by other content processing components, as described in [Chapter 3, *Translating Content to the InQuira Format*](#).

Content Acquisition Components

The content acquisition system contains the following components:

Content crawlers	<p>Content crawlers access content stored on various types of servers, file systems, and in other repositories. Content crawlers traverse specified directories or repositories and copy eligible file contents to the Content Store according to scheduling and collection criteria that you specify. Each scheduled crawler task launches an instance of a specific crawler configuration, and each unique crawler configuration defines a document collection.</p> <p>There are several types of content crawlers, each designed to access a particular type of file system, server, or repository, including:</p> <ul style="list-style-type: none">• Web• File• Information Manager• Database• Siebel Content
Document collections	<p>Document collections are logical entities defined by unique crawler configurations. Each unique crawler configuration defines a document collection.</p>

Document filters	Document filters define inclusion criteria for directories, documents, or files, as described in Configuring Document Filters on page 61 .
Document attributes	Document attributes assign metadata that can be used to restrict information retrieval during request processing, as described in Configuring Document Attributes on page 59 .
Document supertitles	Document supertitles assign metadata to create logical groups or categories of documents, as described in Configuring Document Supertitles on page 61 .

Accessing Unstructured Documents

You can access unstructured content, such as business documents and web pages, by configuring and scheduling one or more Collections. You can differentiate between groups of documents in a single format by defining multiple Collections; each Collection is a unique configuration.

NOTE: A single document can belong to only one Collection.

InQuira provides the following Collection types to access unstructured content:

Web	Accesses content stored on HTTP (web) servers. You configure Web Collections using the System Manager, as described in Configuring Content Acquisition from Web Servers on page 24 .
File	Accesses content stored on file systems. You configure File System Collections using the System Manager, as described in Configuring Content Acquisition from File Systems on page 32 .
Information Manager	Accesses content stored within an Information Manager repository. You configure System Manager Collections using the System Manager, as described in Configuring Content Acquisition from Information Manager Repositories on page 36 .
Information Manager Discussion Board	Accesses content stored within an Information Manager repository. You configure System Manager Collections using the System Manager, as described in Configuring Content Acquisition from Databases on page 54 .

Database	<p>Accesses unstructured content stored within databases. You configure Database Collections using the Advanced Configuration Facility, as described in <i>Configuring Content Acquisition from Databases</i> on page 54.</p> <hr/> <p>NOTE: See <i>Accessing Structured Content</i> on page 65 for information on accessing structured content from databases.</p>
Siebel Application content	<p>Accesses unstructured content and associated metadata stored within Siebel content repositories. You configure Database Collections using the Advanced Configuration Facility. See the <i>Intelligent Search Siebel Integration Guide</i>, or contact your InQuira account representative for more information.</p>

Configuring Content Acquisition from Web Servers

You configure content acquisition from web (HTTP) servers by configuring and scheduling one or more Web Collections to access the desired directories and copy new or modified content into the application.

You can configure multiple Web Collections to access documents located on different servers, or that have different collection requirements.

You define Web Collections using the System Manager's collection definition screens to:

- Specify general Collection information, such as the location of the content and rules to qualify and disqualify documents, as described in *Specifying General Web Collection Settings* on page 25
- Specify rules to set acceptance criteria for the initial Collection and subsequent updates, as described in *Validating Web, File, Information Manager Collections, and IM Discussions* on page 50.
- Test the Collection, as described in *Testing Web, File, Information Manager Collections and IM Discussions* on page 52.

NOTE: You cannot configure Web Collections to access other URL types, such as FTP. Instead, configure a custom crawler, as described in *Creating Custom Content Collections* on page 56.

You use a Web Collection by scheduling a job, as described in *Chapter 4, Operating InQuira and Scheduling Jobs*. The Web Collection locates content based on specified

starting point URLs and other parameters that you specify, as described in [Specifying General Web Collection Settings on page 25](#) and [Configuring Content Acquisition from Information Manager Discussion Forums on page 45](#).

Specifying General Web Collection Settings

You define a Web Collection by specifying the following general information on the System Manager Collection Definition page:

- The name of Collection
- The location of the content that you want to include
- Rules to qualify and disqualify documents for inclusion
- The language and character set of the documents in the Collection
- The method to create the URLs that the application uses to display documents as answers

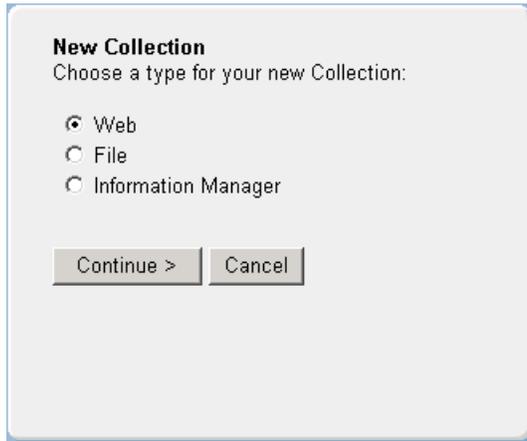
NOTE: You can also specify additional advanced Collection parameters, such as whether to collect documents located on related hosts, and whether the content acquisition process accepts cookies from crawled sites, as described in [Specifying Advanced Web Collection Settings on page 31](#).

To define a Web Collection:

- Log onto the System Manager and navigate to the Collection List
- Select **New** from the Collection List page:



The System Manager displays the Collection Type dialog:



- Select the **Web** Collection option

The System Manager displays the Web Collection Definition screen.

- Specify the following Collection settings:

Name	specify a name for the Collection
Crawler Starting Points	specify one or more fully-qualified URLs as starting points for content acquisition, as described in Specifying Web Collection Starting Points on page 28.

You can specify optional authentication, form field, and cookie information required for site access using the Initialize Crawler option, as described in [Initializing Web Collections](#) on page 29.

Accept these Document Patterns	Specify one or more optional document patterns. Enter each pattern on a separate line within the field. Document patterns are regular expressions that logically define desired document characteristics. See Configuring Content Acquisition from Information Manager Discussion Forums on page 45 for more information.
	<p>NOTE: The content acquisition process accepts all documents by default; in most cases you do not need to specify explicit document acceptance patterns.</p>

Reject these Document Patterns (For this Collection Only)	Specify one or more optional document patterns for exclusion from the collection. Enter each pattern on a separate line within the field. Document patterns are regular expressions that logically define desired document characteristics.
	<p>NOTE: The content acquisition process uses a set of common reject patterns by default; in most cases you do not need to specify explicit document rejection patterns.</p>
Reject these Document Patterns (For all Collections)	Displays currently specified document exclusion patterns that apply to all collections.
	<p>NOTE: The entire list displays only on the Global Collection Settings page.</p>
	<p>You can specify additional patterns to exclude documents from all collections using the Edit Common Reject Patterns option, as described in Specifying Global Collection Settings on page 49.</p>
Additional Documents	Specify any additional individual documents that would otherwise not be accessed by the crawler configuration. The crawler does not follow links from these documents to other documents.
Language	Select the language used in the collection documents. The default value is <code>AUTO</code> , which specifies that the application automatically determines the language and character encoding based on document properties.
Encoding	Select the character encoding used in the collection documents. The default value is <code>AUTO</code> , which specifies that the application automatically determines the language and character encoding based on document properties.

You can specify advanced download and MIME type parameters using the Advanced Settings option, as described in [Specifying Advanced Web Collection Settings on page 31](#).

URL Builder

configure a URL builder to convert the URLs of the crawled content to URLs that can be accessed by end users, if necessary. See [Working with URL Builders on page 57](#) for more information.

- Select **Next >** to continue the process by specifying collection validation settings, as described in [Validating Web, File, Information Manager Collections, and IM Discussions on page 50](#).
- Select **Cancel** to return to the Collection List without defining a collection

Specifying Web Collection Starting Points

Web Collection starting points are URLs that define where the web crawling process begins. You can specify multiple starting points for a single crawler.

You specify starting points using the full protocol and path name of the URL, for example, `http://my_company.com`.

Enter each starting point on a separate line within the text field.

No special characters or delimiters are required; however, you can use additional preceding syntax to specify:

- Whether the URL is a jump page, for example:
`[jump]http://www.mycompany.com/jumppage`
- A maximum number of levels of URL qualifiers to crawl during content acquisition.

For example:

`[depth=2]http://www.mycompany.com`

specifies to crawl only two directory levels below the initial starting point, such that the contents of the directory:

`http://www.mycompany.com/leve_1/level_2/level_3`

would not be included in the collection. The default crawl depth is 1000.

The web crawler follows and acquires the content linked to each starting point, as permitted or restricted by additional collection definition parameters.

Initializing Web Collections

You can specify various types of information required to access the web content that you are including in the Collection, including user authentication, form data, proxy server information, and cookies.

Authentication	Select an optional authentication method. Valid options are:	
	NTLM	Specify Windows NT LAN Manager protocol
	Basic	Username and password in plain text
	None	Specifies no authentication information
	The fields below display depending on the selected type of authentication:	
	Username	Specify the user name to use when accessing content
	Password	Specify the user name to use when accessing content
	Domain	(Valid only for NTLM) specifies the NTLM domain to which the client belongs
	Realm	Specifies an optional Kerberos realm if required for access in an environment configured to trust non-Windows-brand operating system Kerberos realms
Host	Specify an optional host name of a proxy server	
Port	Specify an optional port to connect to a proxy server	
Form Action	Specify optional document URLs to which you apply form field values to use as input for required form fields within crawled pages	
	NOTE: The System Manager automatically deletes unused fields and forms when you save the initialization properties.	

Field 1,2,...	<p>Specify the HTML field names and corresponding values to submit for each form and field. Valid values are:</p> <ul style="list-style-type: none"> • text • password • hidden • textarea • checkbox • radio • select/option • submit <p>You can add additional forms and fields to the page using the Add a Field and Add a Form options.</p> <p>For more information on HTML form fields, refer to the World Wide Web Consortium web site: http://www.w3.org.</p>
HTTP Headers	Specify optional key-value pairs (one pair per line) to add to the HTTP header
Cookies	Specify optional cookies

- Select **OK** to save the specified properties and return to the Web Collection definition page

IMPORTANT: To permanently save the initialization values, you must complete the definition process and save the collection.

- Select **Cancel** to discard the specified properties and return to the Web Collection definition page

Specifying Advanced Web Collection Settings

You can specify the following advanced download behavior and MIME type parameters for Web Collections:

Max Download Threads	Specify the maximum number of threads that can be allocated to the acquisition process. The number of threads in use can affect JVM, CPU, and web server usage. The default value is 5.
Ignore Robot Config	Specify whether the crawler ignores <code>robots.txt</code> files and continue crawling as specified by the specified crawler configuration. Valid values are <code>On</code> and <code>Off</code> . <code>On</code> is the default.
Use Cookies	Specify whether the crawler accepts cookies from the site. Valid values are <code>On</code> and <code>Off</code> . <code>On</code> is the default.
Allow Any Hosts	<p>Specify whether to restrict downloaded pages to the host specified as the starting point (<code>Off</code>), or to download referred pages on hosts other than the specified starting point (<code>On</code>).</p> <p>For example, the starting point <code>www.my_company.com</code> may contain a link to <code>www.partner_co.com</code>. If this parameter is <code>On</code>, the crawler downloads the page. If <code>Off</code>, the crawler does not download the page.</p> <p>Valid values are <code>On</code> and <code>Off</code>. <code>Off</code> is the default.</p>
Flexible Host Name	Specify whether to download any URL in the domain, or to discriminate between variants, for example, <code>www.inquiria.com</code> and <code>ww2.inquiria.com</code> . Valid values are <code>On</code> and <code>Off</code> . <code>Off</code> is the default.
Bandwidth Throttle	Specify a value to limit the amount of crawler traffic to and from the server. Specify a value in bytes per second, for example 1024. This parameter is optional. The default is 0, which specifies no bandwidth limit.
Download Timeout	Specify an interval in seconds after which the crawler stops trying to download a given document. The default value is 20, which specifies that the download process times out after 20 seconds.
Document Comparison Method	<p>Select whether the application considers a document to be changed based on comparing:</p> <ul style="list-style-type: none">• Last Modified Date• Checksum Only <p>The default is <code>Checksum Only</code>.</p>

MIME Type Filter	<p>Specify optional MIME-type filters. You can specify the minimum and maximum size for each type of document using the following syntax:</p> <p style="text-align: center;">[<code>{min-size max-size}=value</code>] mime-type/sub-type</p> <p>For example, you could exclude PDF files larger than 50MB by specifying:</p> <p style="text-align: center;">[<code>min-size=52428800</code>] application/pdf</p>
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- Select **OK** to save the specified properties and return to the Web Collection definition page.

IMPORTANT: To permanently save the advanced collection parameters, you must complete the collection definition process and save the collection.

- Select **Cancel** to discard the specified properties and return to the Web Collection definition page.

Configuring Content Acquisition from File Systems

You configure content acquisition from file servers by configuring and scheduling one or more File Collections to access the desired directories and copy new or modified content into the application.

You can configure multiple File crawlers to access:

- Documents located on multiple file servers
- Documents on a single file server that have different collection requirements

You define File Collections using the System Manager's collection definition screens to:

- Specify general Collection information, such as the location of the content and rules to exclude documents, as described in [Specifying General File Collection Settings on page 33](#).
- Specify rules to set acceptance criteria for the initial Collection and subsequent updates, as described in [Validating Web, File, Information Manager Collections, and IM Discussions on page 50](#).
- Test the Collection, as described in [Testing Web, File, Information Manager Collections and IM Discussions on page 52](#).

Specifying General File Collection Settings

You define a File Collection by specifying the following general information on the System Manager Collection Definition page:

- The name of Collection
- The location of the content that you want to include
- Rules to exclude documents from the Collection
- The language and character set of the documents in the Collection
- The method to create the URLs that the application uses to display documents as answers

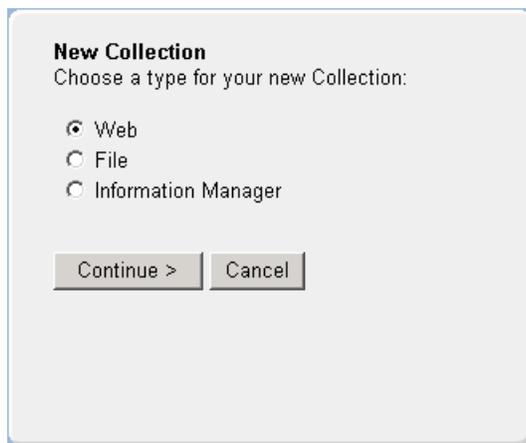
NOTE: You can specify additional advanced Collection parameters, such as custom file crawler methods and minimum and maximum content size, as described in [Specifying Advanced File Collection Settings on page 36](#).

To define a File Collection:

- Log onto the System Manager and navigate to the Collection List
- Select **New** from the Collection List page:



The System Manager displays the Collection Type dialog:



- Select the **File** Collection option

The System Manager displays the File Collection Definition screen.

- Specify the following Collection settings:

Name	Specify a name for the Collection
Document Directories	<p>Specify one or more directories as starting points for content acquisition. Enter each directory on a separate line within the text field.</p> <p>The File crawler acquires all content within the specified directories and their sub-directories, as permitted or restricted by additional collection definition parameters.</p>
Reject these Document Patterns (For this Collection Only)	<p>Specify one or more optional document patterns for exclusion from the collection. Enter each pattern on a separate line within the field. Document patterns are regular expressions that logically define desired document characteristics. See Configuring Content Acquisition from Information Manager Discussion Forums on page 45.</p> <hr/> <p>NOTE: The content acquisition process uses a set of common reject patterns by default; in most cases you do not need to specify explicit document rejection patterns.</p> <hr/>
Reject these Document Patterns (For all Collections)	<p>Displays currently specified document exclusion patterns that apply to all collections.</p> <hr/> <p>NOTE: The entire list displays only on the Global Collection Settings page.</p> <hr/> <p>You can specify additional patterns to exclude documents from all collections using the Edit Common Reject Patterns option, as described in Specifying Global Collection Settings on page 49.</p>

You can specify advanced custom crawler and content size parameters using the Advanced Settings option, as described in [Specifying Advanced File Collection Settings on page 36](#).

Language	select the language used in the collection documents. The default value is en-US. Select AUTO to specify that the application automatically determines the language and character encoding based on document properties.
Encoding	select the character encoding used in the collection documents. The default value is AUTO, which specifies that the application automatically determines the language and character encoding based on document properties.
URL Builder	configure a URL builder to convert crawled file system names to display URLs. See Working with URL Builders on page 57 for more information.

- Select **Next >** to continue the process by specifying collection validation settings, as described in [Validating Web, File, Information Manager Collections, and IM Discussions on page 50](#).
- Select **Cancel** to return to the Collection List without defining a collection

Specifying Advanced File Collection Settings

You can specify a custom file crawler and control the minimum and maximum content size for the file collection.

Class Name	Specify an optional custom file crawler class, if necessary. See the <i>Intelligent Search Application Developer's Guide</i> for more information on creating a custom file crawler. The default file crawler is <code>com.inquiria.content.file.FileCrawler</code> .
Max Size	Specify the maximum size for each document in Kb. The default is 2147483647.
Min Size	Specify the minimum size for each document in Kb. The default is 0.

- Select **OK** to save the specified properties and return to the File Collection definition page.

IMPORTANT: To permanently save the advanced collection parameters, you must save the collection definition by completing the collection editing process and saving the collection.

- Select **Cancel** to discard the specified properties and return to the File Collection definition page.

Configuring Content Acquisition from Information Manager Repositories

You configure content acquisition from Information Manager repositories by configuring and scheduling one or more Information Manager Collections to access the desired content channels within a repository and copy new or modified content into the application.

You configure multiple Information Manager crawlers to access:

- Documents stored in multiple Information Manager repositories
- Documents assigned to different channels within a repository

The application performs content processing on all eligible Information Manager content records, including documents stored as attachments to content records.

You define Information Manager Collections using the System Manager's collection definition screens to:

- Specify general Collection information, such as the location of the content and rules to exclude documents, as described in [Specifying General Information Manager Collection Settings on page 37](#).

NOTE: You can also configure the Information Manager Collection to access documents based on publishing status.

- Specify rules to set acceptance criteria for the initial Collection and subsequent updates, as described in [Validating Web, File, Information Manager Collections, and IM Discussions on page 50](#).
- Test the Collection, as described in [Testing Web, File, Information Manager Collections and IM Discussions on page 52](#).

Specifying General Information Manager Collection Settings

You define an Information Manager Collection by specifying the following general information on the System Manager Collection Definition page:

- The name of Collection
- The Information Manager instance, repository, channel, and publishing status for the content that you want to include
- Rules to disqualify documents from the Collection
- The language of the documents in the Collection
- The method to create the URLs that the application uses to display documents as answers

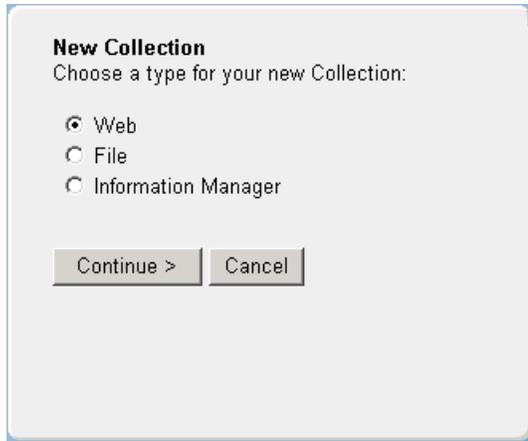
NOTE: You can also specify additional advanced Collection parameters, such as the number of threads used by the collection process and their priority, and the additional content restriction based on Information Manager content categories, as described in [Specifying Advanced Information Manager Collection Settings on page 43](#).

To define an Information Manager Collection:

- Log onto the System Manager and navigate to the Collection List
- Select **New** from the Collection List page:



The System Manager displays the Collection Type dialog:



- Select the **Information Manager** Collection option

The System Manager displays the Information Manager Collection Definition screen.

- Specify the following Collection settings:

Name	Specify a name for the Collection
IM URL	Specify the URL of the Information Manager application that contains the desired content repository. The System Manager displays the default URL for an Information Manager repository installed and configured within the current instance.
Repository	Specify the unique repository ID (reference key) that contains the desired content. Reference keys are user-assigned identifiers used within the Information Manager application. See A Note On Reference Keys in the Information Manager Administration Guide for more information.

Channel	<p>Specify the unique Channel ID (reference key) of the Information Manager Channel that contains the desired content</p> <hr/> <p>NOTE: You must configure a separate Collection for every Information Manager Channel that you want to include in your application.</p> <hr/>	
Publishing Status	<p>Specify to acquire published, unpublished, or all latest versions of content</p> <hr/> <p>NOTE: See Specifying Publishing Status for an Information Manager Collection on page 42 for more detailed information on acquiring Information Manager content.</p> <hr/>	
	PUBLISHED	Use this option to acquire only content marked as published within the Information Manager repository. This is the default option.
	ALL	<p>Use this option to acquire:</p> <ul style="list-style-type: none"> • published content <p>and</p> <ul style="list-style-type: none"> • the latest (in process) version of the specified content <p>This option includes multiple versions of published content records that also have an existing unpublished version (revision) in process.</p>
	IN_ PROCESS	Use this option to acquire only the latest version of the specified content records. This option includes both published and unpublished content records, but includes only one (latest) version of any given content record.

<p>Reject these Document Patterns</p>	<p>Specify one or more optional document patterns for exclusion from the collection. Enter each pattern on a separate line within the field. Document patterns are regular expressions that logically define desired document characteristics. See Configuring Content Acquisition from Information Manager Discussion Forums on page 45 for more information.</p> <hr/> <p>NOTE: The content acquisition process uses a set of common reject patterns by default; in most cases you do not need to specify explicit document rejection patterns.</p>
<p>Reject these Document Patterns (For all Collections)</p>	<p>Displays currently specified document exclusion patterns that apply to all collections. You can specify additional patterns to exclude documents from all collections using the Edit Common Reject Patterns option, as described in Specifying Global Collection Settings on page 49</p>

You can specify download control settings and additional content category attributes for the Collection, as described in [Specifying Advanced Information Manager Collection Settings](#) on page 43.

Language	<p>Select the language used in the collection documents. The default value is en-US.</p> <hr/> <p>NOTE: The character encoding for Information Manager content is always UTF-8.</p> <hr/>
URL Builder	<p>Configure the Information Manager URL builder (IMURLBuilder) to convert crawled Information Manager repository document paths to display URLs, as described in Working with URL Builders on page 57.</p> <p>You must include:</p> <p>Protocol: Most likely 'HTTP'</p> <p>Host: The name of your IM server</p> <p>Port: The port used to access the IM console</p> <p>Prefix: This should be in the form of:</p> <p style="padding-left: 40px;"><repository_name>/index?page=content&id=</p> <p>Suffix: &actp=search</p>

For example, for a host named 'myhost', your URL Builder settings to crawl a channel in the 'Demo' repository, would look like:

Language:	en-US
Encoding:	UTF-8
URL Builder:	IMURLBuilder
* Protocol:	HTTP
* Host:	myhost
Port:	8226
Prefix:	Demo/index?page=content&id=
Suffix:	&actp=search

- Select **Next >** to continue the process by specifying collection validation settings, as described in *Validating Web, File, Information Manager Collections, and IM Discussions* on page 50.
- Select **Cancel** to return to the Collection List without defining a collection

Specifying Publishing Status for an Information Manager Collection

You can specify to include documents, (content records) in various publishing states within the acquired content for an Information Manager crawler. Content records within an Information Manager repository can be in the following states:

- Published
- Unpublished

Published content records are those which are approved (through a workflow process if one exists) and generally available to the production application.

Unpublished content records are new or revised documents that are saved, but not yet available to the production application. In many cases, unpublished content records are at a defined stage within a configured workflow (approval process).

Option	Description
Published	Use this option to acquire only the desired content records marked as published within the Information Manager repository. This is the default option.
All	Use this option to acquire both published and the latest (in process) version of the desired content records. This option includes multiple versions of published content records that also have an existing unpublished version (revision) in process.
In_Process	Use this option to acquire the latest version of the desired content records. This option includes both published and unpublished content records, but includes only one (latest) version of any given content record.

Consider two content records, `record_A` and `record_B`. The latest published version of `record_A` is 2.0, and there are no revisions in process. The latest published version of `record_B` is 3.0, and the latest version is revision 3.3, which is in process and not yet published.

If the acquisition mode is...	Then the acquired content includes:
In_Process	<ul style="list-style-type: none"> • <code>record_A</code>, v 2.0 • <code>record_B</code>, v 3.3
All	<ul style="list-style-type: none"> • <code>record_A</code>, v 2.0 • <code>record_B</code>, v 3.0 • <code>record_B</code>, v 3.3
Published	<ul style="list-style-type: none"> • <code>record_A</code>, v 2.0 • <code>record_B</code>, v 3.0

Specifying Advanced Information Manager Collection Settings

You can specify advanced parameters for an Information Manager Collection to control the number of threads used by the collection process and their priority, and the additional content restriction based on Information Manager content categories.

Download Threads	Specify the number of threads to use when acquiring content from the specified repository. The default value is 2. <hr/> <p style="text-align: center;">NOTE: Consider the capacity of the Information Manager database and server when allocating threads to this process.</p>
Download Priority Adjustment	Specify the priority that the Information Manager crawler process threads uses.
Category Attributes	Specify additional Information Manager content category attributes to restrict the collection. <hr/> <p style="text-align: center;">NOTE: See Chapter 4, Content Categories in the <i>Information Manager Administration Guide</i> for more information on content category attributes.</p>

- Select **OK** to save the specified properties and return to the Information Manager Collection definition page

IMPORTANT: To permanently save the advanced collection parameters, you must save the collection definition by completing the collection editing process and saving the collection.

- Select **Cancel** to discard the specified properties and return to the Information Manager Collection definition page

Configuring Content Acquisition from Information Manager Discussion Forums

You access unstructured content within Information Manager discussion forums by configuring and scheduling a collection to access the Information Manager repository and copy new or modified content into the application.

You acquire content from multiple discussion boards by defining a unique collection for each discussion board.

Specifying Discussion Board Collection Parameters

You specify content collection from Information Manager discussion boards by specifying the following general information on the Advanced Configuration Facility Discussion Crawlers page.

- The name of Collection
- The Information Manager instance, repository, and discussion board for the content that you want to include
- Rules to disqualify documents from the Collection
- The language of the documents in the Collection
- The method to create the URLs that the application uses to display documents as answers

NOTE: You can also specify additional advanced Collection parameters, such as the number of threads used by the collection process and their priority, and the additional content restriction based on Information Manager content categories, as described in [Specifying Advanced Information Manager Collection Settings on page 43](#).

To specify forum crawler parameters:

- Select **Crawler Settings** from the Advanced Configuration Facility menu:

The Advanced Configuration Facility displays the Crawler Settings page.

- Select **Edit**, and select **Add New Item** for Information Manager Discussion Forum Crawlers:

The Advanced Configuration Facility displays the Information Manager Discussion Forum Crawlers page.

- Specify the following discussion forum configuration items in addition to the common configuration items:

Name	Specify a name for the Discussion Board Collection.
URL	Specify the URL of the Information Manager application that contains the desired discussion board. The System Manager displays the default URL for an Information Manager repository installed and configured within the current instance.
Repository (Key)	Specify the unique repository ID (reference key) that contains the desired discussion board. Reference keys are user-assigned identifiers used within the Information Manager application. See <i>A Note On Reference Keys</i> in the <i>Information Manager Administration Guide</i> for more information.
Discussion Board (Key)	Specify the unique discussion board ID (reference key). Reference keys are user-assigned identifiers used within the Information Manager application. See <i>Chapter 8, Feedback and Collaboration Features</i> in the <i>Information Manager Administration Guide</i> for more information.
Language	Select the language used in the discussion board. The default value is en-US. NOTE: The character encoding for Information Manager content is always UTF-8.
Document Type Detector	Use this field to specify a custom data type handler, if necessary. InQuira is configured to use a default text handler.
Encoding	Use this field to specify the character encoding of the content, if necessary. The default is Automatic, which uses an algorithm to determine the character encoding of the content.
URL Builder	Select a URL builder to convert the Information Manager content record ids to URLs that can be displayed as search results. InQuira provides a URL builder, <code>com.inquiria.content.urlbuilder.IMDiscussionURLBuilder</code> , that you can customize for your application, as described in <i>Working with URL Builders</i> on page 57.

You can specify download control settings and additional content category attributes for the Collection, as described in *Specifying Advanced Discussion Board Collection Parameters* on page 47.

Specifying Advanced Discussion Board Collection Parameters

You can specify the following advanced collection parameters for Information Manager discussion boards:

Parameter	Description
Available for Unstructured Search	Specify whether discussion board message content is available to end users as responses to search requests
Preprocess Documents at Crawl	This option is currently not generally available. Use only if instructed by InQuira Customer Support.
Force HTTP Access	Specify whether to access content using only HTTP. If the Information Manager repository and the content processor reside on the same processor, the content processor attempts to access certain data via the file system rather than HTTP by default, to reduce overhead. This option specifies that only HTTP access be used, which may be helpful in diagnosing content processing issues.
Allow HTML Tags	Specify whether to perform HTML preprocessing within the body of discussion board messages (yes), or whether to remove html tags from message preprocessing, which can reduce overhead.
Public User Group (Key)	Specify the reference key of the Information Manager user group that permits public access, if required for content access from the Intelligent Search answer page.
Document Filter	Specify a filter to include or exclude documents based on specified conditions, as described in Configuring Document Filters on page 61 .
Download URL Patterns	Specify optional download URL patterns, as described in Configuring Content Acquisition from Information Manager Discussion Forums on page 45 .
Customize Post	Specify an optional method to customize the output of the discussion board messages, if required.

Specifying Document Patterns

You specify which documents to download from locations within the scope of the content acquisition process by specifying document patterns. For example, you can specify a pattern to exclude image files from downloading.

Document patterns include and exclude documents based on the standard regular expression syntax supported by the Java regular expression standard, `java.util.regex`. See the Java Technology Home Page at <http://java.sun.com> for more information.

The content acquisition process uses the specified patterns to determine download status for each document that it locates. It uses a last-match processing rule; the last regular expression rule that applies to a given URL determines its download status. The crawler wildcard-matches around the pattern included in the expression by default. For example, the expression:

```
www\inquiral.com
```

matches any URL that contains the string `www.inquiral.com`, even a query string; however, the expressions

```
http://www\inquiral.com  
https://www\inquiral.com
```

restrict the match to the specified domains.

NOTE: The expression `\.` escapes the period (`.`) character, which otherwise matches exactly one character.

Specifying Global Collection Settings

You can specify criteria to exclude documents from all defined collections in the application. The System Manager is configured by default to exclude common graphics and compressed archive formats. You can edit or delete existing document patterns.

IMPORTANT: Global collections settings apply to all Web, File, and Information Manager collections. You cannot exempt any collections of these types from any global settings.

Changes to global settings apply to existing collections. Existing collections may change when you update them after adding or removing patterns from the global list.

To specify global document exclusion patterns:

Reject these Document Patterns

Specify one or more optional document patterns. Enter each pattern on a separate line within the field. Document patterns are regular expressions that logically define desired document characteristics. You can specify any valid regular expressions to create a pattern.

- Select **Save** to save the specified global criteria and return to the collection definition page
- Select **Cancel** to discard the specified global criteria and return to the collection definition page

Validating Web, File, Information Manager Collections, and IM Discussions

You can specify optional acceptance criteria that the application uses to validate the Collection. You can use the validation rules to ensure that the Collection conforms to the expected size, number of new and deleted documents and scope based on specific URL patterns.

The application compares the specified threshold values to a baseline that is established for each collection.

The baseline is set by the first accepted crawl. You can reset the baseline using a pre-defined task, Content Reset, in the administration scheduler, as described in Content Acquisition Tasks.

The application accepts as valid, only content processing results that meet the specified acceptance criteria.

NOTE: The validation rules are intended to assist in automating content processing; you may need to adjust these rules after initially performing content processing.

You specify validation criteria using the validation, operator and value fields to specify one or more Boolean statements as conditions that the content processing job must meet.

[Validation Field]

Select one of the available criteria:

- Number of documents
 - Number of new documents
 - Number of deleted documents
 - Size of Collection (min, max in MB)
 - Presence of documents fitting a URL pattern
-

[Validation Operator]	select an operator as the basis of comparing the selected criterion to the actual value in the candidate collection. Valid operators are: <ul style="list-style-type: none"> • > • >= • < • <= • = • !=
[Validation Value]	specify a value for the criterion

For example, enter the following to specify that the Collection:

- Must contain at least 500 documents.
- Cannot contain more than 100 new documents.
- Cannot be missing more than 10 documents from the previously acquired content.

# of docs	>=	500
# of new docs	<=	100
# of deleted docs	<=	10

- Select **<Back** to preserve the specified validation criteria and return to the Collection definition page.
- Select **Save>** to save the collection definition and validation criteria and proceed to testing the Collection, as described in *Testing Web, File, Information Manager Collections and IM Discussions on page 52*.
- Select **Cancel** to discard the specified properties and return to the Collection List.

Testing Web, File, Information Manager Collections and IM Discussions

You can test the collection definition by processing the first ten documents associated with each specified collection starting point. The System Manager tests the following aspects of the collection definition:

- Whether the starting points are valid
- Whether the application has proper authentication to access
- Whether the specified URL build method results in valid URLs

To test a collection:

- Select **Go**



The System Manager displays the progress of the test, and the results:

```
Starting Point: http://techpubs.inquiria.com/
1K View http://techpubs.inquiria.com/Javadoc/index.html
707K View http://techpubs.inquiria.com/InQuira%20Data%20Dictionary/PDF/
2K View http://techpubs.inquiria.com/InQuira%20Data%20Dictionary/HTML
1236K View http://techpubs.inquiria.com/Using%20Advanced%20_ProdName_%2C
20_ProdName_%20Features.pdf
2K View http://techpubs.inquiria.com/Using%20Advanced%20_ProdName_%2C
1238K View http://techpubs.inquiria.com/Intelligent%20Search%20Configure
20Guide/PDF/Intelligent%20Search%20Configuration%20and%20Adm
2K View http://techpubs.inquiria.com/Intelligent%20Search%20Configure
20Guide/HTML/index.htm
243K View http://techpubs.inquiria.com/IS%20Dev%20Guide%20and%20API%20F
20Ref.pdf
4K View http://techpubs.inquiria.com/IS%20Dev%20Guide%20and%20API%20F
```

You can view the contents of individual documents within each test set by using the View option. To view document details:

- Select the **View** option that corresponds to the desired document:

```
Starting Point: http://techpubs.inquiria.com/
2K View http://techpubs.inquiria.
1K View http://techpubs.inquiria.
2K View http://techpubs.inquiria.
```

The System Manager displays details for the selected document, as described in [Viewing Document Details on page 53](#).

Viewing Document Details

You can view details for a selected document, including relevant system information to aid in diagnosing problems and verifying successful content processing.

Display URL	Displays a hypertext link to the URL that displays to the end-user as the source document. You can select the link to display the source document in a separate browser window.
Source URL	Displays a hypertext link to the source URL for the document. You can select the link to display the source document in a separate browser window. If the source is not a URL, the document source displays in plain text.
Raw Size	Displays the size of the document after content acquisition. You can download the raw document to an externally saved file.
IQXML Size	Displays the size of the document after conversion to the InQuira standard format.
Type	Displays the document type detected by the application.
Doc ID	Displays the internal document ID assigned by the application.
Language	Displays the language of the document detected by the application.
Unique ID	Displays the unique document ID assigned by the application.
Encoding	Displays the document encoding detected by the application.
Checksum	Displays the calculated checksum for the document, which the application uses as acceptance criteria for subsequent job executions.
Facets	Lists the navigation categories (facets) assigned to this document, if applicable.

Configuring Content Acquisition from Databases

You access unstructured content within databases by configuring and scheduling one or more database crawlers to access the desired databases and copy new or modified content into the application. InQuira provides a single content crawler type to access two types of database content:

- Documents stored in binary format within a database, such that each record contains one document
- Structured data, such as product catalogs, where each row of collected data is stored as a sentence in a single indexed document

You can configure multiple database crawlers to define various collections of database content. Each unique crawler configuration defines a collection, and each document can belong to only one collection.

NOTE: See [Accessing Unstructured Documents on page 23](#) for information on accessing unstructured content from servers, file systems, and other repositories.

You specify database crawler-specific parameters, as described in [Specifying Database Crawler Parameters on page 54](#).

You can specify additional collection criteria for each collection, as described in [Specifying Advanced Collection Settings on page 59](#).

Specifying Database Crawler Parameters

You specify database crawler-specific parameters on the Advanced Configuration Facility Database Crawlers page.

To specify database crawler parameters:

- Select **Crawler Settings** from the Advanced Configuration Facility menu:

The Advanced Configuration Facility displays the Crawler Settings page.



Database : (none)
Crawlers [Add New Item](#)

- Select **Edit**, and select **Add New Item** for Database Crawlers:

The Advanced Configuration Facility displays the Database Crawlers page.

Editing: Crawler Settings > Database Crawlers

Show Advanced Options

Item Name ▶

Database Crawlers

Available for Unstructured Search : On Off

Data Source ▶ [Edit List](#)

Query ▶

Language :

Encoding :

Document Filter : (none) [Add New Item](#)

Data Type (default is TXT) : (none) [Add New Item](#)

Document Attribute Selector : (none) [Add New Item](#)

Document Supertitle Selector : (none) [Add New Item](#)

- Specify the following Database crawler-specific configuration items in addition to the common configuration items:

Parameter	Description
Data Source	Select or define a data source for the crawler.
Query	Specify an SQL query to retrieve relevant records. You can specify queries to retrieve structured data and documents stored within databases. Each record that you collect is stored as a sentence within the Content Store. The query must select the following items in order: <ul style="list-style-type: none"> • keys, if required, to access the content • the relevant content (columns)

Language	Use this field to specify the language of the content, if necessary. NOTE: For Information Manager content, the language must be set to something other than AUTO (for example, English (en-US)) or the crawl fails.
Encoding	Use this field to specify the character encoding of the content, if necessary. The default is Automatic, which uses an algorithm to determine the character encoding of the content.
Data Type	Use this field to specify a custom data type handler, if necessary. InQuira is configured to use a default text handler.`

Creating Custom Content Collections

You can define custom Collections to acquire data from (crawl) data sources not supported by the standard content acquisition facility. To create a custom crawler:

- Follow the process described in *Creating a Custom Content Crawler*, as described in the *Intelligent Search Application Developer's Guide*
- Configure a collection to use the custom crawler, as described in [Configuring a Collection to Use a Custom Crawler on page 56](#)

Configuring a Collection to Use a Custom Crawler

You configure a collection to use a custom crawler by specifying:

- The name of the custom crawler configuration class
- Additional collection criteria for each collection, as described in [Specifying Advanced Collection Settings on page 59](#).

Working with URL Builders

You can select from several pre-defined URL builders to convert the format of the content locations that can be accessed by content processing to the URLs that web application users can select to access site content as search results:

URL Builder	Collection Type	Parameters
DefaultURLBuilder A placeholder that does not accept any parameters, and does not perform any operation on the crawled content path.	N/A	N/A
RegexReplaceFirstURLBuilder A class that accepts regular expression-based name/value pairs to convert crawled paths to presentation URLs.	Web File	Replace_pattern: enter a regular expression that describes the portion(s) of the crawled path to replace. Replace_value: enter a regular expression that describes desired presentation URL
FileURLBuilder Accepts server directory/ filename strings to convert crawled paths to presentation URLs.	File	Protocol: http/https, depending on server environment. Host: hostname or IP address of the http server. Port: port that the http server listens on. Prefix: you want to add to the filename. Suffix: you want to add to the filename.
URLEncodingFileURLBuilder Accepts server directory/ filename strings to convert crawled paths to presentation URLs.	File	Protocol: http/https, depending on server environment. Host: hostname or IP address of the http server. Port: port that the http server listens on. Prefix: you want to add to the filename. Suffix: you want to add to the filename.
URLEncodingAbsoluteFileURLBuilder Accepts server directory/ filename strings to convert crawled paths to presentation URLs.	File	Protocol: http/https, depending on server environment. Host: hostname or IP address of the http server. Port: port that the http server listens on. Prefix: you want to add to the filename. Suffix: you want to add to the filename.

URL Builder (Continued)	Collection Type	Parameters (Continued)
<p>URLEncodingAbsoluteFileIncludingProtocolURLBuilder</p> <p>Accepts server directory/ filename strings to convert crawled paths to presentation URLs.</p>	File	<p>Protocol: http/https, depending on server environment.</p> <p>Host: hostname or IP address of the http server.</p> <p>Port: port that the http server listens on.</p> <p>Prefix: you want to add to the filename.</p> <p>Suffix: you want to add to the filename.</p>
<p>IMURLBuilder</p> <p>Accepts server directory/ filename strings to convert crawled paths to presentation URLs.</p>	Information Manager	<p>Protocol: http/https, depending on server environment.</p> <p>Host: hostname or IP address of the http server.</p> <p>Port: port that the http server listens on.</p> <p>Prefix: you want to add to the filename.</p> <p>Suffix: you want to add to the filename.</p>
<p>IMDiscussionURLBuilder</p>	Information Manager Discussion Board	<p>Protocol: http/https, depending on server environment.</p> <p>Host: hostname or IP address of the http server.</p> <p>Port: port that the http server listens on.</p> <p>Prefix: you want to add to the filename.</p> <p>Suffix: you want to add to the filename.</p>

URL builders create a display URL, for the search UI to use, from the fetch URL used to locate the document for the collection.

For example, if the host directory structure and files appeared as:

```
iqbankwest\loan\home\appl1.html
iqbankwest\loan\auto\appl2.html
iqbankwest\loan\home-imp\appl3.html
```

with the server instance running on port 8080; and adding a prefix and a suffix, the parameter settings would be:

```
Protocol: http
Host:: iqbankwest
Port:: 8080
Prefix: help/
Suffix: ?source=IQ
```

then, display URLs would appear as:

```
http:8080//iqbankwest/help/loan/home/appl1.html?source=IQ
http:8080//iqbankwest/help/loan/auto/appl2.html?source=IQ
http:8080//iqbankwest/help/loan/home-imp/appl3.html?source=IQ
```

Specifying Advanced Collection Settings

You specify additional criteria for each collection by specifying common and crawler-specific configuration items. Specify the following common configuration items:

- The collection name, as described in [Specifying Collections](#).
- Optional document attributes, as described in [Configuring Document Attributes on page 59](#).
- Optional document filters, as described in [Configuring Document Filters on page 61](#).
- Optional document supertitles, as described in [Configuring Document Supertitles on page 61](#).

Specify the database crawler-specific parameters, as described in [Specifying Database Crawler Parameters on page 54](#).

Configuring Document Attributes

Document attributes are metadata that you assign to restrict information retrieval during request processing. You can define document attributes that correspond to content purpose, such as marketing collateral. You specify document attributes for Web, File, and Database crawlers.

You assign document attributes by specifying one or more document attribute selectors in a crawler configuration. Each document attribute selector specifies one or more document attributes and one or more document conditions.

The crawler assigns the specified attributes only to documents for which the specified conditions are true. All specified conditions must be evaluated as true, and all specified attributes are assigned to the document. The assigned attributes are then part of the metadata associated with documents within the Content Store.

NOTE: You can modify attributes for documents within an existing Content Store by updating attributes in the application configuration and scheduling an attribute update task.

Document Attribute Selectors

Document Attribute Selectors are the mechanism for specifying document attributes. Each document attribute selector specifies:

- One or more document attributes
- One or more document conditions

You can define document attributes that reflect application-specific information retrieval preferences, or configure relevant document attributes defined in an external application, such as a CRM application.

Document conditions are logical statements made up of a filter item, and comparator, and a comparison value, as described in [Specifying Document Conditions on page 62](#).

Specifying Document Attributes

You can specify one or more document attributes within a document attribute selector. You specify document attributes using the Document Attributes page of the Advanced Configuration Facility. You specify an attribute name and whether the attribute is permanent. Permanent attributes reference document metadata from external sources, for example, an external content management system. Permanent attributes are retained when you use the application scheduler function to update document attributes.

To specify a document attribute:

- Select Document Attribute from the Document Attribute Selector page
- Enter the attribute value. You can specify only one attribute per entry. Attributes can be any alphanumeric string. Spaces and punctuation are not allowed.
- Specify permanent status, if desired, by selecting the Permanent radio button

Configuring Document Filters

You can specify document filters for Collections based on document metadata. Document filters are statements that determine which documents are included in content acquisition.

Document filters specify one or more conditions for inclusion based on document metadata. The crawler tests the conditions against each document's metadata, and accepts only those documents for which all conditions are true.

Specifying Document Filters

You specify Document filters on the Simple Document Filter page of the Advanced Configuration Facility. You can specify any number of Document filters.

Each document filter consists of a name and one or more document conditions.

To specify a Document filter:

- Specify a Document filter name. The name can be any alphanumeric string. Punctuation and spaces are not allowed.
- Specify a Document condition, as described in [Specifying Document Conditions on page 62](#)

Configuring Document Supertitles

Document supertitles are metadata that you assign to create logical semantic groupings of documents. You can specify document supertitles for File, Web, and Database crawlers.

You assign document supertitles by specifying one or more document supertitle selectors in a crawler configuration. Each document supertitle selector specifies one or more document supertitles and one or more document conditions.

The crawler assigns the specified supertitles only to documents for which the specified conditions are true. All specified conditions must be evaluated as true, and all specified supertitles are assigned to the document. The assigned supertitles are then part of the metadata associated with documents within the Content Store.

NOTE: You can modify supertitles for documents within an existing Content Store by updating supertitle information in the application configuration and scheduling a supertitle update task.

Document Supertitle Selectors

Document Supertitle Selectors are the mechanism for specifying document supertitles. Each document supertitle selector specifies:

- One or more document supertitles
- One or more document conditions

Document supertitles are user-defined values. You can define document supertitles that correspond to semantic categories, for example, product lines or release levels that may not be explicit in the document contents.

Document conditions are logical statements made up of a filter item, and comparator, and a user-defined comparison value. See [Specifying Document Conditions on page 62](#) for a complete description of document conditions.

Specifying Document Supertitles

You can specify one or more document supertitles within a document supertitle selector. You specify document supertitles using the Document Supertitles page of the Advanced Configuration Facility.

To specify a Document Supertitle:

- select Document Supertitle from the Document Supertitle Selector page
- enter the supertitle value. You can specify only one supertitle per entry. Supertitles can be any alphanumeric string.

Specifying Document Conditions

Document conditions are logical statements that you specify within:

- Document attribute selectors, as described in [Configuring Document Attributes on page 59](#).
- Document filters, as described in [Specifying Document Filters on page 61](#).
- Document supertitle selectors, as described in [Configuring Document Supertitles on page 61](#).

Content crawlers use conditions to determine whether an attribute or supertitle is assigned to a document.

Crawlers determine attribute and supertitle assignments by comparing existing document metadata to all of the conditions specified in the configured document attribute selector or document supertitle selector. Crawlers assign attributes and supertitles only if all specified conditions are true.

Document conditions contain:

- A filter item
- A comparator
- A comparison value

You specify these elements to define a document condition in the form:

`filter_item, comparator, comparison_value`

where:

filter_item	specifies a defined filter item that corresponds to available document metadata. See Specifying Filter Items on page 63 .
comparator	specifies a Boolean comparator. See Specifying Comparators on page 64 .
comparison_value	specifies a user-defined comparison value. See Specifying Comparison Values on page 64 .

For example, you might set a condition to exclude empty documents by specifying a `document_size` filter item, a comparator of `>` (greater than), and a comparison value of 0.

You define document conditions using the Editing: Content > File Crawlers > Document Attribute Selector > Conditions page of the Advanced Configuration Facility.

Specifying Filter Items

Filter items are the basis of comparison for document conditions, document filters, and file filters within crawler configurations. In document filters and file filters, filter items provide direct matching based on document metadata. In document conditions, filter items are parts of logical statements that also include Boolean comparators and user-defined comparison values.

Filter items consist of:

- A name, which is a simple descriptive label
- A method, which provides the means of accessing and matching the required metadata

The following filter items are available in InQuira:

- `getDisplayURL`
- `getDocumentSize`
- `getFetchURL`
- `getLastModificationTime`

Specifying Comparators

Comparators are Boolean operators within document conditions. Comparators specify the basis of comparison between the specified filter item and the user-defined comparison value.

The valid comparators that you can specify within document conditions are:

>	greater than
<	less than
=	equals
!	not
~	matches a regular expression

You can combine these basic elements to define more complex comparators. For example, you can specify `>=` to indicate `greater than or equal to`.

Specifying Comparison Values

Comparison values are user-defined elements within document conditions. Comparison values specify the value that the document metadata is compared to when the crawler evaluates the document condition. For example, in a condition to exclude empty documents, the comparison value of `0` specifies the value for document size metadata comparison.

Accessing Structured Content

You can configure InQuira to access structured information within databases or in other structured formats, such as Extensible Markup Language (XML). InQuira accesses structured data by connecting directly to a configured data source. It does not collect and store structured data for content processing and language analysis, but instead queries the data source directly during request processing.

NOTE: You can also configure InQuira database crawlers to collect unstructured data, such as documents stored within databases or free text within database fields, thereby making that content available for content processing and language analysis. See [Associating a Data Source with a Configured Database Crawler Collection on page 70](#) for more information.

InQuira accesses structured information by:

- Translating user requests into structured queries
- Directly querying the data source
- Filtering the query results, if required
- Formatting and presenting the results

Translating User Requests into Queries

The Rules Engine uses Rules within the Dictionary to translate user requests into structured queries. You can configure Rules to produce SQL queries that match the intent of users' natural language questions using the structured query method, as described in [Intelligent Search Language Tuning Guide](#).

Querying the Data Source

Structured query Rules use pre-defined internal schema to produce SQL queries. The structure of the SQL queries is determined by the pre-defined schema.

To enable InQuira to generate SQL queries to locate and retrieve the appropriate data, you need to map the structure of your data source to the structure of the pre-defined schema, as described in [Configuring Relational Database Sources on page 67](#).

Restricting Query Results

You can restrict the results of structured queries by including additional IML statements within Rules. The Rules Engine processes IML associated with structured queries by:

- Integrating it into the initial query

or

- Executing the query, then using the results set as the input for IML processing

You can configure the use of these alternate processing methods to optimize structured query processing for your application by specifying the Maximum IML Results in Query global parameter, as described in [Setting the Maximum Number of Structured Answers on page 71](#).

Displaying Structured Results

The User Interface displays structured results in a tabular format that includes a table heading. You specify the table heading in the Title of Results Rule parameter, as described in the [Intelligent Search Language Tuning Guide](#).

The User Interface also displays a natural language paraphrase of the SQL query. The User Interface uses the following configurable parameters to construct the paraphrase:

- The table description
- The table key
- The field description

as described in [Viewing Schema Details on page 68](#).

Configuring Database Connections for Structured Content

You can configure multiple structured data sources, including relational database tables and XML data repositories. You configure structured information retrieval by:

- Configuring the desired data sources, as described in [Configuring Relational Database Sources on page 67](#) and [Configuring XML Data Sources on page 70](#).
- Setting global parameters for structured information retrieval, as described in [Specifying Global Structured Data Retrieval Parameters on page 71](#).

Configuring Relational Database Sources

The database retriever receives SQL from the Rules Engine and uses the configured internal schema to transform the query into an appropriate query for the configured database. The transformation includes removing unavailable fields and substituting alternate fields, if configured to do so. It executes the query, processes any associated IML, as described in [Configuring IML Processing for Structured Queries on page 71](#), and returns the results.

You configure a relational database by:

- Creating a custom view of your data source, as described in [Creating a Database View on page 67](#).
- Configuring the appropriate application schema to connect to the custom data source, as described in [Associating a Data Source with a Configured Database Crawler Collection on page 70](#).
- Specifying an optional collection for unstructured content processing.

Creating a Database View

To configure InQira to retrieve answers from your data, you need to create a view that is compatible with the structure of the appropriate internal schema. For information on available internal schema, contact your InQira account representative.

Viewing Configured Schema

InQira is installed with pre-defined schemas. You can view the available schemas, and their defined keys and fields using the Advanced Configuration Facility.

To view the available schemas:

- Select Structured Services from the Advanced Configuration Facility

The Structured Services page lists the installed schemas.

Viewing Schema Details

To view details for a schema:

- Select Edit on the Structured Services page

The Editing:Structured Services page displays the schema names as hypertext links

- Select the desired table name from the list

The Editing:Structured Services page displays the following fields for the selected table:

Field	Description
Description	A natural language representation of this table that is used in the paraphrase. For example, <code>real-time stocks</code>
Data Source	The location of the data.
Collection	The crawler configuration defined for acquiring unstructured data used for hybrid retrieval.
Key	The field in this schema that is the key (unique identifier). This is used when creating the paraphrase. For example, <code>stocksymbol</code> .
Field	A list of the fields in the schema. Schema Field Definitions on page 68 describes the parameters that define fields.

Schema Field Definitions

Each field in the schema is defined by the following parameters:

Field	Description
Description	A natural language representation used in paraphrase. For example, <code>book value in dollars</code> .
Exists	Whether or not it exists in this particular database. Possible values are <code>true</code> (default) and <code>false</code> .
Groupable	Not currently implemented.
Alternate	Specifies the field to use if this field does not exist in the data source.

Connecting to the Data Source

To configure InQuira to retrieve answers from a data source, specify the data source connection parameters, as described in [Specifying Data Source Connection Parameters on page 69](#).

Specifying Data Source Connection Parameters

The Data Sources page of the Advanced Configuration Facility displays the following data source configuration parameters:

Editing: Analytics > Data Sources > Data Sources

Item Name ▶ EXAMPLE_MSSQL

Data Sources

datasourceType ▶ MS SQLServer [Edit List](#)

URL ▶ jdbc:microsoft:sqlserver://YOUR_MSSQL_HOST:1433

User ▶ YOUR_USERNAME

Password :

Properties

Value :

Item Name ▶ DatabaseName

Value : YOUR_DATABASE_NAME

[Add New Item](#)

- Specify the following parameters to configure a data source:

Parameter	Description
Item Name	Specifies a required name for the data source
datasourceType	Specifies the database type. Select MS SQLServer or Oracle 9i from the drop-down list, as appropriate.
URL	Specifies the connection URL for the JDBC connection. Enter the value of the connection URL as appropriate for your your RDBMS and JDBC driver.
User	Specifies the user name to use for the specified data source
Password	Specifies the password to use for the specified data source
Properties	Specifies any additional required connection properties. Specify the database name in the provided property field. Use the Add New Item option to define any other required database connection properties.

Configuring XML Data Sources

The XML retriever receives SQL from the Rules Engine and uses a configured script to translate the SQL into XML. It sends the XML query to a configured XML transport interface that communicates with the XML data source. It uses an additional script to translate the XML results into a tabular results set for display.

[Query Set DTD on page 74](#) describes the DTD for query scripts. [Result Set DTD on page 74](#) describes the DTD for the results set.

You configure an XML data source by:

- Creating and configuring query and results scripts
- Implementing the XML transport interface
- Specifying an optional collection for unstructured content processing, as described in [Configuring IML Processing for Structured Queries on page 71](#).

Associating a Data Source with a Configured Database Crawler Collection

When you configure a database crawler to collect unstructured data stored within a database, you need to:

- Configure a data source for the collection, as described in [Specifying Data Source Connection Parameters on page 69](#).
- Associate the database crawler collection with the schema defined for the data source

You associate a database collection with a data source using the Structured Services page of the Advanced Configuration Facility. To associate a collection with a schema:

- Select an existing schema, or select **Add New Item**

The Structured Service > Table page displays.

- Select an existing collection, or create a new collection, as described in [Configuring Content Acquisition from Databases on page 54](#).

Specifying Global Structured Data Retrieval Parameters

You specify the following global parameters for structured information retrieval:

- The maximum number of answers to be returned in response to a structured query, as described in [Setting the Maximum Number of Structured Answers on page 71](#).
- The maximum number of IML query results to integrate into a structured query, as described in [Configuring IML Processing for Structured Queries on page 71](#).
- The XML translation scripts to use for retrieving structured information from XML data sources, as described in [Specifying XML Translation Scripts on page 72](#).
- Whether the configured data sources support sub-queries, as described in [Specifying Sub-Query Processing on page 72](#).
- The XML transport interface, as described in [Specifying the XMLTransport Interface on page 72](#).

Setting the Maximum Number of Structured Answers

You specify the maximum number of answers that structured information retrieval returns for a single query. The default value is 500.

The application retrieves the up to the specified number of results for every query. If a user requests quantities in excess of the specified value, the application retrieves only the maximum number of results.

You specify the maximum number of answers on the Structured Service page of the Advanced Configuration Facility. To specify the maximum number of answers:

- Specify a maximum answers value. Any integer is valid. The default value is 500.
- Select **OK** to save the specified value in your configuration

Configuring IML Processing for Structured Queries

The Rules that generate SQL queries can also contain IML to restrict the results of the query. When the IML query is executed, the application:

- Integrates the IML statements into the structured query
- or
- Processes the IML using the results of the structured query as input

A large number of IML results can increase the size of the query such that the database rejects it. The Maximum IML Results in Query specifies the number of results over which the application will post-process the IML results rather than integrate them into the structured query.

You specify the maximum IML results in query on the Structured Service page of the Advanced Configuration Facility. To specify the maximum IML results in query:

- Specify a maximum IML results value. Any integer is valid. The default value is 500
- Select **OK** to save the specified value in your configuration

Specifying XML Translation Scripts

To configure an XML data source, you need to create scripts to translate:

- InQuira SQL queries to client XML queries
- XML results to InQuira XML results

[Query Set DTD on page 74](#) and [Result Set DTD on page 74](#) provide document type definitions (DTDs) for the query and results scripts.

You specify query and results scripts for structured retrieval on the Advanced Structured Service page of the Advanced Configuration Facility. To specify the query and results scripts for structured retrieval:

- Select **Advanced** from the drop-down menu on the Edit: Structured Service page
- Enter the URLs for the query and results scripts
- Select **OK** to save the specified value in your configuration

Specifying Sub-Query Processing

The SQL queries produced by the application can contain sub-queries; however, some databases do not support sub-queries. This option specifies to execute sub-queries as separate queries.

You specify sub-query processing on the Advanced Structured Service page of the Advanced Configuration Facility. To specify sub-query processing:

- Select **Advanced** from the drop-down menu on the Edit: Structured Service page
- Select the **On** radio button to specify standard sub-query processing
- Select the **Off** radio button to specify that sub-queries be executed as separate queries
- Select **OK** to save the specified value in your configuration

Specifying the XMLTransport Interface

Specify a class that implements the XMLTransport interface. This class receives the client's XML query (as a string) and returns the results in the client's XML representation (as a string).

Creating Custom Structured Data Source Connectors

You can create and configure connectors for additional structured data sources. To create a custom connector, you must:

- Implement the `StructuredDataRetriever` interface, as described in [The Structured Data Retriever Interface on page 73](#).
- (Optional) Extend the `StructuredDataAdapter` class which contains helpful code for getting IML results.

You configure the custom connector using the Advanced Structured Service page of the Advanced Configuration Facility. To configure the custom connector:

- Select **Add New Item** under the Connection Type field

The Editing: Structured Service > Connection Type page displays.

- Enter the class name for the custom connector in the Connection field, and select Add
- Select **OK** to save the specified value in your configuration

The Structured Data Retriever Interface

The structured data retriever interface has the following method:

```
public StructuredResult evaluate(Schema schemas,
                                String schemaName,
                                String query,
                                String iml,
                                Datasource data_source,
                                String index,
                                Map options
                                ) throws StructuredException;
```

where:

Argument	Description
schemas	Are the schemas that were configured for the various types of sources (stocks, mutual funds, etc). This is a data structure that allows easy access.
schemaName	Is the name of the schema to use when querying the schemas data structure
query	Is the structured query to execute
iml	Is the restricting IML query that to be run against the unstructured content retrieved from the data source
data_source	Is the data source to which to send the structured query

index	Is the name of the collection that contains the unstructured data to be queried by the IML argument
options	Is a map of the configuration for structured search

Query Set DTD

The query set DTD defines the following elements:

```

<!ELEMENT QUERY ( FIELD*, FCN*, CONST*, SOURCES, QUALIFICATION?, LIMIT?,
ORDER? ) >
<!ATTLIST QUERY op(SELECT) >
<!ELEMENT SOURCES (TABLE+) >
<!ELEMENT TABLE (#PCDATA) >
<!ELEMENT LIMIT (START?, QUERY?, COUNT) >
<!ELEMENT ORDER_BY (ORDER+) >
<!ELEMENT ORDER (FIELD) >
<!ATTLIST ORDER dir NMTOKEN #REQUIRED >
<!ELEMENT CONST (#PCDATA) >
<!ELEMENT FCN (ORDER+) >
<!ATTLIST FCN name #REQUIRED >
<!ATTLIST FCN printname #IMPLIED >
<!ELEMENT FIELD (ORDER+) >
<!ATTLIST FIELD name #REQUIRED >
<!ATTLIST FIELD printname #IMPLIED >
<!ELEMENT QUALIFICATION (AND|OR|LIKE|IS_NOT|NE|LT|LTE|GT|GTE|EQ) >
<!ELEMENT AND (AND|OR|LIKE|IS_NOT|IN|NE|LT|LTE|GT|GTE|EQ)+>
<!ELEMENT OR (AND|OR|LIKE|IS_NOT|NE|LT|LTE|GT|GTE|EQ)+>
<!ELEMENT NE ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT EQ ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT LT ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT LTE ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT GTE ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT LIKE ((CONST|FIELD|FUNC),(CONST|FIELD|FUNC))>
<!ELEMENT IS_NOT ((CONST|FIELD|FUNC), NULL)>
<!ELEMENT NULL>

```

Result Set DTD

The result set DTD defines the following elements:

```

<!ELEMENT const ( #PCDATA ) >
<!ELEMENT field EMPTY >
<!ATTLIST field name NMTOKEN #REQUIRED >
<!ELEMENT headers ( field ) >
<!ELEMENT resultset ( headers, row+ ) >
<!ELEMENT row ( const ) >

```

Chapter 3 Translating Content to the InQuira Format

The Preprocessor translates the documents collected by the content acquisition process from their native formats to a standard simplified XML format.

The Preprocessor contains several component programs that are designed and configured to analyze and translate specific document formats. Supported document formats are described in *Supported Data Formats and Converters on page 77*.

NOTE: You must have a configured Content Store to operate the Preprocessor. See *Configuring the Content Store Data Source [xref IS Install Guide]*. for more information.

The Preprocessor produces translated documents that provide semantic information used in processing requests. In its default configuration, the Preprocessor translates all input data without loss, and provides excellent request processing and information retrieval accuracy.

During content processing, the Preprocessor:

- Obtains a list of available documents and their status from the Content Store
- Determines the files to be processed, and their document types
- Translates the files to InQuira Input XML
- Stores the InQuira Input XML documents in the Content Store

The InQuira Input XML format is defined by the InQuira Input XML document type definition (DTD).

NOTE: You must have a configured Content Store to operate the Preprocessor. See *Configuring the Content Store Data Source [xref IS Install Guide]*.for more information.

Translating Document Structure

The Preprocessor retains semantic information encoded in the document structure, such as headings, paragraphs, and lists, when translating documents. The converters translate the semantic elements located within the original documents to analogous elements defined in the InQira Input XML DTD.

Access to Document Structure During Request Processing

During request processing, InQira Match Language (IML) functions within Dictionary rules can access InQira Input XML semantic structures to optimize request processing. The following IML functions can access InQira Input XML entities:

TITLE	This function specifies to match within document titles.
SUBTITLE	This function specifies to match within document subtitles, including section headings and other named sections of documents.
REFERENCE	This function specifies to match within documents that are linked to by specified terms within link text.

See the [Intelligent Search Optimization Guide](#) for more information on specifying IML functions within Dictionary rules.

Processing Non-ASCII Characters

The Preprocessor converts all encodings into UTF-8 for processing. All entities are converted to their numeric representation during preprocessing.

The Preprocessor translates Latin 1 – ISO characters (character code 131 – 256) to numeric entity names.

Supported Data Formats and Converters

The Preprocessor translates various document formats to the standard InQuira Input XML format.

Document Type	File Extensions
HTML	.htm, .html
XML	.xml
Microsoft Word and Rich Text Format	.doc, .rtf
Siebel application content, ASCII text, unstructured text within databases	.txt
Portable Document Format (PDF)	.pdf
Microsoft Excel	.xls
Microsoft PowerPoint	.ppt

PDF Document Preprocessing

The Preprocessor uses the PDF converter to translate Portable Document Format (PDF) files to InQuira Input XML. The PDF converter contains heuristics for determining the following semantic information from the text provided in the PDF file:

- Titles and sections are determined by the PDF title tag; they are also inferred from internal bookmark information, if available
- Paragraphs are determined by sentence proximity
- Additional heuristics distinguish other semantic features, such as tables and multi-column text

IMPORTANT: The Preprocessor cannot translate encrypted PDF files, because encrypted files cannot be copied. You must use non-encrypted PDF files for InQuira content processing.

Using the Preprocessor

You use the Preprocessor by scheduling preprocessing tasks, as described in [Chapter 4, Operating InQuira and Scheduling Jobs](#). You can schedule preprocessing tasks as standalone tasks, or as part of a larger set of content processing tasks.

You can schedule preprocessing tasks as standalone tasks, or as part of a content processing task set, as described in [Chapter 4, Operating InQuira and Scheduling Jobs](#). The available preprocessing tasks are:

Task	Description
Preprocess Incremental	Use this task to preprocess only documents that have been modified since the last preprocessing task.
Preprocess Full	Use this task to preprocess all documents defined for the specified collection.

Chapter 4 Operating InQuira and Scheduling Jobs

You can operate InQuira by defining and scheduling jobs using the System Manager Schedule facility. You can use the System Manager Schedule facility to:

- Schedule pre-defined jobs
Pre-defined jobs consist of commonly used tasks that are grouped together for ease of use.
- Define and schedule customized jobs
Customized jobs are groups of tasks that you define and schedule, either by editing a pre-defined job or by defining a new custom job.

You can schedule jobs to execute once, on demand (at the time they are submitted), or to repeat at specified intervals.

You schedule jobs by:

- Defining the job, as described in [Defining a New Job on page 82](#)
- Specifying tasks and other properties, as described in [Specifying Job Tasks and Properties on page 83](#).

NOTE: See [InQuira Tasks on page 84](#) for a complete description of the tasks that you can schedule.

- Specifying collections (for content processing jobs), as described in [Specifying Collections for a Content Processing Job on page 89](#)
- Specify scheduling parameters, as described in [Scheduling a Job on page 90](#)
- Specifying email notification, as described in [Specifying Job Notification on page 92](#)

InQuira executes scheduled tasks using components called work clients. You configure work clients automatically when you use the Installation Configuration Environment application configuration process to define local and remote instances and distributed applications. The standard configuration process installs and configures a local work client, as described in [Using Work Clients on page 97](#).

Creating and Managing Scheduled Jobs

You create and manage the scheduled jobs for your application using the Schedule facility, which is available from the System Manager Job List tab. The Job List displays information about all of the currently scheduled jobs for the application.

Job	Displays the job name. The System Manager displays any warning and error icons for the most recent job execution.	
Status	Displays the state of the Job. Possible states are:	
	Complete	The execution of the job is complete NOTE: The red error icon displays if errors occurred during processing. Select the job and the View... option to locate and diagnose processing errors.
	Expired	The latest date for which the job was scheduled to execute is past
	External	The job is configured to execute on another processor using a remote workclient NOTE: See Creating Remote Instances for Distributed Applications on page 150 for more information on using remote workclients.
	On-Demand	The job is configured to execute only interactively from the System Manager
	Running	The job is currently in process
	Scheduled	The job's initial execution is scheduled in the future
Start Time	Displays the actual time the Job was started.	
Next Start Time	Displays the next scheduled start time for the Job.	

Env.	<p>Displays the type of application environment in which the Job is configured to run. Possible environments are:</p> <ul style="list-style-type: none">• Development• Staging• Production <hr/> <p>NOTE: A dark blue icon indicates that the Job is configured to execute in that environment. A clear block indicates that it is not.</p> <hr/>
-------------	--

You can:

- Display details about a selected Job, as described in [Viewing Job Status](#)
- Edit a selected Job, as described in [Specifying Job Tasks and Properties on page 83](#) and [Scheduling a Job on page 90](#)
- Define a new job, as described in [Defining a New Job on page 82](#)
- Start a selected job, as described in [Starting a Job Interactively on page 96](#)
- Stop a currently running job using the More Actions Stop Now... option
- Create a duplicate copy of a selected job using the Duplicate option
- Delete one or more selected jobs

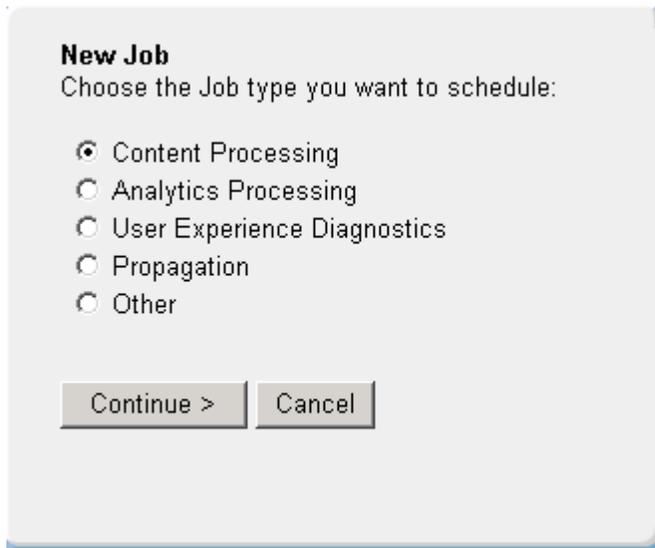
Defining a New Job

To define a new Job:

- Select the **New...** option on the Job List



The System Manager displays the New Job dialog:



- Select the type of job that you want to define:

Content Processing	Define a job to acquire and process content from one or more configured Collections
Analytics Processing	Define a job to extract and load application data for use by InQuira Analytics.
User Experience Diagnostics	Define a job to locate broken links within Intent Responses
Propagation	Define a job to transfer application content data between instances within a processor environment; for example, between development and staging instances
Other	Define a custom job

- Select **Continue >** to continue the job definition process

Specifying Job Tasks and Properties

To specify the tasks for the job, and additional properties, enter the following information:

NOTE: The System Manager selects the recommended tasks for the currently selected Job Type by default.

Job Name	Specify a name for the job
Valid Environments	<p>Specify one or more of the following environments in which this job executes:</p> <ul style="list-style-type: none">• Development• Staging• Production <p>This setting enables you to control Schedule facility behavior when synchronizing data between development, staging, and production environments.</p>
Job Type	<p>Displays the specified job type.</p>
Job Tasks	<p>The System Manager displays the pre-selected tasks for the selected job type. See the <i>InQira Tasks</i> for descriptions of the default and available tasks.</p> <p>You can remove a task from the job by de-selecting it.</p> <p>You can display additional tasks for inclusion by selecting the Show all tasks option:</p>  <p>NOTE: If you are defining a custom job, select Show all tasks, then select desired tasks. See <i>InQira Tasks on page 84</i> for a list of all available tasks.</p>

- Select **Next >** to continue the process by specifying target collections (for content processing jobs only) and scheduling the Job

InQuira Tasks

The following sections describe the available tasks:

- [Single-Collection Content Processing Tasks on page 84](#)
- [Cross-Collection Content Processing Tasks on page 85](#)
- [Analytics Tasks on page 87](#)
- [Environment Communication Tasks on page 88](#)

Single-Collection Content Processing Tasks

InQuira provides the following tasks that operate on a Collection basis. The System Manager pre-selects the appropriate tasks for standard Content Processing:

Task	Description
Status Reset	Use this task to reset status for the specified collection(s). This is the initial step in the standard Content Processing job; you can also use it to recover from failure. For example, you can execute a task to override content acquisition failure due to an exceeded variance threshold for a collection. See Specifying Variance Thresholds for Content Acquisition for more information on setting document count variance thresholds for collections.
Content Reset	Use this task to reset, or delete, the documents within the specified collections. The specified collections can be marked as empty until populated by the next content acquisition process.
Pre-Content Update	Use this task to specify an application-specific custom task required before Content Update.
Content Update	Use this task to update all documents within the specified collections. The content (documents) defined for the specified collections can be crawled and updated according to the current crawl parameters.
Pre-Document Conversion	Use this task to refer to a custom task specific to your application that should be performed prior to document conversion (preprocessing).
Incremental Document Conversion	Use this task to preprocess only documents that have been modified since the last preprocessing task.

Task	Description
Incremental Document Conversion (Subcoll)	Use this task to create and send sub-collections for incremental preprocessing, which processes only documents that have been added or updated since the last preprocessing operation.
Full Document Conversion	Use this task to preprocess all documents defined for the specified collection.
Full Document Conversion (Subcoll)	Use this task to create and send sub-collections for full preprocessing, which processes all available documents, regardless of their status since the last preprocessing operation.
Pre-Index	Use this task to refer to a custom task specific to your application that should be performed prior to document conversion (preprocessing).
Incremental Index	Use this task to index only documents defined for the specified collections that have been modified since the last indexing task.
Incremental Index (Subcoll)	Use this task to create and send sub-collections for incremental indexing, which processes only documents that have been added or updated since the last preprocessing operation.
Full Index	Use this task to index all documents defined for the specified collection.
Full Index (Subcoll)	Use this task to create and send sub-collections for full indexing, which processes all available documents, regardless of their status since the last preprocessing operation.
Collection Maintenance	Use this task to consolidate the index data (create the reverse index) after the indexing process completes.

NOTE: See [Chapter 6, Configuring Distributed Applications](#) for more information about distributed applications

Cross-Collection Content Processing Tasks

InQuira provides the following tasks that operate on all Collections defined for the current

job :

Task	Description
Classification	Use this task to create Personalized Navigation taxonomies based on configured content classifiers. See the section on Advanced Features in the <i>Intelligent Search Optimization Guide</i> for more information on the Personalized Navigation feature
Global Maintenance	Use this task to: <ul style="list-style-type: none">• Create the global data associated with the application indexes• Assign the runtime revision level• Re-deploy the application
Mark Revisions for Synchronization	Use this task to mark current runtime revisions required for synchronization.
Synchronization (Cleanup)	Use this task to create a synchronization package from the current content processing instance, distribute it to the configured request processing instances, and remove the data associated with previous revisions.

Analytics Tasks

InQuira provides the following tasks for managing InQuira Analytics data:

Task	Description
Log Extraction	Use this task to copy log data to the <code>data/load</code> directory (or the directory specified in the InQuira Analytics configuration) on this instance.
Pre-Log Loading	Use this task to refer to a custom task specific to your application that should be performed prior to log loading.
Information Manager Log Extraction	Use this task to copy Information Manager log data to the <code>data/load</code> directory (or the directory specified in the InQuira Analytics configuration) on this instance.
Intelligent Search Log Load	Use this task to download only the Intelligent Search log files from the production servers to the InQuira Analytics server.
Information Manager Log Load	Use this task to download only the Information Manager log files from the production servers to the InQuira Analytics server.
Information Manager Transform	Use this task to populate and transform data from Information Manager Analytics ODS Schema to Star Schema
PostAnalytics	Use this task to refer to a custom task specific to your application that should be performed after the ETL process

Environment Communication Tasks

InQuira provides the following tasks related to managing development, staging, and production data:

Task	Description
Pre-Propagation	Use this task to refer to a custom task specific to your application that should be performed prior to propagation.
Propagate to Production	Use this task to create a propagation package from this instance and distribute it to configured production instances. See Chapter 7, Moving Data Between Instances for more information on the propagation process.
Propagate to Staging	Use this task to create a propagation package from this instance and distribute it to configured production instances. See Chapter 7, Moving Data Between Instances for more information on the propagation process.
Pre-Synchronization	Use this task to refer to a custom task specific to your application that should be performed prior to synchronization.
Synchronization (Cleanup)	Use this task to create a synchronization package from the current content processing instance, distribute it to the configured request processing instances, and remove the data associated with previous revisions. See Chapter 7, Moving Data Between Instances for more information on the synchronization process.
Post-Synch/Propagation	Use this task to refer to a custom task specific to your application that should be performed after propagation and synchronization.

Specifying Collections for a Content Processing Job

To define a content processing job, you must specify one or more content collections that the job applies to.

All Collections	Select this option to include all configured collections in this job
Specific Collections	Select this option to list the available collections to include in this job. The System Manager updates the page with a list of the currently configured collections: <ul style="list-style-type: none">• Collection: Displays the name of the collection.• Type: Displays the type of collection, for example, HTTP, File, or Information Manager.• Size: Lists the size of the collection.• Number of Docs: Lists the number of documents in the collection.• Associated Jobs: Lists the jobs that process this collection.

- Select **Next >** to continue the process by scheduling the Job.

Scheduling a Job

To define a job, you must schedule the date and time for the job to be performed, and the frequency with which it repeats. The System Manager displays the appropriate scheduling options based on your initial frequency selection.

How often do you want to run this Job?	The System Manager provides the following frequency options:	
	On-Demand	Select this option to execute the job interactively
	Once	Select this option to execute the job once at a specified date and time
	Hourly	Select this option to execute the job: <ul style="list-style-type: none">• once every specified number of hours• beginning at a specified date and time and• ending at a specified date and time
	Daily	Select this option to execute the job: <ul style="list-style-type: none">• once every specified number of days• beginning at a specified date and time and• ending at a specified date and time
	Weekly	Select this option to execute the job: <ul style="list-style-type: none">• once every specified day of the week• beginning at a specified date and time and• ending at a specified date and time

	Monthly by Weekday	Select this option to execute the job: <ul style="list-style-type: none"> once every specified weekday of the month, for example: every 2nd Wednesday beginning at a specified date and time and ending at a specified date and time
	Monthly by Calendar Day	Select this option to execute the job: <ul style="list-style-type: none"> once per month at a specified beginning, middle, or final day of the month beginning at a specified date and time and ending at a specified date and time
Start Date	Specify the calendar date on which the Job starts.	
Start Time	Specify the time of day at which the Job starts.	
Do not start if wait is longer than ... minutes	Specify an optional interval the System Manager waits before cancelling the job if it is unable to start.	
Repeat	Select the number of times that the job repeats at the specified interval. The System Manager displays additional supporting fields depending on the selection.	
Every (Hourly)	Specify the interval as a number of hours that elapse between occurrences of this job.	
Every (Daily)	Specify the interval as a number of days that elapse between occurrences of this job.	
Every (Weekly)	Select the weekday on which the job is performed.	
Every (Monthly by Weekday)	Select the days of the month on which the Job is repeated.	
Every (Monthly by Calendar Day)	Select the calendar days of the month on which the Job is repeated.	
Expiration Date	Select the date on which the Job ends.	
Expiration Time	Select the time on the specified day on which the job ends.	

- Select **Next >** to continue the process by specifying notification options

Specifying Job Notification

You must specify an email host (sender) and email groups and members (recipients) for the Schedule facility to use to send job status information.

You configure email hosts, groups, and members using the Advanced Configuration Facility, as described in:

- [Specifying an Email Host on page 93](#)
- [Adding and Modifying Email Notification Groups on page 94](#)
- [Adding and Modifying E-mail Group Members on page 95.](#)

Send e-mail notification to:	Specify the configured email group to send notification of job status
When this Job...	Select one or more events to send notification about. The System Manager selects <code>fails</code> by default. Possible events are: <ul style="list-style-type: none">• starts• completes successfully• fails

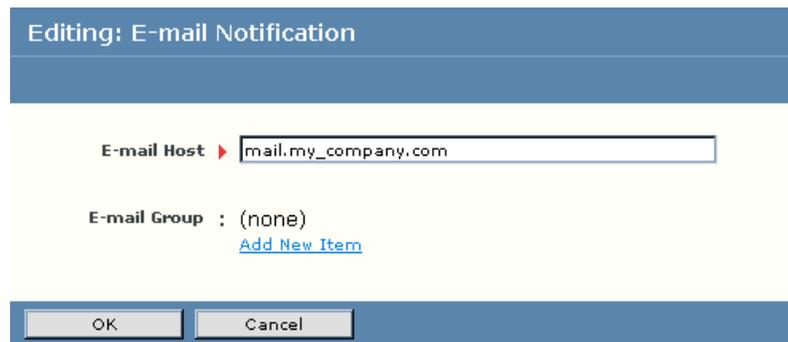
- Select **Save** to complete the job definition process

Specifying an Email Host

You must define an email sender for the Schedule facility email notification feature. You must specify the address of a valid email account on the email server configured for the application.

To specify an email sender for the application:

- Select **Email Notification** from the Advanced Configuration Facility, and select **Edit**. The **E-mail Notification** page displays the **E-mail Host** field.



The screenshot shows a dialog box titled "Editing: E-mail Notification". It has a light blue header and a light yellow body. The "E-mail Host" field is a text box containing "mail.my_company.com". Below it, the "E-mail Group" is set to "(none)" with a blue link "Add New Item". At the bottom, there are two buttons: "OK" and "Cancel".

- Enter a valid SMTP server for your environment, for example, mail.my_company.com

NOTE: The SMTP server must be configured to allow relaying for the InQira application. Consult your system administrator for more information.

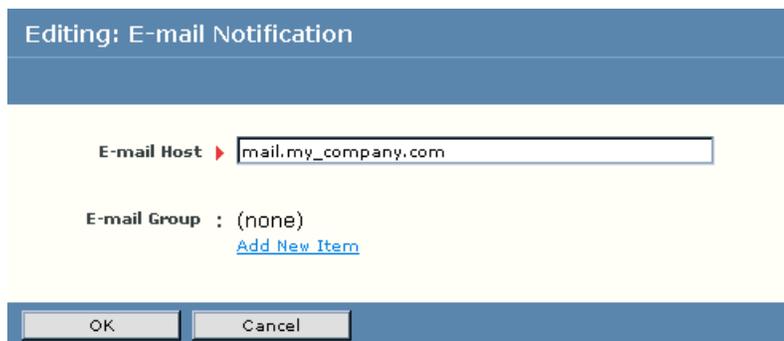
Adding and Modifying Email Notification Groups

You must use one or more email groups for the email notification feature. Email groups consist of one or more valid email addresses. The Schedule facility sends notification messages to the addresses within the group when the associated job completes.

NOTE: The Administrators group is configured by default; however, there are no default email addresses configured within the Administrators group.

To add or modify an email recipient group:

- Select **E-mail Notification** from the Advanced Configuration Facility, and select **Edit**. The **E-mail Notification** page displays the **E-mail Host** field.



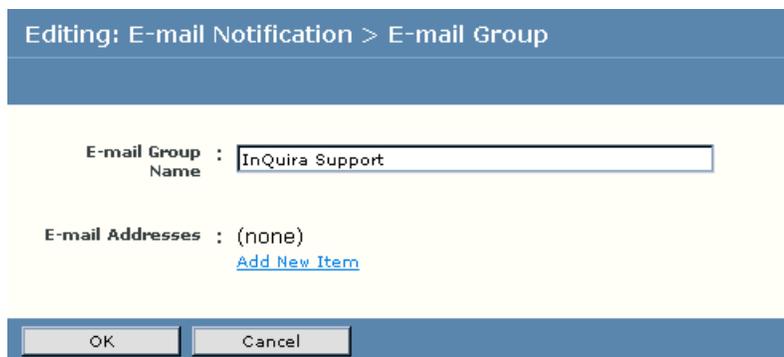
Editing: E-mail Notification

E-mail Host ▶ mail.my_company.com

E-mail Group : (none)
[Add New Item](#)

OK Cancel

- Select an E-mail Group to modify, or select the **Add New Item** link. The **E-mail Group** page displays.



Editing: E-mail Notification > E-mail Group

E-mail Group Name : InQuira Support

E-mail Addresses : (none)
[Add New Item](#)

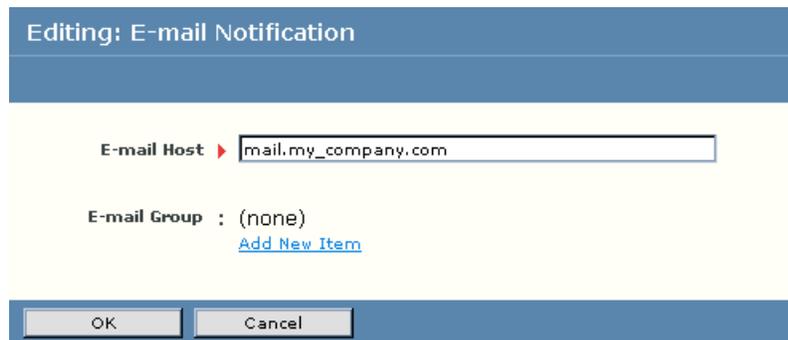
OK Cancel

- Specify an **E-mail Group Name**, for example, InQuira Support
- Specify group member addresses, as described in *Adding and Modifying E-mail Group Members* on page 95.

Adding and Modifying E-mail Group Members

To add or modify E-mail group member addresses:

- Select **Email Notification** from the Advanced Configuration Facility, and select **Edit**. The **E-mail Notification** page displays the **E-mail Host** field.



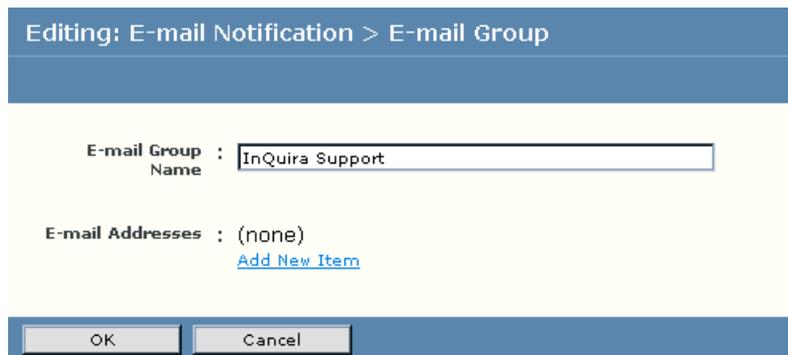
Editing: E-mail Notification

E-mail Host ▶ mail.my_company.com

E-mail Group : (none)
[Add New Item](#)

OK Cancel

- Select an E-mail Group to modify, or select the **Add New Item** link. The **E-mail Group** page displays the E-mail Group Name field.



Editing: E-mail Notification > E-mail Group

E-mail Group Name : InQira Support

E-mail Addresses : (none)
[Add New Item](#)

OK Cancel

- Specify an address to modify, or select **Add New Item**. The E-mail Addresses page displays the Address field.



Editing: E-mail Notification > E-mail Group > E-mail Addresses

Address ▶ support@my_company.com

OK Cancel

- Enter a valid address
- Repeat the process to add member addresses as needed

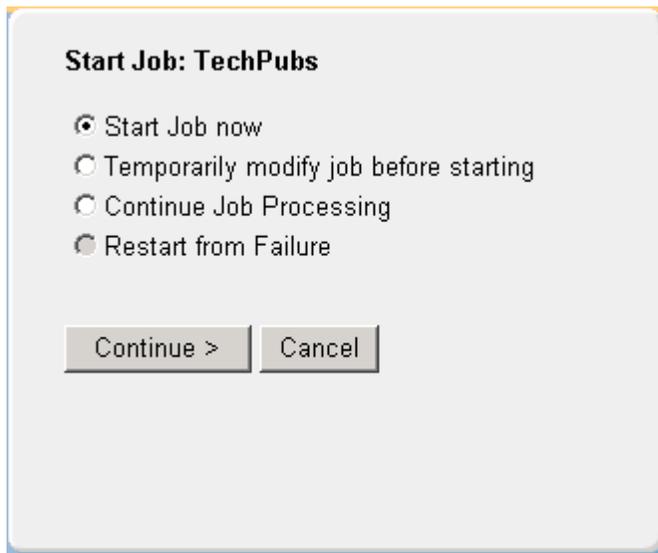
Starting a Job Interactively

To start a configured job interactively from the Job List in System Manager

- Select the job from the Job List
- Select **More Actions**, click **Start Job Now...**



The Start Job dialog displays:



- Select an option from the Start Job dialog display

Start Job now	Submit the selected job for immediate processing using its currently saved configuration.
Temporarily modify job before starting	Modify the job configuration only for a single occurrence.
Continue Job Processing	Continue a manually stopped job from the point at which processing stopped.
Restart From Failure	Restart a failed job from the point of failure.

NOTE: The System Manager includes interactive job information in the job history details, even when the job configuration is temporarily modified.

- Select **Continue** >

The view displays the Job Status screen.

Using Work Clients

Work clients are InQuira components that perform the actual work associated with scheduled tasks. The standard Development Application configuration configures a local work client to perform tasks on the local Schedule facility instance.

You can define additional instances, each with its own work client, to create a distributed application to reduce processing time for scheduled tasks. Work clients operate as long-running processes that communicate with the Schedule facility instance.

The Schedule facility also provides the mechanism for distributed processing. If a task group contains multiple tasks or collections, the tasks can be distributed to any configured work clients. If there are no work clients, the Schedule facility itself performs the work.

The work clients register themselves dynamically with the Schedule facility. The Schedule facility records the following information for each configured work-client:

- the types of tasks it can perform
- whether it is ready to perform a task

You can limit the tasks that a workclient is allowed to perform, as described in [Defining Tasks for a Work Client](#) on page 98.

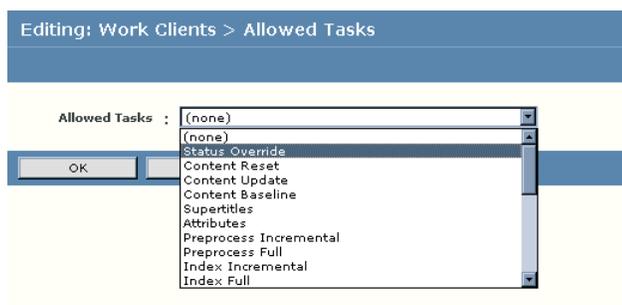
Defining Tasks for a Work Client

You define the allowed tasks for a work client using the Allowed Tasks field on the Work Clients page. The Work Clients page lists the allowed tasks for the currently defined work clients.

To add a task:

- Select the **Add New Item** link in the Allowed Task list for the selected Work Client

The Allowed Task displays the currently allowed tasks for the selected Work Client:



- Select a desired task, then repeat the process for each additional allowed task

NOTE: See [InQuira Tasks on page 84](#) for descriptions of the available tasks.

Installation Configuration Environment Operations

This section describes the operations that you can perform from the Installation Configuration Environment command window.

Installation Configuration Environment Command Operations

The Installation Configuration Environment provides access to the following scripts and programs:

Program	Description
adminToolTask.bat/sh	
applyimUpdates.bat/sh	
applyUpdates.bat/sh	
batchQualityMonitor.bat/sh	

browser.bat/sh

buildLogCatalog.bat/sh

buildWebapp.bat/sh

Use this command to compile the InQira web application for initial use, or to apply customization.

bundleData.bat/sh

checkLocation.bat/sh

clearLocks.bat/sh

configTool.bat/sh

convertBinLogsToText.bat/sh

createAnalyticsArchive.bat/sh

createAnalyticsIMoltp.bat/sh

createAnalyticsStore.bat/sh

createApp.bat/sh

createContentStore.bat/sh

Use this command to create the database tables for the indexed application content.

createIMAnalyticsStore.bat/sh

createimdb.bat/sh

createQualityMonitorStore.bat/sh

Use this command to create the database tables for the Quality Monitor.

createUserExperienceStore.bat/sh

deployApp.bat/sh

Use this command to deploy the InQira web application for initial use, or to apply customization.

deployim.bat/sh

dumpEvent.bat/sh

hardenTool.bat/sh

iceant.bat/sh

importConcepts.bat/sh

indexInfo.bat/sh

Use this command to display information about the Content Store.

initimapp.bat/sh

initNavigation.bat/sh

initWebApp.bat/sh

inquira.bat/sh

inquira_classpath_prompt.bat/sh

inquiraim.bat/sh

InquiraimService.bat/sh

InqiraService.bat/sh

InstallJMSWrapper-NT.bat

iqcmd.bat/sh

iqsql.bat/sh

jobInterrupt.bat/sh

jobRun.bat/sh

logPurge.bat/sh

patchTool.bat/sh

printVersion.bat/sh

Use this command to display InQuira version information.

propagate.bat/sh

qualityMonitor.bat/sh

remoteInstaller.bat/sh

removeContentData.bat/sh

repackageWebapp.bat/sh

run.bat/sh

runTaskGroup.bat/sh

scheduler.bat/sh

setSynchPoint.bat/sh

tailTheIMLog.bat/sh

tailTheLog.bat/sh

Use this command to display the application log data.

uninstallimservice.bat

uninstallJMSWrapper-NT.bat/sh

uninstallServices.bat

updateSpellcheck.bat/sh

valideConfig.bat/sh

workbench.bat/sh

Use this command to start the InQuira Language Workbench application.

Program	Description
admintool.bat/.sh	Use this command to start the Advanced Configuration Facility.
buildWebapp.bat/.sh	
createContentStore.bat/.sh	
createQualityMonitorStore.bat/.sh	
deployApp.bat/.sh	
indexInfo.bat/.sh	
printVersion.bat/.sh	
tailTheLog.bat/.sh	
workbench.bat/.sh	

Viewing Log Data

You can view and analyze application log data using the Event Viewer.

You access the Event Viewer by:

- Selecting **Tools** from the System Manager.
- Select **Event Viewer**.

Or by selecting the select the Event Log icon  located in the top right corner of the Job Status screen.

The Event Viewer reads, categorizes, and displays logged application information by functional area, for example:

- Infrastructure, which contains events related to the application instances and services.
- Scheduler, which contains events related to defining and executing scheduled Jobs.
- Content Acquisition, which contains events related to preprocessing files during a crawl.

NOTE: The specific categories of event data displayed depend on the configuration, role, and usage of the application.

Within each functional category, the Event Viewer displays a time-based hierarchy that you can expand to locate specific events. You can use the Error (▲), Warning (▲), and Exception (▲) icons to locate nodes within the log that contain these types of events, and drill down to see the relevant details.

The Event Viewer includes functions at the top of displays that you can use to:

- Search for specific text within the entire log file

NOTE: The Find function supports regular expressions, and is not restricted to the currently selected node.

- Page through the log file
- Save the current log file set to a .jar file for remote analysis
- Save the log files for a specific event for remote analysis

You can restrict the data displayed by the Event Viewer using the Failure, Success, Warning, Review/Exception filters to show one or more of these types of events. You can also change the log output level, as described in the section on [Changing the Log Output Level on page 105](#).

Importing and Exporting Log Files

You can download the entire set of current log files to your local disk drive for further analysis, as described in [Downloading the Current Log File Set on page 103](#). You can also download log files for a specific event, as described in [Downloading Log Files for a Specified Event on page 104](#).

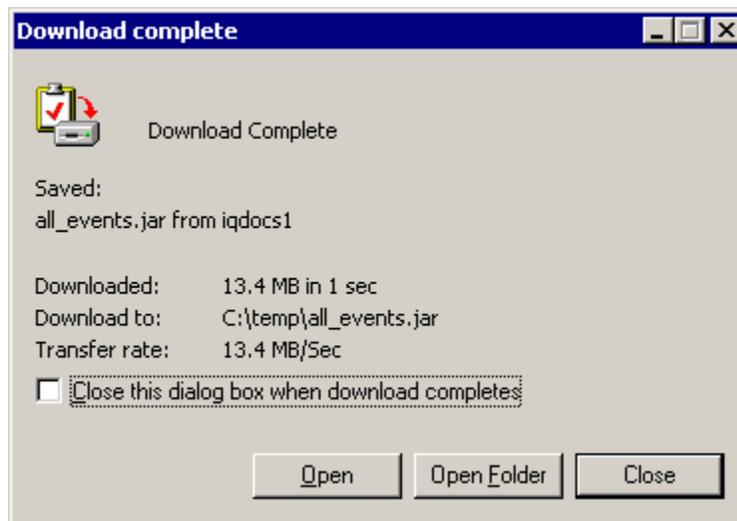
Once downloaded, the log files can then be uploaded and viewed on another instance of the System Manager at another location, as described in [Uploading Log Files on page 105](#).

IMPORTANT: Log files are stored in the
<\$Base>\development\content\data\log\binary\default
folder by default. When you upload them, however, you must upload them
from the
<\$Base>\development\content\data\log\binary_external
folder.

Downloading the Current Log File Set

To download the entire set of current log files:

- Select **Current Log Set** as the Logset
- Click **Download** to start the download process
- Click **Save** when prompted
- Select the folder in which to save the .jar file and click **Save**



The Event Viewer displays the Download Complete dialog when it has finished saving the .jar file.

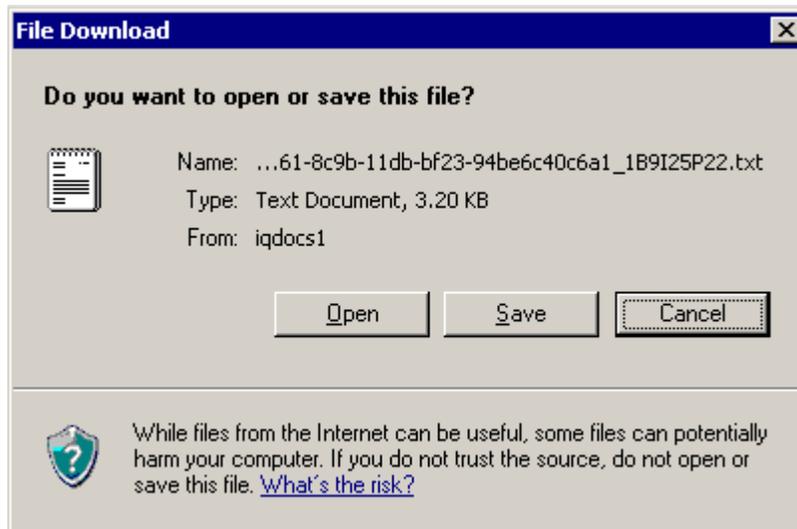
- Click **Close** to close the Download Complete dialog

Downloading Log Files for a Specified Event

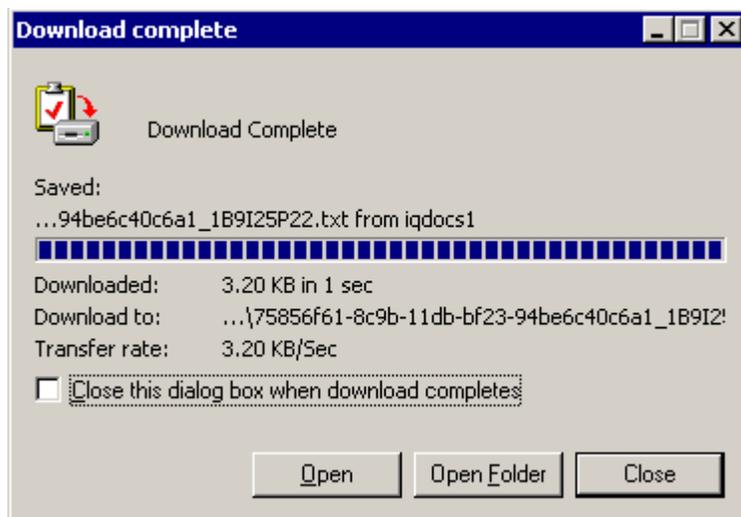
To download a set of log files for a specified event:

- Select **Current Log Set** as the Logset
- Click on the event to download
- Click  at the top of the Log Detail pane to start the download process

The File Download dialog is displayed.



- Click **Save** when prompted
- Select the folder in which to save the .jar file and click **Save**



The Event Viewer displays the Download Complete dialog when it has finished saving the files.

- click **Close** to close the Download Complete dialog

Uploading Log Files

To upload log files:

- Extract and copy the log files to
<\$Base>\development\content\data\log\binary_external
- In the Event Viewer, select **External Log Set** as the Logset
- Click **build** to upload the log files

The uploaded log files are displayed in the Event Viewer.

Changing the Log Output Level

You can change the log Intelligent Search log output level to include debug information. To change the log output level to VERBOSE, add the following XML to the `installation.xml` file:

```
<serviceConfiguration name= default
<logService>
<verbosity keyref="choices.verbosity[Debug]" />
</logService>
</serviceConfiguration>
```

To enable output to the console, change the instance definition to include the item in bold below:

```
<instance name="xx"
<bootstrap>
<logStore>
<b>consoleEnabled</b>true</consoleEnabled>
....
</logStore>
....
</bootstrap>
....
</instance>
```

Managing Log Space

Occasionally content processing stops if the instance's log runs out of the allotted disk space. The maximum default limit is 2000MB (per runtime instance) and 20000MB (per content processing instance) of data split as multiple files of 5MB each. To free up disk space you may either configure more allotted disk space or clean up/extract data from the logs.

To change the configuration:

- Stop the InQuira Instance.
- Update the `<INSTALL_DIR>\instances\<INSTANCE_NAME>\installation.xml`
- Reconfigure the `<maxFileSize>`, the maximum file size for each log file, to represent the maximum file size in Megabytes (recommended maximum 20M for a runtime instance)
- Also reconfigure the `<maxDirSize>`, the maximum disk space reserved for an instance's log files, to represent the maximum files allowed in one log directory (recommended maximum 20M for a runtime instance).

NOTE: If the `<maxFileSize>` is met, yet there is still space in `<maxDirSize>`, a new log file is created and utilized until the `<maxDirSize>` is full

- Restart the instance.
- Repeat on each content processing workclient and runtime instances.

[Content Log Purge on page 107](#) should prevent logs from filling disk space however if it does occur you can manually delete the log files.

To clean up data from the logs:

- Stop the InQuira Instance.
- Open the log directory
`<INSTALL_DIR>\instances\<INSTANCE_NAME>\<ENVIRONMENT>\<runtime/content>\data\log`
 - Remove all files located under `\catalog`.
 - Remove files located in `\text`.
 - Remove files located in `\binary\tools`, `binary_external`, `binary\extractedFiles`, `binary\<instance_name>`

After confirming the following files have been loaded into analytics and following your company's internal policy:

- Open the log directory
`<INSTALL_DIR>\instances\<INSTANCE_NAME>\production\content\data\analytics`
 - Remove files located in \archive.
- Open the log directory `<INSTALL_DIR>\analytics\im\ETL`
 - Remove files located in \archive.
- Restart the instance.

Content Log Purge

Run Content Log Purge on an instance to delete the log files from the instance (i.e., tools, default, scheduler, workclient, runtime). The binary files and then the catalog files are purged until the capacity factor is met.

In order to delete content log files automatically you may:

- Schedule a Content Log Purge Job in System Manager. See [Content Log Purge on page 107](#) for detailed instructions.
- Run the following command from Installation Configuration Environment: **logPurge**
The default settings for logPurge are to retain 14 days and maintain a capacity of 70% for more information see [Installation Configuration Environment Command Operations on page 98](#).

NOTE: Log files are deleted until the capacity factor is met regardless of the specified retention days.

- Content Log Purge occurs automatically when the total log file size reaches capacity.
-

NOTE: Only tools and scheduler instances are configured to run automatic content log purge.

Chapter 5 Integrating InQuira with a Production User Interface

InQuira Runtime instances, which process requests and provide responses, must communicate with the presentation environment, such as an application server, in which the InQuira web-based User Interface is deployed. The runtime environment communicates with the presentation environment through its Gateway service.

NOTE: When you perform the default InQuira installation and configuration, the InQuira runtime communicates with the packaged HTML agent, which is deployed within an Apache Tomcat web server.

The InQuira runtime components operate in a Java 1.4 JVM environment. For production purposes, you can integrate InQuira Runtime instance with a web-based client operating in a separate JVM or IIS/ASP environment.

The InQira Gateway Service

The runtime environment communicates with the presentation environment through the Gateway service. The Gateway supports communication through the various agents, clients, and gateways that are provided with the product.

Agents, clients, and gateways are packaged in the product as archives (.jar or .war) that you configure and deploy in your presentation environment.

The following table describes the relevant integration components for various types of presentation environments:

Presentation Environment	Gateway	Agent
InQira web server	N/A (local)	HTML Agent: htmlagent.war / ui.jsp
J2EE web/application server	SOAP RMI	J2EE Agent: j2eeagent.war / ui.jsp
IIS/ASP	SOAP	ASP Agent: aspagent.zip / default.asp

InQuira Integration Agents

InQuira provides the following agents packaged as archives that you can configure and deploy to support communication between the runtime and presentation environments:

Agent	Archive Name	Description
HTML Agent	htmlagent.war	This agent provides a J2SE 1.4 compliant web application that performs XSLT processing using the provided integrated (Tomcat) web server.
J2EE Agent	j2eeagent.war	This agent provides a J2EE compliant web application that performs XSL processing using an InQuira gateway.
ASP Agent	aspagent.zip	This archive an IIS/ASP-compliant web application that uses SOAP to communicate with the Java 1.4 runtime environment.

The integration agents are located in the archive directory in the InQuira home directory.

InQuira Integration Clients

The integration agents use provided clients to access configured gateways. InQuira provides the following integration clients, which correspond to the provided gateways:

- the SOAP client
- the RMI client

The integration clients are packaged with the integration agents in the archive directory.

The InQira Gateways

InQira standalone gateways support communication between the runtime environment, which operates in a Java 1.4 JVM, and Java 1.3, Microsoft IIS using ASP, and other presentation environments.

You can use the following InQira gateways to communicate between runtime and deployed client applications:

Gateway	Description
SOAP	<p>This gateway supports communication between the runtime and J2EE, Microsoft IIS using ASP, and other presentation environments.</p> <p>The SOAP gateway archive is similar to the HTML agent archive, but does not contain the files associated with XSLT formatting. It is located in archive directory in the InQira home directory.</p> <p style="text-align: center;"><InQira_home>/archive/soapgw.war</p>
RMI	<p>This gateway supports communication between the runtime and J2EE presentation environments.</p> <p>The RMI gateway is located in within the product code archive, <code>inquira.jar</code>.</p>

You use an InQira gateway by:

- Selecting the appropriate gateway for your presentation environment
- Configuring the gateway, as described in [Using the Gateways on page 113](#)
- Configuring the appropriate agent, as described in [Using the Agents on page 117](#)

Using the Gateways

You must configure the appropriate gateway for the integration agent. InQuira provides the following gateways:

- The SOAP gateway, as described in [Using the SOAP Gateway on page 113](#)
- The RMI gateway, as described in [Using the RMI Gateway on page 115](#)

You can also combine the HTML gateway with the appropriate SOAP configuration information, as described in [Combining the SOAP Gateway and the HTML Agent on page 128](#).

Using the SOAP Gateway

To configure the SOAP gateway:

- Deploy the SOAP gateway archive, as described in [Deploying the SOAP Gateway on page 113](#)
- Deploy the InQuira installation override file, as described in [Deploying the Installation Override File on page 114](#)
- Configure the communication options, as described in [Configuring the SOAP Communications Options on page 114](#)
- Deploy the modified archive as appropriate for your application server

NOTE: The SOAP gateway archive is similar to the HTML Gateway archive, but does not contain the files associated with XSL formatting. The Advanced Configuration Facility is not available in this environment; you need to configure the application by manually editing the `installation.xml` file.

Deploying the SOAP Gateway

To deploy the SOAP Gateway:

- extract the contents of `soapgw.war` from `<InQuira_home>/archive`
or
- place it in the appropriate location for your application server and allow it to be expanded

Deploying the Installation Override File

The installation override file contains installation-specific information required by the application server. It is located at:

```
<InQuira_home>/inquire/install_override.xml
```

To deploy the installation override file:

- place the file in a location from which it can be read by the application server, for example:

```
<Tomcat_home>/common/classes
```

or

```
soapgw/WEB-INF/classes
```

Configuring the SOAP Communications Options

You configure SOAP communication by specifying:

- the URL to which you send the SOAP request
- the deployment descriptor

You can specify the URL and deployment descriptor for the SOAP gateway by adding the following configuration to the `installation.xml` file:

```
<root>
  <gateway>
    <soap>
      <config>
        <url>http://[HOSTNAME]:[PORT]/[WEBAPP PATH]/servlet/rpcrouter</url>
        <deploymentDescriptor>/com/inquire/infra/gateway/soap/DeploymentDescriptor.xml</
deploymentDescriptor>
      </config>
      <gateway keyref="gateway.gateways[0]" />
    </soap>
  </gateway>
</root>
```

where:

Parameter	Description
<code><url></code>	specifies the path to the SOAP servlet within the configured agent in the presentation environment
<code><deploymentDescriptor></code>	specifies the location of the deployment descriptor file within the configured agent. The default value is: /com/inquire/infra/gateway/soap /DeploymentDescriptor.xml

Specifying the URL and Deployment Descriptor

You can specify the URL and deployment descriptor for the SOAP gateway by adding configuration to the installation.xml file:

- add the following to instance.xml

```
<root>
  <gateway>
    <soap>
      <config>
        <url>http://[HOSTNAME]:[PORT]/[WEBAPP PATH]/servlet/rpcrouter</url>
        <deploymentDescriptor>/com/inquiria/infra/gateway/soap/DeploymentDescriptor.xml</
deploymentDescriptor>
      </config>
      <gateway keyref="gateway.gateways[0]" />
    </soap>
  </gateway>
</root>
```

where:

Parameter	Description
<url>	specifies the path to the SOAP servlet within the configured agent in the production web application
<deployment Descriptor>	specifies the location of the deployment descriptor file. The standard configuration is: /com/inquiria/infra/gateway/soap /DeploymentDescriptor.xml

Using the RMI Gateway

To configure the RMI gateway:

- configure the RMI gateway in config.xml, as described in [Configuring RMI Communication on page 116](#)
- start the RMI gateway, as described in [Starting the RMI Gateway on page 116](#)
- configure the RMI client for the J2EE agent, as described in [Configuring the RMI Client for the J2EE Agent on page 120](#)

Configuring RMI Communication

To configure RMI communication:

- specify the host name and port where the registry is running in the `installation.xml` file.

NOTE: If there is no registry running, a new one is run in-process.

- specify the name used to bind the RMI object in the registry, for example:

```
<gateway>
  <rmi>
    <config>
      <host>host_name</host>
      <port>9123</port>
      <name>inquira-rmi-gateway</name>
    </config>
    <gateway keyref="gateway.gateways[0]" />
  </rmi>
</gateway>
```

where:

Parameter	Description
host	Specifies the host name where the registry is operating. A new registry is created if necessary.
port	Specifies the port for the RMI registry.
name	Specifies the name to bind the object in the RMI registry.

Starting the RMI Gateway

To start the RMI standalone gateway:

- Execute the following command:
`java -D-com.inquiria.infra.gateway.rmi.RMIServer`

Example RMI Gateway Configuration

```
<gateway>
  <rmi>
    <config>
      <host>j2se14.inquiria.com</host>
      <port>9123</port>
      <name>inquira-rmi-gateway</name>
    </config>
    <gateway keyref="gateway.gateways[0]" />
  </rmi>
</gateway>
```

Using the Agents

InQuira provides the following integration agents in the InQuira archive:

```
<InQuira_home>/archive
```

You use the integration agents by configuring and deploying them as appropriate for your environment.

- The HTML agent, `htmlagent.war`, is a J2SE 1.4 compliant web application that performs XSLT processing using the provided integrated (Tomcat) web server. This web application is configured as part of the standard configuration, as described in the *Intelligent Search Installation Guide*.
- The J2EE agent, `j2eeagent.war`, is a J2EE compliant web application that performs XSL processing using an InQuira gateway. You configure and deploy the J2EE agent, as described in [Using the J2EE Agent on page 117](#).
- The ASP Agent, `aspagent.zip`, provides an IIS/ASP-compliant web application. You configure and deploy the J2EE agent, as described in [Using the ASP Agent on page 121](#).

Using the J2EE Agent

You can use the J2EE agent with either the SOAP client or the RMI client.

To use the J2EE agent:

- Configure the appropriate client, as described in [Configuring the SOAP Client for the ASP Agent on page 122](#).
- Deploy the J2EE agent in the production client web server or application server, as described in [Deploying the J2EE Agent on page 119](#).

Configuring the SOAP Client for the J2EE Agent

You configure the SOAP client for use with the J2EE agent and the SOAP gateway by editing the User Interface and Advanced Configuration Facility java server pages to specify the location of the configured SOAP gateway and the deployment descriptor name.

To configure the SOAP client for the J2EE agent:

- Expand the J2EE archive in a temporary directory
- Edit the User Interface and Advanced Configuration Facility java server pages
- Recreate the agent archive and deploy the agent
- Verify the configuration

Expanding the J2EE Agent Archive

To expand the J2EE agent archive:

- Create a temporary directory, or use any convenient location
- Expand the J2EE agent archive

```
jar -xvf <InQuira_home>/archive/j2eeagent.war
```

The J2EE agent archive expands into the following directory structure:

Directory	Description
css	Contains style sheets for the Java Server Pages (JSP).
images	Contains images for the JSP.
js	Contains javascript files.
META-INF	Contains the manifest file for the archive.
WEB-INF	Contains essential classes and libraries for the agent.
File	Description
admin.jsp	This is the InQuira Advanced Configuration Facility.
contact.jsp	This is the JSP for the Contact Deflection module.
ui.jsp	This is the InQuira default User Interface.

Specifying the Gateway URL

You configure the SOAP client by editing the Advanced Configuration Facility and User Interface java server pages located in the expanded agent archive, so that they can locate the active SOAP gateway.

To configure the SOAP client

- Open the Advanced Configuration Facility java server page, `admin.jsp` in a text editor
- Locate the following property setting:

```
props.setProperty( com.inquiria.infra.client.soap13.Client.URL, "http://localhost:9999/soapgw/  
servlet/rpcrouter" );
```

- Specify the following values:

localhost	Specify the host name of the processor on which the SOAP gateway is installed.
port	Specify the port that the SOAP gateway is configured to listen on.
soapgw	Specify the name of the gateway that you have installed and configured; for example, the default SOAP gateway is named <code>soapgw</code> .
NOTE: Ensure that the path to <code>rpcrouter</code> is correct for your installed gateway.	

- Specify the same values for this property setting in the file `ui.jsp`.

Deploying the J2EE Agent

To deploy the J2EE agent:

- Re-create the agent archive with the configured Advanced Configuration Facility and User Interface java server pages
- Deploy `j2eeagent.war` into J2SE 1.3-compliant web or application server

Accessing the Advanced Configuration Facility and User Interface

You can access the Advanced Configuration Facility and User Interface from the following URLs:

To access the Advanced Configuration Facility:

- Open the URL:

`http://host:port/j2eeagent/admin.jsp`

To access the User Interface:

- Open the URL:

`http://host:port/j2eeagent/ui.jsp`

Configuring the RMI Client for the J2EE Agent

InQuira provides a standalone RMI client to support communication between an InQuira instance operating in a JVM remote from the web application server.

To configure the RMI client:

- Start the RMI server
- Configure the RMI access for the J2EE agent
- Expand the J2EE archive in a temporary directory
- Edit the User Interface and Advanced Configuration Facility java server pages
- Recreate the agent archive

`jar cvMf ../j2eeagent.war`

- Deploy the J2EE agent into a J2SE 1.3-compliant web or application server
- Access:

`http://host:port/j2eeagent/ui.jsp`

Starting the RMI Server

To start the RMI server:

- Execute the following command:

`java -D-com.inquirainfra.gateway.rmi.RMIServer`

Activating the RMI Configuration

To activate the RMI configuration:

- Open the admin.jsp and ui.jsp files, and edit the following:
- Disable the SOAP agent configuration by commenting the appropriate lines
- Enable the RMI configuration by uncommenting the appropriate lines

Specify the host and port number of the RMI registry and the name used to bind the RMI gateway, using the values from the RMI server configuration.

Example RMI Configuration

```
<gateway>
  <rmi>
    <config>
      <host>j2se14.inquiracom.com</host>
      <port>9123</port>
      <name>inquiracom-rmi-gateway</name>
    </config>
    <gateway keyref="gateway.gateways[0]" />
  </rmi>
</gateway>
```

Using the ASP Agent

You can use the ASP agent with the SOAP client. To use the ASP agent:

- configure the SOAP client, as described in [Configuring the SOAP Client for the ASP Agent on page 122](#).
- deploy the ASP agent in the production client web server or application server, as described in

NOTE: The `inquiracom/components` directory contains two components that are required for ASP support, and a `README` file that provides usage information.

Prerequisites for Using the ASP Agent

Ensure that the following prerequisites are met before using the ASP Agent:

- Microsoft IIS V4 or higher must be installed
- Microsoft XML Core Services V4.0 SP1 or higher must be installed
- Microsoft Windows HTTP Services 5.0 SDK must be installed
- Network access to a properly configured stand-alone InQuira 6 SOAP gateway

NOTE: Please ensure that the required Microsoft tools and components are properly installed, and that you are authorized to use them.

Configuring the SOAP Client for the ASP Agent

To configure the SOAP client for the ASP agent:

- Create a directory to be the location of the web application
- Expand the ASP agent archive
- Configure the URL for the SOAP gateway
- Add and configure a new web application (virtual directory) in the IIS configuration

For example, to install the ASP agent in:

```
C:\inetpub\wwwroot\inquira_web
```

to communicate with the SOAP gateway at:

```
http://soaphost:8888/soapgw/servlet/rpcservlet
```

and make the web application accessible at the location:

```
http://myhost/inquiria
```

Creating the Application Directory

Create the directory for the web application using the standard procedure for the presentation server environment. For example, in the application directory structure:

```
C:\inetpub\wwwroot
```

- create an application directory `inquira_web`:

```
mkdir c:\inetpub\wwwroot\inquira_web
```

Expanding the ASP Agent Archive

To expand the ASP agent archive:

- Copy the packaged ASP agent archive from its location in the InQuira archive directory to the application directory, for example:

```
C:\inetpub\wwwroot\inquira_web\aspagent.jar
```

- Expand the archive in the application directory using an appropriate method for your environment, for example:

```
unzip c:\temp\aspagent.zip
```

The application directory contains the following directories and files:

Directory	Description
css	Contains style sheets for the ASPs.
images	Contains images for the ASPs.
js	Contains javascript files.
xsl	Contains stylesheets for the various components.
File	Description
Admin.asp	This is the InQuira Advanced Configuration Facility.
Contact.asp	This is the ASP for the Contact Deflection module.
Default.asp	This is the InQuira default User Interface.
error.asp	This is the error page for the User Interface.
global.asa	The <code>global.asa</code> file is an optional file that can contain declarations of objects, variables, and methods that can be accessed by every page in an ASP application

Modifying the SOAP Application Variable

To modify the `soapAddress` application variable:

- open the file `global.asa` in a text editor
- locate the following line:

```
Application( "soapAddress" ) = http://localhost:8080/soapgw/servlet/rpcrouter
```
- specify the value of the variable to be the fully qualified URL of the standalone SOAP gateway, for example:

```
Application( "soapAddress" ) = http://soaphost:8888/soapgw/servlet/rpcrouter
```

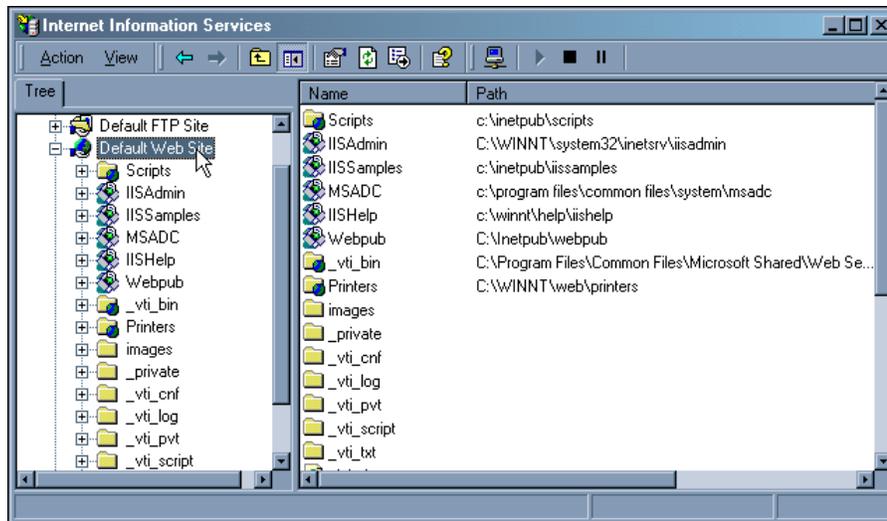
Adding the New Application to the IIS Configuration

Edit the IIS configuration to add a new web application, or virtual directory.

- Start the Windows Management Console for IIS using the appropriate method for your environment; for example:

`%WINDIR%\system32\inetrv\iis.msc`

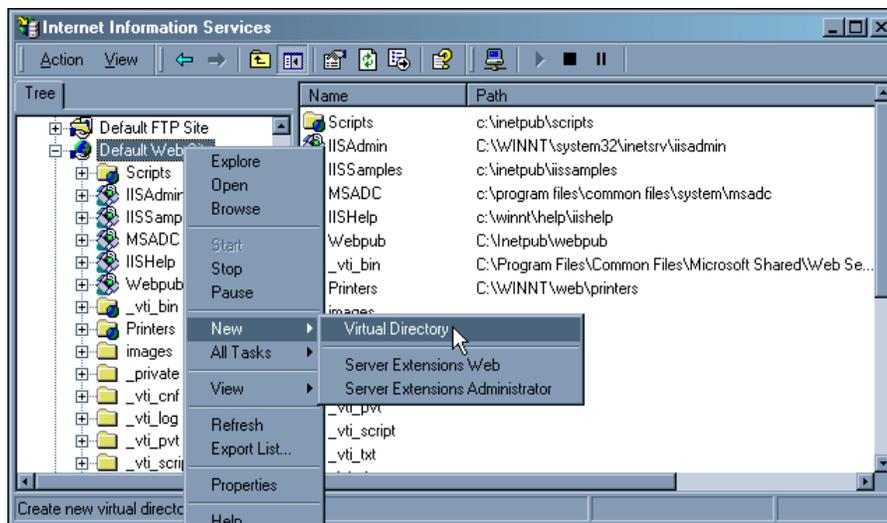
The IIS Management Console window displays the web application hierarchy.



- Right-click to select the appropriate web server (usually Default Web Site)

The IIS menu displays.

- Select **New -> Virtual Directory**

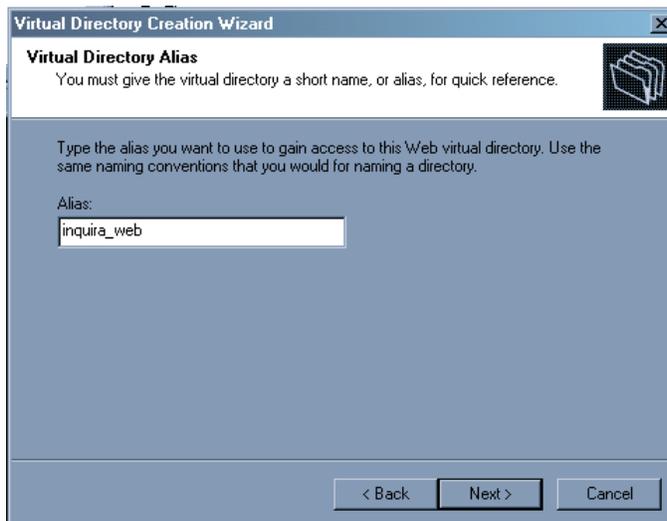


The Virtual Directory Creation Wizard displays:

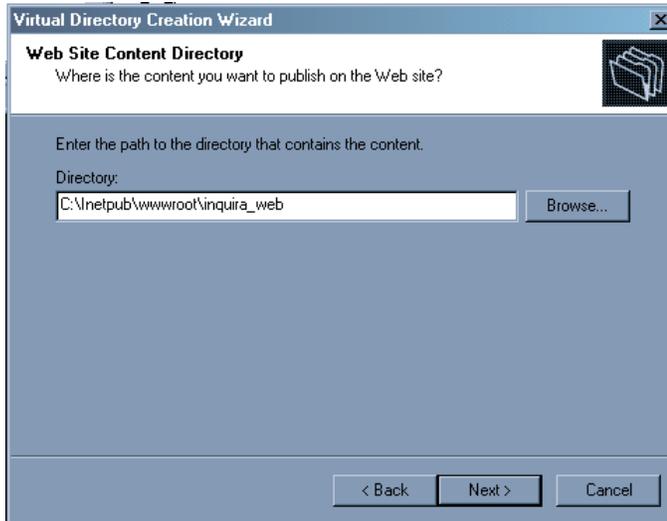


- Select **Next >** to create a new virtual directory, and enter the Alias:

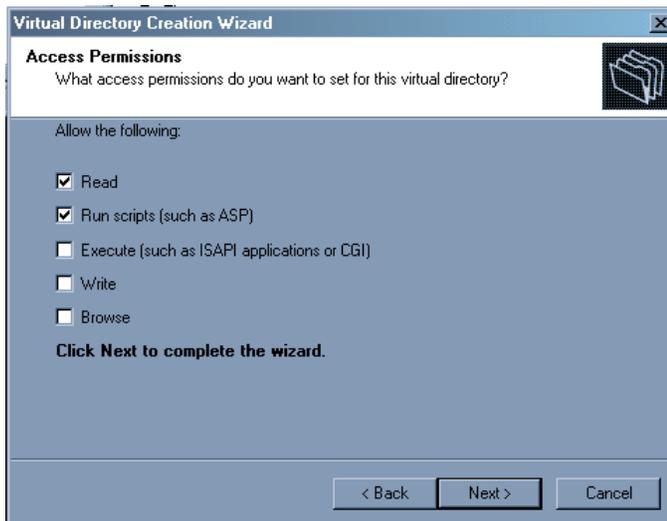
inquirar_web



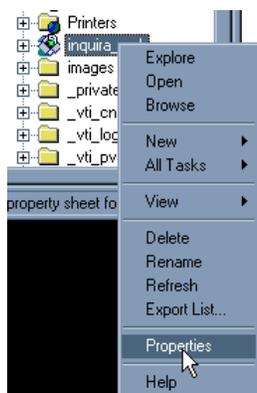
- Select **Next >** and enter the Web Site Content Directory:
C:\inetpub\wwwroot\inquira_web



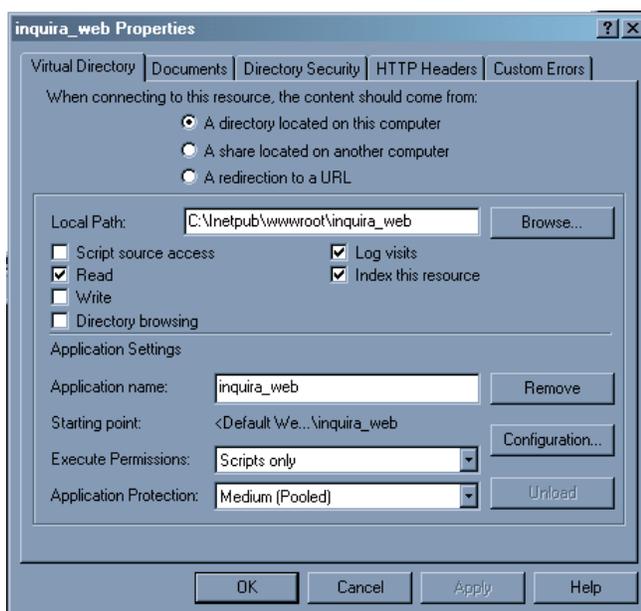
- Enter **Next>** and set the default permissions:
Read
Run scripts (such as ASP)



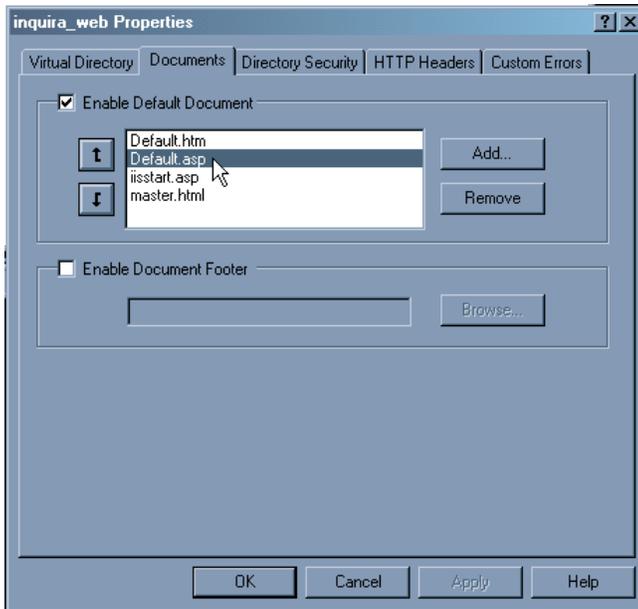
- You can make further modifications by right-clicking on the newly created virtual directory and selecting **Properties**:



The Properties dialog displays:



NOTE: Ensure that Default.asp is configured as an enabled default document, as shown:



Combining the SOAP Gateway and the HTML Agent

You can combine the SOAP gateway and the HTML agent into a single hybrid web application containing a non-SOAP user interface that you can use to:

- Administer the application
- Test the User Interface without using the SOAP client application, thereby circumventing any customization that requires the use of the SOAP interface

You create the hybrid web application by:

- Creating a new archive that contains:
 - the SOAP gateway configuration, as described in
 - the standard HTML agent
- Deploying the new hybrid web application

In this example, we create a new archive called `inquiragw.war`.

To create the new archive:

- Extract both `htmlagent.war` and `soapgw.war` from the `<InQuira_home>/archive` directory into separate directories.
- Edit the `web.xml` files for both components, as described in [Editing the SOAP Gateway Web.xml File on page 129](#) and [Editing the HTML Agent Web.xml File on page 130](#).
- Create a new web application archive file named `inquiragw.war`, and deploy the archive in your application/web server.
- Validate the configuration, as described in [Verifying the Hybrid Web Application Configuration on page 130](#).

Editing the SOAP Gateway Web.xml File

You can edit the values for the following fields in the SOAP gateway `web.xml` file:

Field	Description
<code>soap_gateway_url</code>	Points to the SOAP gateway (e.g., <code>http://host:8222/inquiragw/servlet/rpcrouter</code>)
<code>soap_gateway_urn</code>	Defines the name of the SOAP gateway (by default always "urn:inquira")
<code>soap_gateway_timeout</code>	Timeout in milliseconds before the client aborts the SOAP operation

For example:

```
<context-param>
  <param-name>soap_gateway_urn</param-name>
  <param-value>urn:inquira</param-value>
</context-param>

<context-param>
  <param-name>soap_gateway_url</param-name>
  <param-value>http://localhost:8222/inquiragw/servlet/
rpcrouter</param-value>
</context-param>

<context-param>
  <param-name>soap_gateway_timeout</param-name>
  <param-value>50000</param-value>
</context-param>
```

Editing the HTML Agent Web.xml File

Each archive contains a file named `web.xml`.

- Open both files in a text editor
- In the HTML Agent `web.xml` in the `WEB-INF` directory, locate the following:

```
<servlet>
  <servlet-name>gatewayautodeployer</servlet-name>
  <display-name>Gateway Autodeployer Servlet</display-name>
  <description>no description</description>
  <servlet-class>com.inquiria.infra.trnsp.AutoDeployServlet</servlet-class>
  <init-param>
    <param-name>sleepTime</param-name>
    <param-value>5000</param-value>
  </init-param>
  <load-on-startup>1</load-on-startup>
</servlet>
```

- Add the information that you copied from the SOAP gateway `web.xml` file, immediately following the lines referenced in the previous example.

Verifying the Hybrid Web Application Configuration

You can verify the new web application by:

- Examining the application/web server `stdout` output
- Examining the SOAP RPC router error page

To verify the configuration in the application/web server `stdout` output:

- Locate a message similar to:

```
AutoDeployer: after calling Instance.getInstance( ) SOAP gateway with service id urn:inquiria
deployed. AutoDeployer: after calling deployHandler
```

To examine the SOAP RPC router error page:

- Open the deployment page using the following URL in your browser:

```
http://[HOSTNAME]:[PORT]/[WEBAPP PATH]/servlet/rpcrouter
```

The deployment page displays:

```
SOAP RPC Router
Sorry, I don't speak via HTTP GET- you have to use HTTP POST to talk to me.
```

Configuring Access from J2EE Clients

You can access the InQira runtime from a J2SE 1.3 environment using the following methods:

- Using the `com.inqira.infra.client.Client` API that allows for XML input and output.
- Using the `com.inqira.infra.client.Client` API that allows for XML input that returns Fully processed HTML.
- using J2EE agent XSLT processing on a J2SE 1.3 compliant web or application server.

Chapter 6 Configuring Distributed Applications

You can configure an InQuira production environment to distribute content processing and request processing work among multiple configured instances, as described in the following sections:

- [Implementing Distributed Content Processing on page 133](#)
- [Implementing Distributed Request Processing on page 141](#)

Implementing Distributed Content Processing

You can configure an InQuira production environment to distribute content processing tasks among configured remote InQuira instances.

In a distributed content processing environment, a Scheduler instance coordinates the distribution of content processing work to various configured remote work clients. The Scheduler instance can also use its local work client as part of the content processing group.

IMPORTANT: You cannot distribute content processing work among multiple configured local work clients.

Distributed content processing increases efficiency in a production environment by enabling multiple instances to process a single set of content simultaneously.

The Scheduler instance distributes content processing work by assigning content processing work to remote work clients either on a collection basis, or by using optional sub-collections, which help to distribute content processing more equally between multiple work clients.

See [Using Sub-Collections for Distributed Content Processing on page 138](#) for more information about content sub-collections, and the content processing steps that can use sub-collections.

The Distributed Content Processing Environment

A distributed InQuira content processing environment consists of the following configured components:

- A configured scheduler instance that coordinates content processing
- Only one work client residing on the scheduler instance that can perform preprocessing and indexing, and that must perform collection maintenance and global maintenance
- One or more configured remote work clients that perform preprocessing and indexing

IMPORTANT: You cannot distribute content processing work among multiple configured local work clients.

Distributed Content Processing

In standard (non-distributed) content processing, the scheduler instance communicates directly with the local work client to acquire, standardize, and index the application content.

In distributed content processing:

- The scheduler divides content acquisition work among the configured work clients on a collection basis.
- The remote work clients write the acquisition results to the configured central content store.
- The scheduler assigns preprocessing and indexing work to the configured work clients, either on a collection or sub-collection basis.
- The work clients perform preprocessing and indexing tasks for the assigned content collections or sub-collections, and send the completed work to the scheduler instance.
- The scheduler instance performs the final consolidation (collection maintenance and global maintenance) processes.

NOTE: You can perform the final index consolidation (index maintenance) only on the scheduler instance.

Content Processing Work Distribution

The Scheduler instance distributes content processing work, as described in the following table:

For this content processing step...	The Scheduler instance...
Content Acquisition (Crawl)	distributes work only by collection
Content Standardization (Preprocess)	distributes work by sub-collection if enabled
Content Indexing	distributes work by sub-collection if enabled
Collection Maintenance and Global Maintenance	uses only its configured local work client

Performing Distributed Content Acquisition (Crawl)

You perform distributed content acquisition by scheduling the standard content acquisition tasks to perform full or incremental acquisition. The scheduler distributes the acquisition task to the configured work clients on a collection basis; the smallest unit of work that can be sent to a work client is a defined content collection.

When the work clients complete the content acquisition process, they send the updated content to the scheduler and notify the scheduler that the work is complete. The scheduler saves the updated collections in the central Content Store.

Performing Distributed Content Standardization (Preprocessing)

You perform distributed standardization (preprocessing) by scheduling either:

- The standard preprocessing tasks to perform full or incremental preprocessing
- The sub-collection preprocessing tasks to perform full or incremental preprocessing using sub-collections

For standard preprocessing, the scheduler distributes the task to the configured work clients on a collection basis; the smallest unit that can be sent to a work client is a single content collection.

For sub-collection preprocessing, the scheduler:

- Creates sub-collections, as described in [Using Sub-Collections for Distributed Content Processing on page 138](#).
- Distributes the task to the configured work clients on a sub-collection basis

NOTE: The processes that create sub-collections for preprocessing and indexing are independent of one another. InQuira does not maintain sub-collections between content processing steps.

When the work clients complete preprocessing, they send the sub-collections back to the scheduler. The scheduler saves the standardized data to the Content Store by defined content collection.

Performing Distributed Indexing

You perform distributed indexing by scheduling either:

- The standard tasks to perform full or incremental indexing
- The sub-collection tasks to perform full or incremental indexing using sub-collections

For standard indexing, the scheduler distributes the task to the configured work clients on a collection basis; the smallest unit that can be sent to a work client is a single content collection.

For sub-collection indexing, the scheduler:

- Creates sub-collections, as described in [Using Sub-Collections for Distributed Content Processing on page 138](#).
- Distributes the task to the configured work clients on a sub-collection basis

NOTE: The processes that create sub-collections for preprocessing and indexing are independent of one another. InQuira does not maintain sub-collections between content processing steps.

When the work clients complete indexing, they send the sub-collections back to the scheduler. The scheduler saves the indexed data to the Content Store by defined content collection.

Performing Index Maintenance in a Distributed Content Processing Environment

You perform index maintenance in a distributed content processing environment by scheduling the standard Collection Maintenance and Global Maintenance tasks. Index maintenance is not distributable, and must be performed on the Scheduler instance.

Configuring Distributed Content Processing

You configure distributed content processing by:

- Configuring the local work client to perform the required tasks, as described in [Configuring the Local Work Client for Distributed Content Processing on page 137](#).
- Configuring one or more remote work clients to perform the required tasks, as described in [Configuring Remote Work Clients for Distributed Content Processing on page 137](#).
- Optionally specifying sub-collection creation parameters, as described in [Using Sub-Collections for Distributed Content Processing on page 138](#).

Configuring the Local Work Client for Distributed Content Processing

To use a local work client for distributed content processing:

- define the local work client, and assign the tasks that it is allowed to perform, as described in [Using Work Clients on page 97](#).

IMPORTANT: You cannot configure multiple local work clients to perform content preprocessing, indexing, and index maintenance tasks. If multiple local work clients are configured to perform these content processing tasks, the tasks fail.

When configuring distributed content processing, ensure that no local work clients are allowed to perform indexing.

Configuring Remote Work Clients for Distributed Content Processing

To use a remote work client for distributed content processing:

- define the remote work client, and assign the tasks that it is allowed to perform, as described in [Using Work Clients on page 97](#).

Using Sub-Collections for Distributed Content Processing

You can divide content collections into sub-collections based on number of documents and content size for certain content processing operations. Creating sub-collections can help to distribute content processing more equally between multiple work clients in a distributed content processing environment.

Sub-collection creation is available for the content standardization (preprocessing) and indexing operations.

You use sub-collections by scheduling either or both of the sub-collection tasks for preprocessing and indexing. You can schedule preprocessing sub-collection creation in conjunction with, or separately from, indexing sub-collection creation.

NOTE: The Schedule facility creates sub-collections independently for preprocessing and indexing.

The Preprocessing Sub-Collection Creation Process

When you schedule sub-collection preprocessing, the scheduler creates sub-collections based on specified parameters that determine:

- The maximum size of the sub-collection
- The maximum number of documents in the sub-collection

The scheduler uses the created sub-collections to distribute preprocessing work to the work clients. When preprocessing completes, the scheduler saves the pre-processed data to the Content Store, and deletes the sub-collection information.

NOTE: If you schedule indexing sub-collections, the scheduler uses the process described in [The Indexing Sub-Collection Creation Process on page 139](#).

The Indexing Sub-Collection Creation Process

When you schedule sub-collection preprocessing, the scheduler creates sub-collections based on specified parameters that determine:

- The maximum size of the sub-collection
- The maximum number of documents in the sub-collection

The scheduler uses the created sub-collections to distribute preprocessing work to the work clients. When preprocessing completes, the scheduler saves the pre-processed data to the Content Store, and deletes the sub-collection information.

NOTE: If you schedule preprocessing sub-collections, the scheduler uses the process described in [The Preprocessing Sub-Collection Creation Process on page 138](#) to re-create sub-collections.

Configuring Sub-Collection Parameters

When you operate a sub-collection task, the scheduler creates sub-collections by attempting to meet sub-collection criteria for:

- The number of documents per sub-collection
and
- The content size per sub-collection

NOTE: The scheduler creates sub-collections on a task basis; the creation criteria for creating preprocessing and indexing sub-collections can result in sub-collections containing different sets of documents.

You can specify sub-collection creation criteria on the Crawler Settings page of the Advanced Configuration Facility. To specify sub-collection creation parameters:

- Select **Crawler Settings** from the Content area of the Advanced Configuration Facility
The Crawler Settings page displays.
- Select **Show Advanced Options**

The Sub-Collection Task area displays the sub-collection criteria.

SubCollectionTask

CollSizeByDocCount :

CollSizeByContent :

IQXMLToRawRatio :

html		
iqxml		
ms-excel		
ms-powerpoint		
ms-word		
news		
pdf		
rtf		
text		
xml		

[Add New Item](#)

- Enter values for the following parameters:

Parameter	Description
Collection Size by Document Count	Specifies the target number of documents to include in a sub-collection. The default value is 1000, which specifies that the scheduler includes up to 1000 documents in a sub-collection if the Collection Size by Content threshold is not exceeded.
Collection Size by Content	Specifies the maximum size of a sub-collection. The default value is 5M, which specifies that the scheduler creates sub-collections up to 5M in size if the Collection Size by Document Count threshold is not exceeded.
	NOTE: A single document that exceeds the Collection Size by Content threshold is treated as a single-document sub-collection.

Sub-Collection Content Processing Tasks

You perform distributed content processing using the following scheduler tasks:

Task	Description
Preprocess Incremental - Subcollection	Use this task to create and send sub-collections for incremental preprocessing, which processes only documents that have been added or updated since the last preprocessing operation.
Preprocess Full - Subcollection	Use this task to create and send sub-collections for full preprocessing, which processes all available documents, regardless of their status since the last preprocessing operation.
Index Incremental - Subcollection	Use this task to create and send sub-collections for incremental indexing, which processes only documents that have been added or updated since the last preprocessing operation.
Index Full - Subcollection	Use this task to create and send sub-collections for full indexing, which processes all available documents, regardless of their status since the last preprocessing operation.

Implementing Distributed Request Processing

You can configure an InQuira production environment for distributed request processing, in which one or more separately configured InQuira instances perform information retrieval work for the runtime instance(s) within a production web application.

Distributed request processing increases efficiency in a production environment by:

- Increasing the percentage of the indexed application content available in cache memory
- Increasing the percentage of past results maintained in cache memory
- Effectively reducing the size of the content for matching questions to answers

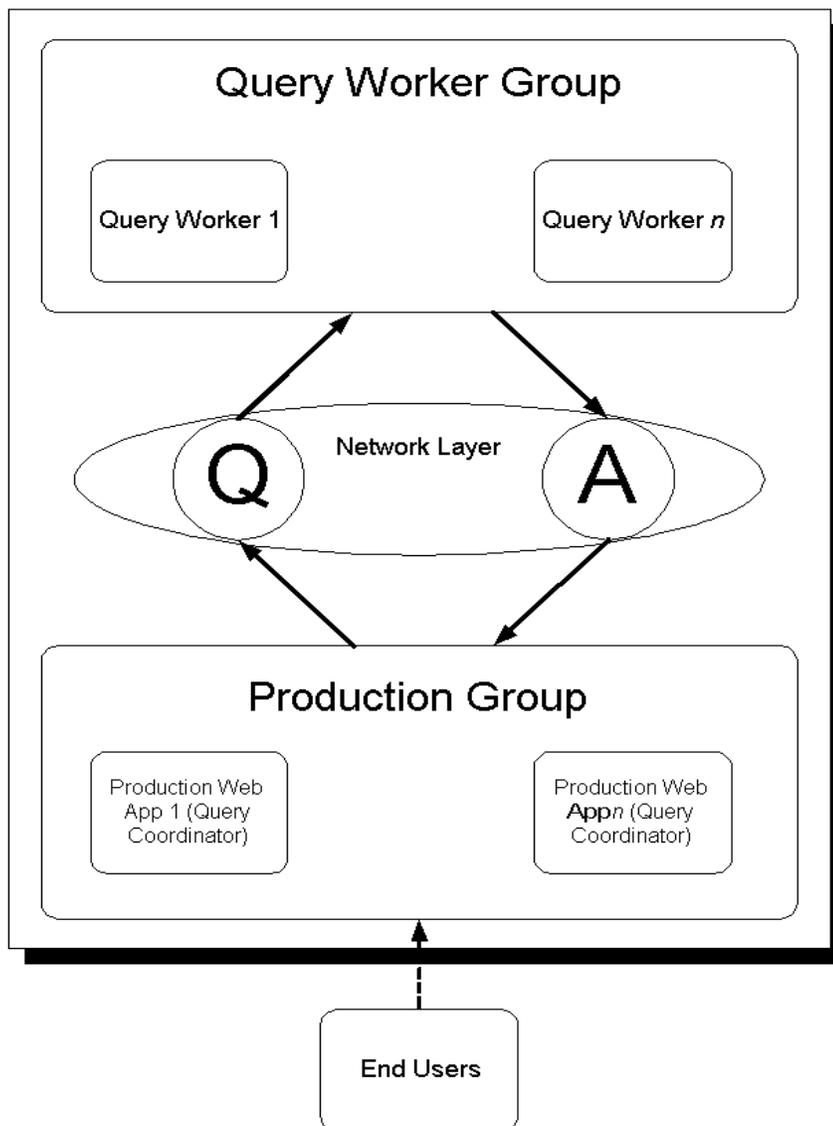
In a distributed request processing environment, production web applications coordinate the distribution of requests to various configured worker instances, and each worker instance performs searches related only to a defined subset of the indexed content.

The production web application and the remote worker communicate through a network layer.

Distributed Request Processing Architecture

A distributed InQira runtime environment consists of the following configured components:

- One or more configured production web applications
- A configured query coordinator residing on each production web application, as described in [The Query Coordinator on page 143](#)
- One or more configured query worker instances, as described in [Query Worker Instances on page 143](#)



The Query Coordinator

The query coordinator resides within the production web application and communicates with one or more configured instances called query workers, as described in [Query Worker Instances on page 143](#).

The query coordinator uses the Query Service to:

- package unstructured search requests
- distribute them to remote query workers
- collect and consolidate the query worker results

The Query Service assigns work to the remote query workers on the basis of configured collection groups, as described in [Content Collection Groups on page 143](#).

Query Worker Instances

Query workers are remote instances that you configure to receive work from one or more query coordinators.

Each configured query worker processes requests for a defined set of content collections, as described in [Content Collection Groups on page 143](#).

Content Collection Groups

Content collection groups are logical groups of defined InQuira content collections that you define for use in a distributed InQuira request processing environment.

The query coordinator uses content collection groups as the basis for assigning work to the remote query workers. It groups all search requests for a collection group into a single request. Each query worker processes the appropriate requests according to its assigned content collection groups.

IMPORTANT: A content collection can belong to only one collection group. You cannot assign a content collection to more than one collection group.

You define content collection groups, as described in [Defining Content Collection Groups on page 146](#).

You assign content collection groups to Query Workers, as described in [Assigning Content Collection Groups to Query Workers on page 148](#).

Distributed Request Processing

In a standard (non-distributed) application configuration, the Query Service communicates directly with the local Index Service to satisfy requests for unstructured information retrieval.

In a distributed request processing configuration, the production web application query coordinator communicates with remote query workers through a network layer.

In distributed request processing:

- The query coordinators consolidate queries for each collection group into separate requests, and send them to the network layer
- The query workers process requests and return answers for their assigned content collection groups
- The query coordinator within the production web application collects and presents the answers to the end user

Configuring the Default Distributed Request Processing Implementation

You configure the default distributed request processing implementation for use in a production environment by:

- Configuring a query coordinator in each production web application instance, as described in [Configuring a Query Coordinator on page 145](#).
- Defining one or more content collection groups, as described in [Defining Content Collection Groups on page 146](#).
- Configuring and starting one or more query workers, as described in [Configuring Query Worker Instances on page 147](#).

You configure the distributed request processing components by editing parameters in the configuration file `installation.xml`.

NOTE: You can include all of the required configuration for distributed request processing in a single `installation.xml` file, which you can then share among all of the query coordinators and query workers in your environment.

Configuring a Query Coordinator

You configure the query coordinator by editing the configuration in the `installation.xml` file to:

- Specify the instance role for the query coordinator instance
- Deploy the query service using the distributed runtime service configuration on a transport with remote capability

To configure a query coordinator, edit the configuration in the `installation.xml` file as shown in the following example:

Example Query Coordinator Configuration

```
<instance name="queryCoordinator" >
  ....
  <role keyref="instanceRole[6]" />
  ....
  <applications index="0" reset="true">
    ....
    <deployedTransport index="0" >
      <transport keyref="instance[queryCoordinator].transports.transport[socket]" />
      <serviceGroup index="0" keyref="serviceGroup[queryServiceOnly]" />
      <serviceConfiguration keyref="serviceConfiguration[distributedQuery]" />
    </deployedTransport>
    <deployedTransport index="1" >
      <transport keyref="instance[queryCoordinator].transports.transport[local]" />
      <serviceGroup index="0" keyref="serviceGroup[runtime]" />
      <serviceConfiguration keyref="serviceConfiguration[default]" />
    </deployedTransport>
  </applications>
</instance>
```

where:

instanceRole[6]	Specifies the query coordinator role
serviceGroup[queryServiceOnly]	Specifies the query service only
serviceConfiguration[distributedQuery]	Specifies the distributed runtime service configuration

Defining Content Collection Groups

Content collection groups are logical groups of content collections that you define for use in a distributed request processing environment. The query coordinator packages search requests based on the collection groups that they belong to, and each query worker processes requests only for its assigned content collection groups.

You can include a single content collection in multiple collection groups to achieve processing redundancy for important content. You can also allocate content collection groups to more than one query worker.

You define collection groups by:

- Specifying the collection group, as described in [Specifying a Collection Group Name on page 146](#).
- Specifying the group members, as described in [Specifying Collection Group Members on page 146](#).

Specifying a Collection Group Name

You specify a collection group name using the `collectionGroup` parameter:

```
<collectionGroup name="group_name">
```

where:

group_name specifies the name of the collection group

Example Collection Group Name Configuration:

```
<collectionGroup name="nonfiction">
```

Specifying Collection Group Members

You specify the members of the collection group using a `collection index` parameter for each member collection:

```
<collection index="index_position" keyref="content.file-config[collection_name]" />
```

where:

collection index specifies the position of this group member entry. Valid values are integers, specified such that the initial entry uses the value 0 (zero) and each subsequent entry increments by one integer.

keyref specifies a defined collection for this member entry. Valid values are any defined content collections.

Example Collection Group Member Configuration:

```
<collection index="0" keyref="content.file-config[biography]" />
<collection index="1" keyref="content.file-config[history]" />
```

Example Collection Group Configuration

```
<collectionGroup name="nonfiction"> <collection index="0" keyref="content.file-
config[biography]" /> <collection index="1" keyref="content.file-config[history]" /> <collection
index="2" keyref="content.file-config[self-help]" /> </collectionGroup>
```

Configuring Query Worker Instances

You configure query worker instances by editing the configuration in the `installation.xml` file to:

- Specifying the instance role for each query worker instance.
- Deploying the query service using the distributed runtime service configuration on a transport with remote capability.

To configure a query worker, edit the configuration in the `installation.xml` file as shown in the following example:

```
<instance name="qw1" >
  ...
  <role keyref="instanceRole[5]" />
  ...
  <applications index="0" reset="true">
    ...
    <deployedTransport index="0" >
      <transport keyref="instance[qw1].transports.transport[socket]" />
      <serviceGroup index="0" keyref="serviceGroup[queryWorkerOnly]" />
      <serviceConfiguration keyref="serviceConfiguration[distributedQuery]" />
    </deployedTransport>
    <deployedTransport index="1" >
      <transport keyref="instance[qw1].transports.transport[local]" />
      <serviceGroup index="0" keyref="serviceGroup[runtime]" />
      <serviceConfiguration keyref="serviceConfiguration[default]" />
    </deployedTransport>
    <deployedTransport index="2" >
      <transport keyref="instance[qw1].transports.transport[socket]" />
      <serviceGroup index="0" keyref="serviceGroup[production]" />
      <serviceConfiguration keyref="serviceConfiguration[default]" />
    </deployedTransport>
  </applications>
</instance>
```

where:

instanceRole[5]	Specifies the query worker role
serviceGroup[queryWorkerOnly]	Specifies the query worker only

serviceConfiguration[distributedQuery] Specifies the distributed runtime service configuration

Assigning Content Collection Groups to Query Workers

You assign content collection groups to query workers using one of the following methods by specifying either:

- A system property that explicitly names the collection group
- The instance name such that the initial qualifier of the name identifies the collection group

NOTE: Specifying the system property overrides a specified instance name.

To specify the collection name using the system property, specify:

```
com.inquiria.query.distributed.groupName=<collection_group_name>
```

where:

<collection_group_name> Specifies the name of the collection group. If no collection group name is specified, the instance name is used.

To specify the collection group within the instance name:

- Specify an instance name in the format:

```
<collection_group_name>.<instance_ID>
```

where:

<collection_group_name> Specifies the name of the collection group

<instance_ID> Specifies an optional qualifier, which must be delimited by a period (.) for use when specifying a single collection group to be processed by multiple query workers for redundancy and performance optimization.

For example, You could use the following naming convention to configure multiple query worker instances to process the selfhelp collection group:

```
selfhelp.instance1  
selfhelp.instance2  
selfhelp.instance3
```

Starting Query Worker Instances

To start a Query Worker, enter the following startup parameters, either manually or as part of a custom startup script:

- Set the INQUIRA_ROOT and CLASSPATH appropriately, using `setenv` or `classpath.bat`
- Set the JAVA_OPTS environment variable
- Use the appropriate standard installation startup script (`run.sh` or `run.bat`), specifying:
 - The instance name
`-Dcom.inquirainfra.instance=<instance_name>`
 - Any appropriate JVM parameters, for example:
`-Xmx1024m`
 - (Optional) the collection group to process
`-Dcom.inquirainfra.query.distributed.groupName=<group_name>`
 - The Instance class:
`com.inquirainfra.Instance -daemon`

For example:

```
-Dcom.inquirainfra.instance="QueryWorker0"  
-Xmx1024m  
-Dcom.inquirainfra.query.distributed.groupName="selfhelp"  
com.inquirainfra.Instance -daemon
```

When distributed runtime system started for the first time following exception occurs:

```
(QUERY_SERVICE_NO_COLLECTION_GROUP queryService)  
at com.inquirainfra.query.distributed.transport.QueryServiceImpl.init(QueryServiceImpl.java:92)  
at com.inquirainfra.query.distributed.transport.QueryServiceImpl.<init>(QueryServiceImpl.java:68)  
at sun.reflect.NativeConstructorAccessorImpl.newInstance0(Native Method)  
at sun.reflect.NativeConstructorAccessorImpl.newInstance(Unknown Source)  
at sun.reflect.DelegatingConstructorAccessorImpl.newInstance(Unknown Source)  
at java.lang.reflect.Constructor.newInstance(Unknown Source)  
at com.inquirainfra.query.QueryServicesManager.newInstance(QueryServicesManager.java:96)  
at com.inquirainfra.revision.AbstractServiceManager.getInstance(AbstractServiceManager.java:129)  
at com.inquirainfra.trnsp.TransportBase.locateInternal(TransportBase.java:99)  
at com.inquirainfra.trnsp.RemoteTransportBase.locateInternal(RemoteTransportBase.java:80)  
at com.inquirainfra.trnsp.socket2.ServiceResponseHandler.processRequest(ServiceResponse  
Handler.java:305)  
at com.inquirainfra.trnsp.socket2.ServiceResponseHandler.run(ServiceResponseHandler.java:  
118)  
at java.lang.Thread.run(Unknown Source)
```

Assigning Query Coordinators to Query Workers

You assign query coordinators to query workers using one of the following methods by specifying either:

- A system property that explicitly names the collection group
- A synchronization group that contains the query coordinator and query worker instances

NOTE: Specifying the system property overrides a specified instance name.

To specify the collection group using the system property, specify:

```
com.inqira.query.distributed.queryCoordinators  
=<query_coordinator_1>[,<queryCoordinator_2>]...
```

where:

<code><query_coordinator_n></code>	Specifies the name of the query coordinator instances that send requests to this query worker. You can specify multiple query coordinators as a comma-separated list.
--	---

To specify query coordinators by synchronization group, define a synchronization group, as described in [Defining the Synchronization Group on page 166](#). The synchronization group must contain all of the query worker instances and all of the query coordinator instances that work with each other.

NOTE: If you need to isolate query coordinators from one another for distributed request processing, define synchronization groups that contain only the coordinator and worker instances that you want to distribute requests among.

Creating Remote Instances for Distributed Applications

You can install and configure remote instances (Work Clients or request processors) that can be controlled from a central scheduler instance. You configure the remote instance by:

- [Installing InQira on the Remote Processor](#)
- [Copying the Installation Configuration Environment to the Remote Processor](#)
- [Starting Installation Configuration Environment on the Remote Processor](#)

Installing InQuira on the Remote Processor

Install InQuira into a directory (having no spaces in the name) on the target processor. We recommend using the same directory structure as the initial installation.

Copying the Installation Configuration Environment to the Remote Processor

Copy the InQuiraCommonEnvironment.jar to the directory:

```
<InQuira_install_dir>/packages
```

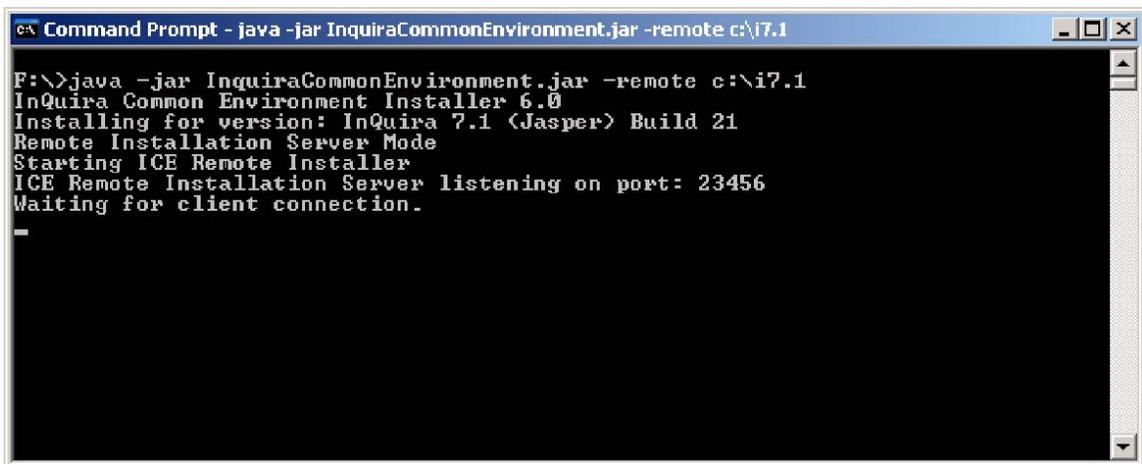
on the host.

Starting Installation Configuration Environment on the Remote Processor

Start the Installation Configuration Environment installer as a service:

```
java -jar InQuiraCommonEnvironment.jar -remote <InQuira_install_dir>
```

where <InQuira_install_dir> is the directory into which you installed InQuira.



```
Command Prompt - java -jar InQuiraCommonEnvironment.jar -remote c:\i7.1
F:\>java -jar InQuiraCommonEnvironment.jar -remote c:\i7.1
InQuira Common Environment Installer 6.0
Installing for version: InQuira 7.1 (Jasper) Build 21
Remote Installation Server Mode
Starting ICE Remote Installer
ICE Remote Installation Server listening on port: 23456
Waiting for client connection.
_
```

The Installation Configuration Environment installer starts as a server and listens for connections on port 23456.

Adding an Instance with a Remote Socket Transport Host

If try to add an instance with a socket transport host that is different from “localhost” then the Installation Configuration Environment installer attempts to connect to the remote install instance.



The following dialog displays:

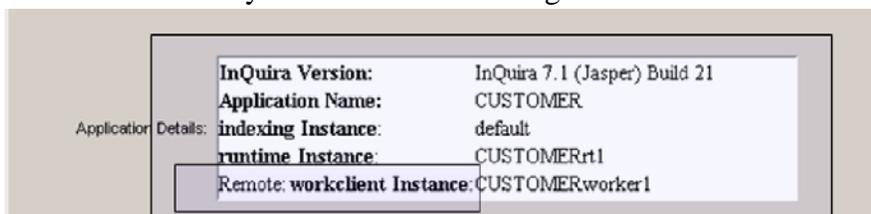


Specifying Remote Installation

If you want the Installation Configuration Environment installer to attempt to configure this instance remotely, select:

Yes, attempt remote installation

The Installation Configuration Environment installer lists the remote instance in the Application Details when you select Create Configuration:



When the installation is complete, the ICE installer shows:



Select `Yes` to shut down the remote ICE server process.

InQira Shortcuts in Remote Instances

The Installation Configuration Environment installation program installs shortcuts to the `setenv` scripts appropriate for your environment in the Windows Start Menu:



Chapter 7 Moving Data Between Instances

When configuring multiple instances in an InQira production environment, you need to transfer application data, such as indexes, dictionaries, and configuration data, between development, staging, and production runtime instances.

InQira provides the following methods for transferring data between configured instances:

- Synchronization
- Propagation

The synchronization process is designed to transfer the data associated with request and response processing (runtime) from an InQira sending instance to one or more receiving instances; for example, from a scheduler instance to multiple runtime instances.

The propagation process is designed to transfer the data associated with content processing between instances within a processor environment; for example, between development and staging instances.

Revision Levels

The synchronization and propagation processes use internally assigned revision levels to manage the application data during data transfer. Revision levels are integers that increase each time data is saved for a service within the application.

The synchronization process uses revision levels to identify:

- The synchronization data package itself
- The data associated with each service within the package

When you create a synchronization package, the synchronization process maintains revision data for each service, and uses the revision levels to manage the synchronization process.

The synchronization process checks to ensure that the revision level for a given service is lower than the corresponding value in the synchronization package. If a service on a receiving instance has a revision level equal to or greater than the sending instance, the receiving service is not updated.

The Synchronization Process

You use the synchronization process by:

- configuring the various instances within your environment to send and receive data, as described in [Configuring Data Transfer Between Instances on page 157](#).
- performing synchronization as a scheduled task, as described in [Performing Data Transfer on page 172](#).

The synchronization process operates on the sending instance to package the data and assign an incremental value, called a runtime revision level, to the package. The synchronization process also records individual revision levels for each InQuira service that supplies synchronization data.

The synchronization process then contacts the receiving instances and switches the receiving instances to maintenance mode, in which they do not accept query requests.

The synchronizer sends the data package to the configured receiving instances over the configured socket, and checks the revision levels for each service. The receiving instance updates its data for any service for which the synchronization package contains newer data, indicated by a higher revision level.

When the required services have been updated, the receiving instance restarts the updated services, notifies the sending instance that synchronization is complete, and returns to runtime mode.

Synchronizing Instances with Minimal Interruption

You can configure additional InQuira instances, called controller instances, to enable synchronization with minimal impact on runtime instance availability.

Controller instances act as receivers during the synchronization data transfer. They write the synchronization data to a file system that is shared with the target runtime instance. When the data transfer process is complete, the controller instance modifies the runtime instance to use the new data from the shared file system.

You configure synchronization with minimal interruption by:

- Installing and configuring one or more controller instances, as described in [Configuring a Controller Instance for Synchronization with Minimal Interruption](#) on page 165.
- Modifying the runtime instances to use the controller instance, as described in [Configuring a Runtime Instance for Use with a Controller Instance](#) on page 166.

The Synchronization Data Package

The synchronizer packages data from the instance from which you issue the synchronize task or command. The data package includes all of the application and configuration data that is required to support request and response processing (runtime) behavior.

Configuring Data Transfer Between Instances

You configure data transfer between instances by setting parameters in the `installation.xml` configuration file, and distributing that file to all of the instances that you want to include in synchronization or propagation.

You specify parameters within the `installation.xml` file to define:

- The sending instance
- The receiving instances
- Optional controller instances to support synchronization with minimal interruption
- Communication for the sending and receiving instances
- The synchronization group

The Installation Configuration File

The installation configuration file contains information about how the various instances within your environment can locate and communicate with one another.

The `installation.xml` file is located in:

```
<InQuira_home>/instances/<instance_name>
```

Defining Communication for the Sending Instance

The standard mode of communicating between sending and receiving instances is to use a socket connection.

To define a socket connection for the sending instance:

- Edit the `installation.xml` file to define a socket connection, as shown in the following template:

```
<socketTransport name="instance_name">
  <description>instance_description</description>
  <host>host_name</host>
  <port>port</port>
  <secure>false</secure>
</socketTransport>
```

where:

Parameter	Description
<code>instance_name</code>	Specifies the name of the instance. You can use the default instance, or supply a name for the sending instance.
<code>instance_description</code>	Specifies an optional description of the instance
<code>host</code>	Specifies the name of the processor where the sending instance resides, in the form of a host name or IP address
<code>port</code>	Specifies the port that the sending instance uses. Specify any available port.
<code>secure</code>	Specifies whether to use a secure connection. The default value is false.

Defining Communication for Receiving Instances

The standard mode of communicating between sending and receiving instances is to use a socket connection. To define a socket connection for a receiving instance:

- Edit the `installation.xml` file to define a socket connection, as shown in the following template:

```
<socketTransport name="instance_name">
  <description>instance_description</description>
  <host>host_name</host>
  <port>port</port>
  <secure>>false</secure>
</socketTransport>
```

where:

Parameter	Description
instance_name	Specifies the name of the receiving instance
instance_description	Specifies an optional description of the instance
host	Specifies the name of the processor where the receiving instance resides, in the form of a host name or IP address
port	Specifies the port on which the receiving instance listens for synchronization. Specify any available port.
secure	Specifies whether to use a secure connection. The default value is false.

Example: Data Transfer Transport Definitions

The following is an example of the configuration to define transports for sending and receiving instances:

```
<socketTransport name="sender">
  <description>Sender Machine Socket</description>
  <host>example.1.inquiracom</host>
  <port>9876</port>
  <secure>>false</secure>
</socketTransport>

<socketTransport name="receiver">
  <description>Receiver Machine Socket</description>
  <host>example.2.inquiracom</host>
  <port>9765</port>
  <secure>>false</secure>
</socketTransport>
```

Defining the Sending Instance

You define the sending instance within the `installation.xml` file by specifying:

- the instance name, as described in [Specifying the Sending Instance Name on page 160](#).
- the instance mode, which defines the instance as a sending instance, as described in [Specifying the Sending Instance Role on page 161](#).
- the transport to use for communication with receiver instances, as described in [Specifying the Sending Instance Transport on page 161](#).

Specifying the Sending Instance Name

The synchronization process identifies the sending instance by the name that you specify as part of the configuration process.

To specify the name of the sending instance:

- Edit the `installation.xml` file to define the instance name as shown in the following template:

```
<instance name="instance_name">
```

where:

Parameter	Description
<code>instance_name</code>	Specifies the name of the instance

Specifying the Sending Instance Role

The synchronization process identifies sending and receiving instances by an instance mode that you specify as part of the configuration process.

To specify the instance mode for the sending instance:

- Edit the `installation.xml` file to define the instance mode as shown in the following template:

```
<role keyref="instanceRole[role_value]" />
```

where:

Parameter	Description
<code>role_value</code>	Specifies whether the instance is a sending or receiving instance. Valid values are: <ul style="list-style-type: none">• 0 - specifies a sending instance• 1 - specifies a receiver instance

Specifying the Sending Instance Transport

You must configure a transport for the sending instance. Specify the transport that you defined in [Defining Communication for the Sending Instance on page 158](#).

To specify the transport for the sending instance:

- Edit the `installation.xml` file to define the transport as shown in the following template:

```
<transport name="socket" keyref="transports.socketTransport[transport_name]" />
```

where:

Parameter	Description
<code>transport_name</code>	Specifies the name of the sending instance transport

Example: Sending Instance Definition

The following is an example of the configuration to define a sending instance within the `installation.xml` file:

```
<instance name="sender">
  <mode keyref="instanceMode[0]" />

  <transports>
    <transport name="local" keyref="transports.localTransport[internal]" />
    <transport name="socket" keyref="transports.socketTransport[sender]" />
  </transports>

  <synchronizationDataStore>
    <directory>data/synch</directory>
  </synchronizationDataStore>
```

Defining Receiving Instances

You define a receiving instance within the `installation.xml` file by specifying:

- The instance name, as described in [Specifying the Receiving Instance Name on page 163](#).
- The instance mode, which defines the instance as a receiving instance, as described in [Specifying the Receiving Instance Role on page 163](#).
- The transport to use for communication with sending instances, as described in [Specifying Receiving Instance Transports on page 164](#).

You can configure any number of receiving instances for your production environment.

NOTE: Receiving instances are passive listeners that you configure to receive synchronization packages. Receiving instances do not check for the source of the data that they receive.

Specifying the Receiving Instance Name

The synchronization process identifies receiving instances by the names that you specify as part of the configuration process.

To specify the name of the receiving instance:

- Edit the `installation.xml` file to define the instance name as shown in the following template:

```
<instance name="instance_name">
```

where:

Parameter	Description
<code>instance_name</code>	Specifies the name of the instance

Specifying the Receiving Instance Role

The synchronization process identifies receiving instances by an instance mode that you specify as part of the configuration process.

To specify the instance mode for a receiving instance:

- Edit the `installation.xml` file to define the instance mode as shown in the following template:

```
<role keyref="instanceRole[role_value]" />
```

where:

Parameter	Description
<code>role_value</code>	Specifies whether the instance is a sending or a receiver instance. Valid values are: <ul style="list-style-type: none">• 0 - specifies a sending instance• 1 - specifies a receiving instance

Specifying Receiving Instance Transports

You must configure a transport for the receiving instance. Specify the transport that you defined in [Defining Communication for Receiving Instances on page 159](#).

To specify the transport for the receiving instance:

- Edit the `installation.xml` file to define the transport as shown in the following template:

```
<transport name="socket" keyref="transports.socketTransport[transport_name]" />
```

where:

Parameter	Description
<code>transport_name</code>	specifies the name of the receiving instances transport that you defined in Defining Communication for Receiving Instances on page 159 .

Example: Receiving Instance Definition

The following is an example of the configuration to define a receiving instance:

```
<instance name="receiver">
  <mode keyref="instanceMode[1]" />

  <transports>
    <transport name="local" keyref="transports.localTransport[internal]" />
    <transport name="socket" keyref="transports.socketTransport[receiver]" />
  </transports>

  <synchronizationDataStore>
    <directory>data/synch</directory>
  </synchronizationDataStore>
```

Configuring a Controller Instance for Synchronization with Minimal Interruption

You configure a controller instance within the synchronization group as follows:

```
<synchGroup name="nondefault" >
  <redeployAllAtOnce>true</redeployAllAtOnce>
  <synchInstance index="0">
    <instance keyref="instance[sender]" />
    <loadData>false</loadData>
    <saveData>true</saveData>
  </synchInstance>

  <synchInstance index="1">
    <instance keyref="instance[controller]" />
    <loadData>true</loadData>
    <saveData>false</saveData>
  </synchInstance>

  <synchInstance index="2">
    <instance keyref="instance[receiver]" />
    <loadData>false</loadData>
    <saveData>false</saveData>
  </synchInstance>

</synchGroup>
```

To specify the instance role for the controller instance:

- Edit the `installation.xml` file to define the instance mode as shown in the following template:

```
<role keyref="instanceRole[4]" />
```

where:

Parameter	Description
4	specifies that the instance is a controller instance

Configuring a Runtime Instance for Use with a Controller Instance

To configure the runtime instances for use with the controller instance, edit the runtime instance configuration as shown in the following example:

```
<synchInstance index="2">
  <instance keyref="instance[receiver]" />
  <loadData>false</loadData>
  <saveData>false</saveData>
</synchInstance>
```

where:

```
<loadData>false</loadData>
```

specifies that the runtime instance does not receive data during the synchronization process.

Defining the Synchronization Group

A synchronization group defines a sending and receiving configuration for use by the synchronizer. You configure the synch group within the `installation.xml` file.

To configure a synch group:

- Edit the `installation.xml` file to define the synchronization group sending instance as shown in the following template:

```
<synchGroup name="group_name">

  <synchInstance index="0" >

    <instance keyref="instance[instance_name]" />
    <loadData>false</loadData>
    <saveData>true</saveData>
    <service index="0" keyref="bootstrapService[configService]" />
    <service index="1" keyref="service[excerpt]" />
    <service index="2" keyref="service[index]" />
    <service index="3" keyref="service[versionControl]" />
    <service index="4" keyref="service[spellcheck]" />
    <service index="5" keyref="service[dictionaryStore]" />

  </synchInstance>
```

where:

Parameter	Description
Synch Group name	specifies a name for the synchronization group

Synch Instance index	specifies the index position of this instance within the group. Index positions identify the group members, and must be specified in increments, starting with 0 for the sending instance.
instance keyref	specifies the name of the instance that is associated with this synch instance index
loadData	specifies that this instance sends (load) data during synchronization. Valid values are <code>true</code> and <code>false</code> . Specify <code>true</code> to configure the sending instance.
saveData	specifies that this instance receives (save) data during synchronization. Valid values are <code>true</code> and <code>false</code> . Specify <code>false</code> to configure the sending instance.
service index	specifies the various service data to include in the synchronization data package. Use the default settings for these parameters.

- Define the synchronization group receiving instance as shown in the following template:

```

<synchInstance index="1" >

  <instance keyref="instance[receiver1]" />

  <loadData>true</loadData>
  <saveData>false</saveData>

  <service index="0" keyref="bootstrapService[configService]" />
  <service index="1" keyref="service[excerpt]" />
  <service index="2" keyref="service[index]" />
  <service index="3" keyref="service[versionControl]" />
  <service index="4" keyref="service[spellcheck]" />
  <service index="5" keyref="service[dictionaryStore]" />

</synchInstance>

</synchGroup>

```

The following example configuration defines a synch group to synch from the sending instance to a receiver:

```
<synchGroup name="synch1">
  <synchInstance index="0" >
    <instance keyref="instance[sender]" />
    <loadData>false</loadData>
    <saveData>true</saveData>
    <service index="0" keyref="bootstrapService[configService]" />
    <service index="1" keyref="service[excerpt]" />
    <service index="2" keyref="service[index]" />
    <service index="3" keyref="service[versionControl]" />
    <service index="4" keyref="service[spellcheck]" />
    <service index="5" keyref="service[dictionaryStore]" />
  </synchInstance>
  <synchInstance index="1" >
    <instance keyref="instance[receiver]" />
    <loadData>true</loadData>
    <saveData>false</saveData>
    <service index="0" keyref="bootstrapService[configService]" />
    <service index="1" keyref="service[excerpt]" />
    <service index="2" keyref="service[index]" />
    <service index="3" keyref="service[versionControl]" />
    <service index="4" keyref="service[spellcheck]" />
    <service index="5" keyref="service[dictionaryStore]" />
  </synchInstance>
</synchGroup>
```

Configuring the Web Server for All Instances

On each configured instance, add the following information to the web server startup script located in `<tomcat_home>/bin/catalina.sh`:

```
-Dcom.inquiria.infra.instance=<instance_name>
```

where:

instance_name Specifies the name of this instance as defined in the configured `installation.xml` file

Distributing the Installation Configuration File

To distribute the configured `installation.xml` file to the required locations:

- Copy the file `installation.xml` from the sending instance to the web server directory `<tomcat_home>/common/classes` on all configured (sending and receiving) instances
- Add the `installation.xml` file to the classpath on each receiving instance, for example:

```
export CLASSPATH=<tomcat_home>/common/classes:$CLASSPATH
```

Verifying the Data Transfer Configuration

To validate each configured instance, start the Tomcat web servers and verify the instance definitions in the web server log output:

- Start the Tomcat web server
- Open the web server log output file (`catalina.out`)
- Locate the log entries to verify the correct instance name

The Propagation Process

You use the propagation process by:

- Configuring the various instances within your environment to send and receive data, as described in [Configuring Data Transfer Between Instances on page 157](#).
- Performing propagation as a scheduled tasks, as described in [Performing Data Transfer on page 172](#).

The propagation process runs on the sending instance to package the data, contact the receiving instances, and send the data package over a configured socket.

The receiving instances update data for all applicable services, and the revision levels for all services on the receiving instances are reset to 0.

The Propagation Data Package

The propagation process packages data from the instance from which you issue the propagate task or command. The propagation data package includes all of the application and configuration data required to support content processing activity.

Configuring Propagation

You can configure the propagation process to move data between InQira environments.

Configuring propagation requires that you install and configure InQira and Installation Configuration Environment in each environment (typically development and production) as a complete InQira Enterprise Application environment.

IMPORTANT: We do not recommend that you can create all environments on the same processor; however, if you do, ensure that you correctly define each application server and socket port so that there are no conflicts. Note that this requires different configurations for each environment, which compromises the purpose of maintaining discrete environments.

You may not, however, locate all environments in the same directory. To host more than one environment on a single processor, you must create different installation roots (`$InQira_base_dir`) for each environment.

Performing Propagation

To configure propagation, perform the Installation Configuration Environment installation and select the appropriate Environment Role:



This produces a configuration and a directory structure identical to the other environment roles installation, except configuration files are written to `./development`, `./production`, or `./staging` directories:



To enable propagation:

- Create the appropriate `./development`, `./staging`, or `./production` directories in each of the configuration instance directories
- Copy the `env.xml` files from the target environment's directories

For example, to configure propagation from:

- A development environment on:
Hosts DEVCONTENT1, DEVRUNTIME1
to:
• A production environment on:
PRODCONTENT1
PRODRUNTIME1
- Create the application using the Installation Configuration Environment program for Development on DEVCONTENT1 and DEVRUNTIME1
- Create the application using the Installation Configuration Environment program for Production on PRODCONTENT1 and PRODRUNTIME1
- Create `<BASE_DIR>/instances/<INSTANCE>/production` on DEVCONTENT1
- Create `<BASE_DIR>/instances/<INSTANCE>/production` on DEVRUNTIME1
- Copy `<BASE_DIR>/instances/<INSTANCE>/production/env.xml` files from PRODCONTENT1 and PRODRUNTIME1 into the `<BASE_DIR>/instances/<INSTANCE>/production` directories

You can now schedule the Propagate to Production or Propagate to Staging tasks.

Performing Data Transfer

You can perform synchronization and propagation using the scheduler, as described in [Chapter 4, Operating InQuira and Scheduling Jobs](#) to schedule the appropriate synchronization and propagation tasks, as described in [Environment Communication Tasks](#) on page 88.

NOTE: Ensure that you have met the prerequisites for initial synchronization, as described in [Prerequisites for Initial Synchronization](#) on page 173.

Prerequisites for Initial Synchronization

Before synchronizing data between sending and receiving instances for the first time, ensure that:

- The `application/data` directory in each receiver instance is empty
- You have successfully performed content processing on the sending instance

NOTE: It is also recommended that you test question-answering on the sending instance.

Maintaining Application Data Revisions

InQuira provides a facility for maintaining revision levels and data, and cleaning up data associated with previous revisions. You can schedule cleanup of previous revision data using the cleanup tasks described in [Environment Communication Tasks on page 88](#).

Reverting to Previous Application Data

The Revision Manager maintains the previous runtime revision level, which you can use to re-deploy the previous runtime data. You can revert to a previous runtime revision level, if necessary, using the scheduler revision level reversion tasks, as described in [Environment Communication Tasks on page 88](#).

Chapter 8 Implementing InQira User Authorization

You can use one or both types of user authorization within your InQira environment:

- The default internal user authorization
- Integration with an external LDAP system

The default internal user authorization system provides the means to:

- Create and manage user IDs and passwords
- Associate user IDs with various permissions

InQira supports integration with external LDAP systems by providing:

- Pre-defined authorization Roles, as described in [Using InQira Authorization Roles on page 180](#).
- Pre-defined access and operational Permissions, as described in [Pre-Defined Permissions on page 180](#).

You integrate InQira user authorization with an LDAP system by:

- Defining an LDAP authentication domain within the InQira environment, as described in [Defining an LDAP Authentication Domain on page 176](#).
- Optionally creating and modifying InQira Roles, as described in [Creating and Modifying Authorization Roles on page 183](#).
- Assigning InQira Roles to groups within your LDAP system

You can use the default internal user authentication in conjunction with one or more configured LDAP Domains. InQira login dialogs display a Domain field from which users can select the internal domain, or an LDAP domain as appropriate.

Defining an LDAP Authentication Domain

You integrate with an external LDAP system by defining an LDAP domain within the InQuira environment. You define an LDAP domain within InQuira using the Authorization page of the Advanced Configuration Facility.

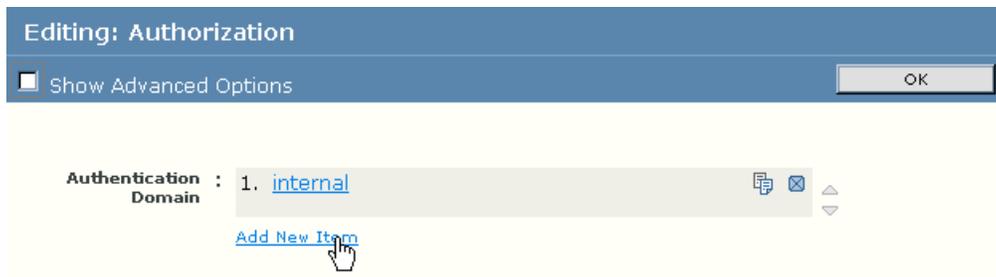
To define an LDAP domain:

- Select **Authorization** from the Instances section of the Advanced Configuration Facility main menu:



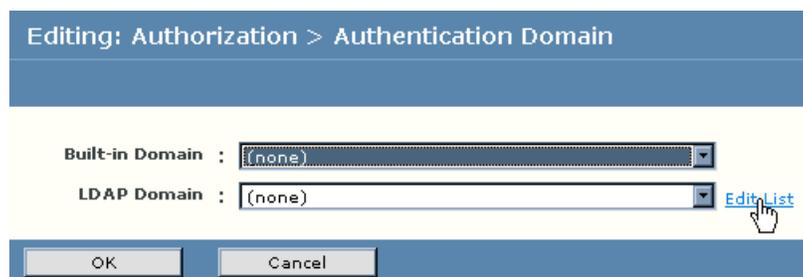
The Authorization page displays.

- Select **Edit**, then select **Add New Item** for the Authentication Domain field:



The Authentication Domain page displays.

- Select the **Edit List** item for the LDAP Domain field:



The LDAP Domain page displays.

- Select **Add New Item** for the LDAP Domain field:

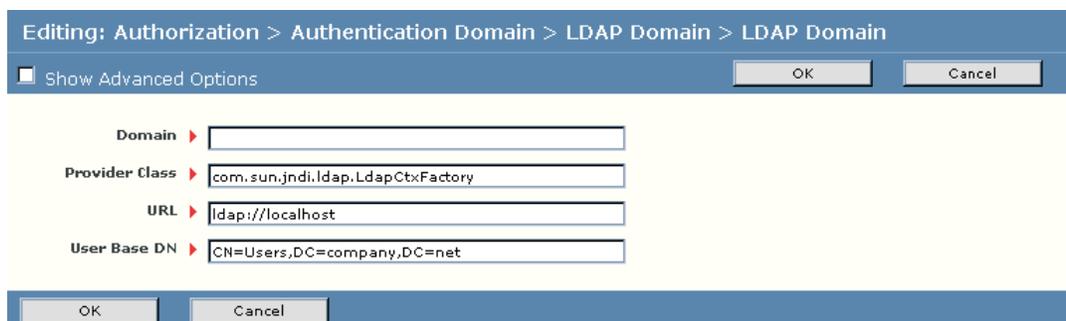


The LDAP Domain page displays.

- Specify the LDAP domain properties, as described in [Specifying LDAP Authentication Domain Properties on page 177](#).

Specifying LDAP Authentication Domain Properties

You define an LDAP authentication domain within the InQuira application using the Advanced Configuration Facility LDAP Domain page:



- Specify the following parameters:

Parameter	Description
Domain	Specify a name for the LDAP domain
Provider Class	Specify an alternate class to provide LDAP information if required. The default class is: com.sun.jndi.ldap.LdapCtxFactory
URL	Specify the location of the target LDAP system

User Base DN	Specify alternate or additional LDAP hierarchy mapping if required. The defaults are: <ul data-bbox="557 336 779 510" style="list-style-type: none">• CN=Users• DC=company• DC=net
---------------------	--

Specifying Advanced LDAP Authentication Domain Parameters

You can specify the following optional advanced LDAP authentication domain parameters, as required for your integration, using the Advanced Configuration Facility LDAP Domain page:

Advanced Options

Class Name :	<input type="text"/>
Authentication Method ▶	<input type="text" value="simple"/>
use SSL ▶	<input checked="" type="radio"/> On <input type="radio"/> Off
User Lookup Attribute ▶	<input type="text" value="sAMAccountName"/>
Fully Qualified User DN Attribute ▶	<input type="text" value="distinguishedName"/>
User Display Name Attribute ▶	<input type="text" value="displayName"/>
User Group Attribute ▶	<input type="text" value="memberOf"/>
Reload Interval :	<input type="text" value="-1"/>
Role Mapping DN :	<input type="text"/>
Role Name Attribute :	<input type="text" value="name"/>
Role Mapping Attribute :	<input type="text" value="member"/>

Authentication Properties

Value : (none)
[Add New Item](#)

initialAuthInfo

initialAuthType :	<input type="text" value="simple"/>
initialAuthPrincipal :	<input type="text"/>
initialAuthCredentials :	<input type="text"/>

initialAuthProps

Value : (none)
[Add New Item](#)

field2ContextNameMap

Value : (none)
[Add New Item](#)

Using InQuira Authorization Roles

InQuira is installed and configured with pre-defined Roles that you can use to integrate with an external LDAP system.

NOTE: The authorization roles are not used within the default internal user authorization system.

Each Role is pre-configured with a set of permissions that define its capabilities. You can create and modify authorization Roles, as described in [Creating and Modifying Authorization Roles on page 183](#).

The following Roles are installed and configured as part of the standard installation process:

- Administrator, as described in [Using the Administrator Role on page 181](#)
- Analytics Administrator, as described in [Using the Analytics Administrator Role on page 182](#)
- Language Administrator, as described in [Using the Language Administrator Role on page 182](#)
- Language Development, as described in [Using the Language Development Role on page 182](#)

Pre-Defined Permissions

InQuira is installed and configured with the following Permissions:

Permission	Description
Perform Rules Maintenance	Grants the ability to update Rules within the InQuira Language Workbench Dictionary Manager application.
Perform User Maintenance	Grants the ability to update User Manager accounts within the InQuira Language Workbench.
Run TestDrive tool	Grants the ability to test request-response processing using the InQuira Language Workbench Test Drive application.
Run regression tool	Grants the ability to test request-response processing using the InQuira Language Workbench Quality Monitor application.
Maintain top level domains	Grants the ability to create and modify base- and industry-level domains using the Dictionary Manager application.

Maintain domain groups	Grants the ability to create and modify domain groups using the Dictionary Manager application.
Maintain domains	Grants the ability to create and modify customer-level domains using the Dictionary Manager application.
Run analytics administration tool	Grants the ability to operate the InQuira Language Workbench Analytics Hierarchy Mapping Application.
Run ontology builder tool	Grants the ability to operate the Dictionary Manager application within the InQuira Language Workbench.
Run dynamic navigation configuration tool	Grants the ability to operate the Personalized Navigation application within the InQuira Language Workbench.
Run system administration console	Grants the ability to operate the Advanced Configuration Facility.

Using the Administrator Role

The Administrator role contains the following access and operational permissions:

- Perform rules maintenance
- Perform user maintenance
- Run Test Drive tool
- Run regression tool
- Maintain top level domains
- Maintain domains
- Run analytics administration tool
- Run ontology builder tool
- Run dynamic navigation configuration tool
- Run system administration tool

See [Creating and Modifying Authorization Roles on page 183](#) for information on adding or removing permissions for this Role.

Using the Analytics Administrator Role

The AnalyticsAdministrator role contains the following access and operational permissions:

- Run analytics administration tool

See [Creating and Modifying Authorization Roles on page 183](#) for information on adding or removing permissions for this Role.

Using the Language Administrator Role

The LanguageAdministrator role contains the following access and operational permissions:

- Maintain top level domains
- Maintain domain groups
- Maintain domains
- Run analytics administration tool
- Run ontology builder tool
- Run dynamic navigation configuration tool

See [Creating and Modifying Authorization Roles on page 183](#) for information on adding or removing permissions for this Role.

Using the Language Development Role

The Administrator role contains the following access and operational permissions:

- Perform rules maintenance
- Run TestDrive tool
- Run regression tool

See [Creating and Modifying Authorization Roles on page 183](#) for information on adding or removing permissions for this Role.

Creating and Modifying Authorization Roles

You can create new, and modify existing, authorization roles for use with an integrated LDAP system. You create and modify authorization roles by adding or deleting the permissions that define its capability using the Roles page of the Advanced Configuration Facility.

To add or modify a Role:

- Select **Authorization** from the Instances section of the Advanced Configuration Facility main menu:



The Authorization page displays.

- Select **Edit**, then select the desired Role, or select **Add New Item** for the Authentication Domain field.

The Roles page displays:



To define a new Role:

- Specify a name for the Role
- Use the **Add New Item** function to add Permissions to the new Role

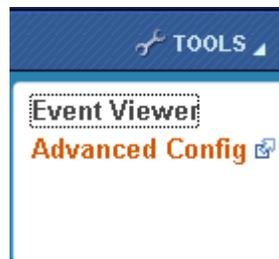
To modify an existing Role:

- Use the **Add New Item** and Delete [X] function to modify the list of Permissions for the Role

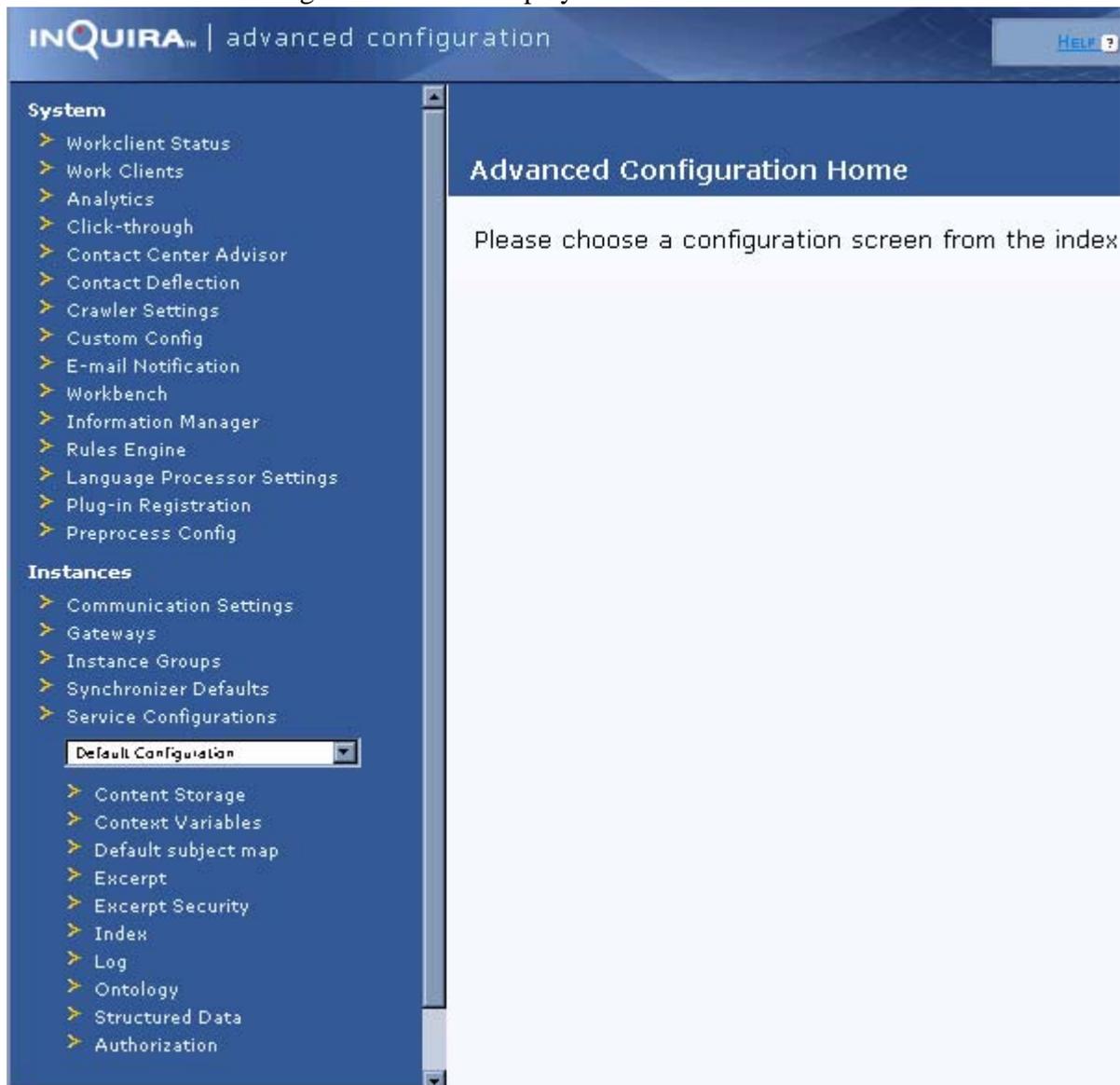
Chapter 9 Advanced Configuration Facility

System Manager contains the Advanced Configuration Facility (Advanced Config). The Advanced Configuration Facility provides a means to modify the required or optional InQuira settings. To access Advanced Configuration Facility:

- From System Manager select **Tools**.
- Select **Advanced Config**.



The Advanced Configuration screen displays.



Advanced Config is divided into two parts:

- [System](#) on page 187.
- [Instances](#) on page 209.

System

The System portion of the Advanced Configuration Facility provides a means to modify settings that affect InQuira as a whole. For more information see the following sections:

Work Client Status on page 188

Work Client on page 188

Analytics on page 190

Click-Through on page 192

Contact Center Advisor on page 194

Contact Deflection on page 196

Crawler Settings on page 198

Custom Configuration on page 200

E-mail Notification on page 200

Workbench on page 201

Information Manager on page 202

Rules Engine on page 203

Language Processor Settings on page 205

Plug-in Registration on page 206

Preprocess Configuration on page 207

Work Client Status

The Work Client Status section of Advanced Configuration Facility allows you to start and stop configured InQuira Instances. This is particularly useful for accessing remote instances.

After selecting Work Client Status from Advanced Configuration Facility the Work Client Status screen displays.

On/Off	Type	Name	Status
<input checked="" type="radio"/> On <input type="radio"/> Off	Local	Local Workclient	Running
	Remote	MLD24worker1	Stopped

- To stop or start an instance, select the on/off option for a particular instance.

NOTE: It may take up to 2 minutes to start or stop a work client.

Work Client

You can add a work client to any InQuira instance. You can define work clients as local or remote work clients. Remote work clients are configured on an instance that is remote from the central scheduler instance. Once you have configured a remote work client, you can start and stop it from the remote scheduler instance.

You add a work client by:

- Defining a work client
- Configuring allowed tasks for the work client
- (For remote work clients) defining the work client to a remote scheduler

To define a work client:

- Select **Work Client** from the Advanced Configuration Facility menu, then select **Edit**.

The Work Clients page displays information about the currently defined work clients, and an Add New Item link.

- Select the **Add New Item** link

The Work Clients page displays:

- Enter the following information:

Parameter	Description
Item Name	Enter a name for the work client. This is the name that displays in the work client status screen.
Instances	Select Add New Item Enter the name for the Instances specified in the Item Name field.
Allowed Tasks	Select the Add New Item link to add tasks that this work client is authorized to perform.

Analytics

The Analytics section of Advanced Configuration Facility allows the REQUIRED modifications to InQuira Analytics.

By selecting **Analytics, Show Advanced Options, Edit** the Editing: Click-through screen displays. After selecting Analytics the Analytics screen displays.

The Editing Analytics screen displays.

Datasource Defines the name of the datasource used for InQuira Analytics. To modify select **Edit List**.

Archive Datasource	Defines the name of the datasource used to archive data from InQuira Analytics. To modify select Edit List .
Keep-month	Defines the number of months worth of data to keep in (default): <Inquiraroot>\instances\<instancefolder>\<environment>\<content/runtime>\data\analytics\logs while archiving older data to (default): (or see Log Archive Directory listed below) The default value is 4. To modify select Edit List .
Log Archive Directory	Defines the location of the archived InQuira Analytics. The default is: <inquiraroot>\instances\<instancefolder>\<environment>\<content/runtime>\data\analytics\archive
Ignore Unknown Words List:	Lists words without concepts to be ignored in InQuira Analytics reports. To modify select Add New Item .
Department	Lists the Department name associated with set IP addresses. To group IP addresses into a department: Select Edit .
Truncate Full Query String	Specifies whether to capture the entire question in InQuira Analytics reports. The default is off.
Keep Anchor	Specifies whether to allow InQuira Analytics reports to access result links. The default is off.
Preserve Query String	Allows modifications to URLs in InQuira Analytics. To modify select Add New Item .
Error Directory	The directory of the InQuira Analytics error logs. The default is: {REPOSITORY BASE}/data/analytics/error.
Data Load Directory	The directory of the InQuira Analytics log files before moving to the Log Archive directory. The default is: {REPOSITORY BASE}/data/analytics/logs.
Questions to Ignore	A list of questions to not affect the InQuira Analytics reporting. To add questions to ignore select Add New Items .
Rules to Ignore	A list of Rules to not affect the InQuira Analytics reporting. To add Rules to ignore select Add New Items .
Ratings	Corresponds to the terms associated with the User Feed Back Reports in InQuira Analytics.

Click-Through

Selecting Click-through from Advanced Configuration Facility allows you to set and modify the settings for click-through tracking.

By selecting **Click-Through, Show Advanced Options, Edit** the Editing: Click-through screen displays.

Perform HTML Highlighting

Specifies whether to highlight answer text within linked answer documents. The default value is on.

Perform PDF Highlighting

Specifies whether to highlight answer text within linked answer documents. The default value is on.

Perform Click-through Tracking	Specifies whether to record end-user selection of answer links for use by Analytics. The default value is on.
Perform Search Within Document	Specifies whether to perform search within documents. The default value is off.
Perform Default Question Highlight	Specifies whether to perform question highlighting. The default value is off.
Highlight Title Style	Specifies the HTML style parameters for title highlighting. The default values specify a font color #000000 (black), and a background color #E8F5FF (bright cyan)
Highlight Sentence Style	Specifies the HTML style parameters for sentence highlighting. The default values specify a font color #000000 (black), and a background color #E8F5FF (bright cyan)
Honor Document Archive	Specifies whether to use the predetermined closed anchor in an HTML document. If this feature is turned off, the browser jumps to an artificial anchor used in highlighting. The default value is off.
Check For Location Replace	Specifies whether to check the document for location.replace java script. If this feature is turned on, the document does not contain highlighting if this script is found. The default value is off.
Allow Automatic HTTP Redirects	Specifies whether to allow automatic HTTP redirects. The default value is off.
Cookie Format Policy	Specifies cookie policy when highlighter (httpclient) is trying to acquire linked answer documents for highlighting. The default is Legacy Value. To modify select Edit List .
timeoutSetting	Specifies the timeout limit when highlighter (httpclient) is trying to acquire linked answer documents for highlighting. The default is none. To modify select Edit List .
contentSource	Allows you to specify which collection types should be highlighted, regardless of the document being in HTML. To modify select Add New Item .
Username	Refers to the Username associated with the Proxy Server used for highlighter (httpclient)
Password	Refers to the password associated with the Proxy Server used for highlighter (httpclient)
Domain	Refers to the Domain used by the associated Proxy Server.
Proxy Host	Refers to the Host URL used by the associated Proxy Server.
Proxy Port	Refers to the port used by the associated Proxy Server.

Contact Center Advisor

Selecting Contact Center Advisor from Advanced Configuration Facility allows you to set and modify the settings for the InQira Contact Center Advisor.

By selecting **Contact Center Advisor, Show Advanced Options, Edit** the Editing: Call Center Advisor screen displays.

The screenshot shows the 'Editing: Call Center Advisor' dialog box. It features a blue header with the title and 'OK' and 'Cancel' buttons. The main content area includes the following fields and controls:

- cca-default-handler**: A dropdown menu with 'ABC' selected and an 'Edit List' link to its right.
- Call Center Advisor**: A dropdown menu with 'Siebel' selected.
- Base URL**: A text input field containing 'http://HOST:PORT/eai_enu/start.swe'.
- User Name**: An empty text input field.
- Password**: An empty text input field.
- Call Center Advisor**: A list box containing 'ABC' and 'DEF'. To the right of each item are icons for adding and deleting. Below the list is an 'Add New Item' link.
- cca-handler-impl**: A dropdown menu with 'Siebel' selected. Below it is an 'Add New Item' link.

The dialog box has 'OK' and 'Cancel' buttons at the bottom.

cca-default-handler	Refers to how InQira communicates with CCA installations. See Call Center Advisor below. To modify select Edit List .
Call Center Advisor	Refers to the CRM system used with CCA. The default is Siebel. See cca-handler-impl below.
Base URL	Refers to the URL associated with the configured CRM system.
User Name	Refers to the login name associated with the CRM server.
Password	Refers to the password used to access the CRM server.

Call Center Advisor	Refers to how InQuira communicates with CCA. To modify select Add New Item .
cca-handler-impl	Defines the code used by InQuira to invoke communication with the CRM. To modify select Add New Item .

Contact Deflection

Selecting Contact Deflection from Advanced Configuration Facility allows you to set and modify the settings for contact deflection. By selecting **Contact Deflection, Show Advanced Options, Edit** the Editing: Contact Deflection screen displays.

Editing: Contact Deflection

Show Advanced Options **OK** **Cancel**

Item Name ▶ email

Contact Deflection

Contact Start Handler

Domain Group ▶ Contact

Handler Class ▶ com.inquiria.request.AnswerContactStart

Properties

Value : (none)

[Add New Item](#)

Contact Response Handler

Escalation URL ▶ escalate.jsp

Escalate with no answers ▶ On Off

Handler Class ▶ com.inquiria.request.ResponseContactHandler

- | | |
|---------------------|--|
| Item Name | Lists the names of the available contact deflection methods. The default is email. |
| Domain Group | Refers to the dictionary domain group active for e-mail deflection. The default is Contact, which contains the packaged contact deflection rules |

Handler Class	Code to recall Contact Page.
Value	To modify select Add New Item .
Escalation URL	Specifies the URL associated with the Escalation process.
Escalate with no answers	Specifies whether to automatically redirect to the Escalation page specified above, when no search results are returned. The default value is on.
Handler Class	Code used to recall Escalation Page
Value	To modify select Add New Item .

Crawler Settings

Selecting Crawler Settings from Advanced Configuration Facility allows you to see and modify the settings for the crawlers used in InQira. By selecting **Crawler Settings**, **Show Advanced Options**, **Edit** the Editing: Crawler Settings screen displays.

Editing: Crawler Settings

Show Advanced Options OK Cancel

Date Format :

Database Crawlers : (none)
[Add New Item](#)

Siebel Crawlers : (none)
[Add New Item](#)

Custom Crawlers : (none)
[Add New Item](#)

Document Attribute : (none)
[Add New Item](#)

Collection Group : (none)
[Add New Item](#)

Content Acquisition

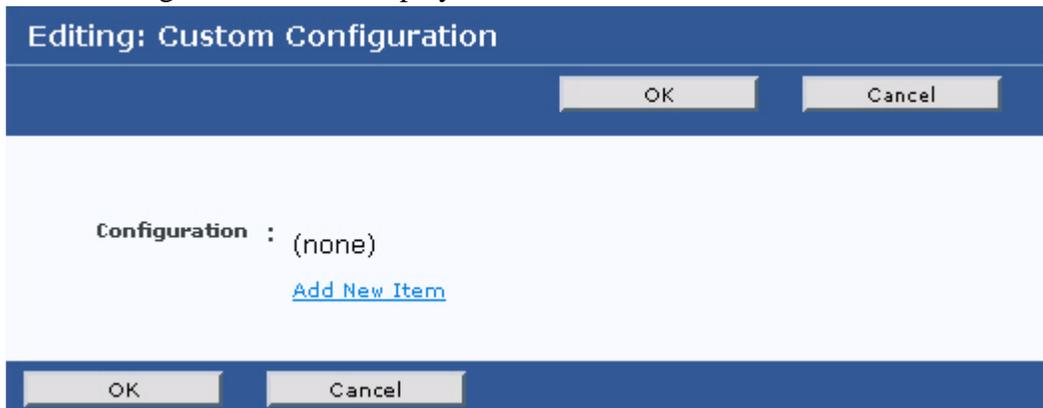
Commit Interval :

Date Format	Specifies any valid date formats that the application must process in addition to the standard packaged date formats. The standard date formats are:<day-abbr>, <day-of-month> <name-of-month> <year> <24hour>:<minutes>:<seconds> <timezone>
Database Crawler	Allows you to crawl configured databases. To modify select Add New Item
Siebel Crawlers	Allows you to crawl configured Siebel systems. To modify select Add New Item .
Custom Crawlers	Allows you to crawl configured custom content. To modify select Add New Item .
Document Attribute	Lists predefined document attributes to be crawled. To modify select Add New Item .
Collection Group	Lists predefined collection groups to be crawled. To modify select Add New Item
Commit Interval	Saves index documents after every X number. The default value is 500.
Download URL Patterns	Allows you restrict the type of documents to be crawled. To modify select Add New Item .
Document Attribute Selector	Allows you to set custom code for Document Attributes to be crawled as defined above.
Time Frame	Allows you to configure crawls based on a date

Custom Configuration

Selecting Custom Configuration from Advanced Configuration Facility allows you to make customizations to InQira.

By selecting **Custom Configuration, Show Advanced Options, Edit** the Editing: Custom Configuration screen displays.



Editing: Custom Configuration

OK Cancel

Configuration : (none)

[Add New Item](#)

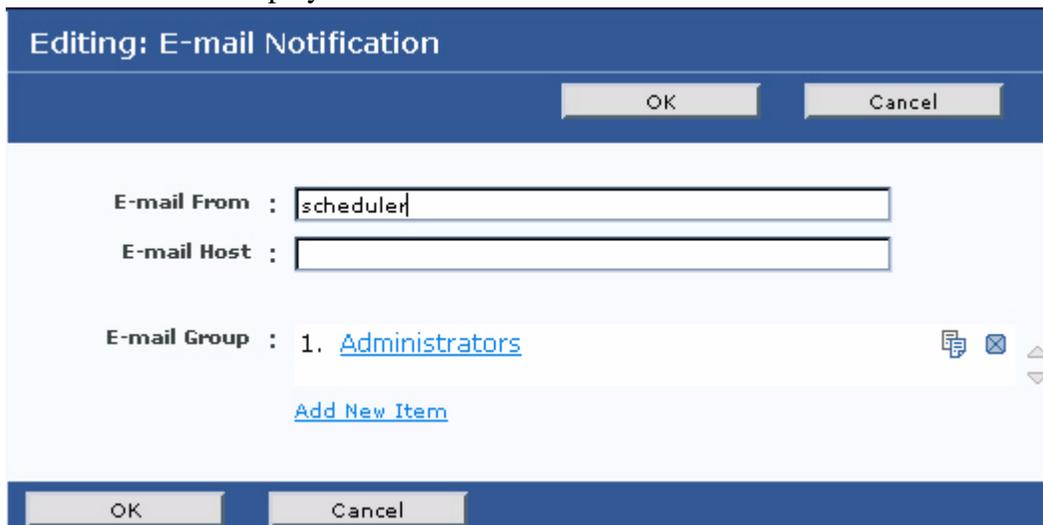
OK Cancel

Configuration Lists customizations made to InQira. To modify select **Add New Item**.

E-mail Notification

Selecting E-mail Notification from Advanced Configuration Facility allows you to see and modify to e-mail notifications.

By selecting **E-mail Notification, Show Advanced Options, Edit** the Editing: E-mail Notification screen displays.



Editing: E-mail Notification

OK Cancel

E-mail From : scheduler

E-mail Host :

E-mail Group : 1. [Administrators](#)

[Add New Item](#)

OK Cancel

E-mail From	Refers to which InQuira Instance e-mails are sent from. The default value is scheduler.
E-mail Host	Specifies the name of the mail server accessible by the server used for InQuira Instance defined above
E-mail Group	Lists the defined e-mail groups to be notified. To modify select Add New Item .

Workbench

Selecting Workbench from Advanced Configuration Facility allows you to see and modify components related to the Language Workbench in InQuira Intelligent Search.

By selecting **Workbench, Show Advanced Options, Edit** the Editing: Workbench screen displays.

Datasource (required) Lists the datasource configured for Intelligent Search. To modify select **Edit List**.

Root Concepts	Specifies one of more concepts as initial display nodes for the Dictionary Manager Concept Tree. To modify select Add New Item .
Browser Executable (Unix Only)	Specifies the browser to use for Workbench features, such as Test Drive, Quality Monitor, Process Wizards. The default value is firefox.
Browser Arguments (Unix Only)	This argument corresponds to the defined browser above. The default value is -remote openURL.

Information Manager

Selecting Information Manager from Advanced Configuration Facility allows you to see and modify the log directory used for InQuira Information Manager.

By selecting **Information Manager, Show Advanced Options, Edit** the Editing: info-manager screen displays.

The screenshot shows a dialog box titled "Editing: info-manager". At the top right are "OK" and "Cancel" buttons. The main area contains the following fields:

- Datasource :** A dropdown menu showing "(none)" and an "Edit List" link.
- Information Manager Log Files Directories :** A label with "(none)" and an "Add New Item" link.
- imws** (Section Header): A container for the following fields:
 - User :** An empty text input field.
 - Password :** An empty text input field.
 - Repository :** An empty text input field.
 - URL :** A text input field containing "http://localhost:8226/imws".

At the bottom of the dialog are "OK" and "Cancel" buttons.

Datasource Specifies the Datasource to use when accessing InQuira Information Manager.

Information Manager Log Files Directories	Specifies the directory used to store Information Manager log files. To modify, select Add New Item .
User	n/a
Password	n/a
Repository	n/a
URL	n/a

Rules Engine

Selecting Rules Engine from Advanced Configuration Facility allows you to see and modify components related to the question processing used by InQuira Intelligent Search.

By selecting **Rules Engine, Show Advanced Options, Edit** the Editing: Rules Engine screen displays.

Editing: Rules Engine

OK Cancel

Max Question Length (in tokens) : 15

Truncated Question Length (in tokens) : 14

Use First Tokens : On Off

Spell Checking

Automated : On Off

Interactive : On Off

Automatic Correction Threshold : 90

Use Indexed Content : On Off

OK Cancel

Max Question Length (in tokens)	Specifies the maximum amount of tokens to be analyzed by Intelligent Search in the answer retrieval process.
Truncated Question Length (in tokens)	Specifies how many tokens to truncate a question to if the question exceeds the Max Question Length.
Use first token	Specifies whether to truncate the question to the set max length starting from the beginning of the question. The default is off
Automated	Specifies whether automated spelling checking is used to process a question. The default value is on.
Interactive	Specifies whether to automatically correct or suggest spelling errors. The default value is off.
Automatic Correction Threshold	Specifies a threshold as a percentage below which suggested alternate words are not submitted to the question answering process. The default value is 90.
Use Indexed Content	Specifies that the spell checker compares question words with the indexed application content during the evaluation process. Words that exist in the indexed content are assumed to be spelled correctly. The default value is On.

Language Processor Settings

Selecting Language Processor Settings from Advanced Configuration Facility allows you to see and modify components related to natural language settings used by InQuira Intelligent Search.

By selecting **Language Processor Settings, Show Advanced Options, Edit** the Editing: Natural Language Settings screen displays.

Editing: Natural Language Settings

Show Advanced Options OK Cancel

Use Links as References : On Off

Advanced Options

OpenClass (Index) : On Off

OpenClass (Runtime) : On Off

openclass-item : (none)
[Add New Item](#)

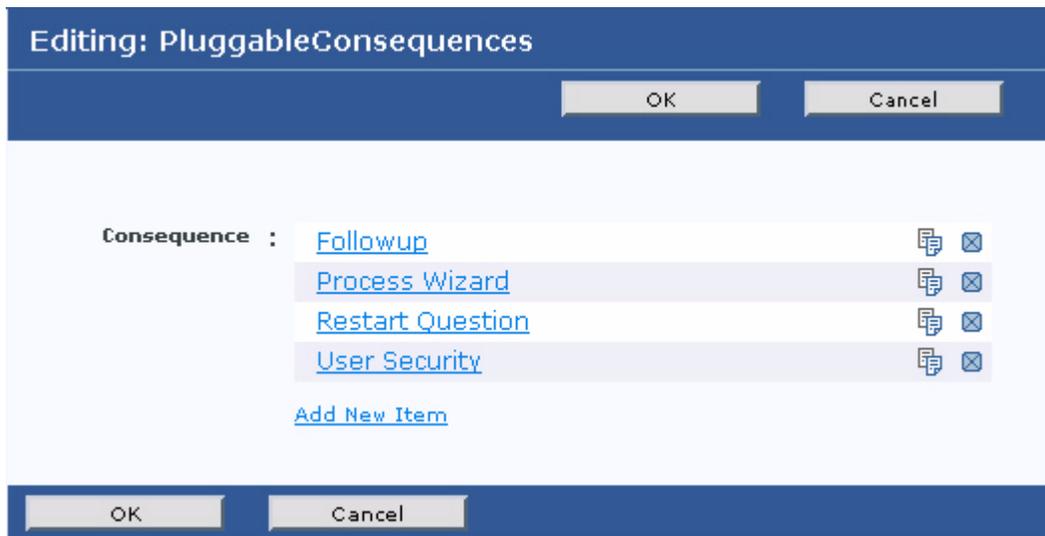
OK Cancel

Use Link as References	Allows you to search and return answers based on tokens within href links. The default value is off.
OpenClass (Index)	Refers to whether documents get annotated with openclass concepts. The default value is off.
OpenClass (Runtime)	Refers to whether questions are annotated with openclass concepts. The default value is on.
openclass-item	Allows you to create and modify openclass concepts. An openclass concept is a concept defined using IML. To modify select Add New Item .

Plug-in Registration

Selecting Plug-in Registration from Advanced Configuration Facility allows you to see and modify the plug-ins associated with InQuira.

By selecting **Plug-in Registration, Show Advanced Options, Edit** the Editing: PluggableConsequences screen displays.



Consequence

Allows you to configure code to invoke various plug-ins as a result of language rule matching. To modify select **Add New Item**.

Preprocess Configuration

Selecting Process Config from Advanced Configuration Facility allows you to see and modify PDF and HTML settings.

By selecting **Preprocess Config, Show Advanced Options, Edit** the Editing: Preprocess Config screen displays.

Editing: Preprocess Config

OK Cancel

PDF Config

Title In First Page : true

Max Sentences : 5

Max Title Length : 100

Timeout Factor : 3.35

Timeout Contingency : 15000

PDF Reject Pattern :

PDF Title Candidate :

1. [First N sentences](#)
2. [PDF File's Title](#)
3. [PDF File's Subject](#)
4. [Outline](#)
5. [Filename](#)

[Add New Item](#)

HTML Config

Notify HTML Built :

Title in First Page n/a The default value is true.

Max Sentences	Refers to the maximum number of sentences to contain the document title. The default value is 5
Max Title Length	Refers to the maximum number of characters to be included in a PDF title. The default value is 100.
Timeout Factor	Specifies how many ms/KB to be used in the algorithm to avoid PDFs from hanging. The default value is 3.35
Timeout Contingency	Specifies how many ms to be used in the algorithm to avoid PDFs from hanging. The default value is 15000
PDF Rejection Pattern	Refers to regular expressions used to reject potential PDF titles
PDF Title Candidate	Lists ways, in numerical order, InQuira finds titles in PDF documents. To modify select Add New Item .
Notify HTML Built in Refs	Specifies whether to use the HTML parser features to automatically report character entity references. The default value is off.
Fix MS Windows Refs	Specifies whether to use the HTML parser features to automatically fix Microsoft Windows characters. The default value is off.
Notify Char Refs	Specifies whether to use the HTML parser features to automatically report character entity references. The default value is off.
Document Title	Specifies an HTML style to display an HTML document title.
Title for Start section	Specifies an HTML style to create a new section in an HTML document.
Keep Entity	Specifies a retained node in order to look at data and extract text. To modify select Add New Item .
Directive Rule	Defines HTML nodes. To modify select Add New Item .

Instances

The Instances portion of the Advanced Configuration Facility provides a means to modify setting that affect a specific instance of InQuira. For more information see the following sections:

Communication Settings on page 209

Gateways on page 211

Instance Groups on page 212

Synchronizer Defaults on page 213

Service Configuration on page 214

Communication Settings

Selecting Communication Settings from Advanced Configuration Facility allows you to see and modify the means of communication used by InQuira.

By selecting **Communication Settings, Show Advanced Options, Edit** the Editing: Communication Methods screen displays.

Editing: Communication Methods

OK Cancel

RMI Communication : (none)
[Add New Item](#)

EJB Communication : (none)
[Add New Item](#)

SOAP Communication : (none)
[Add New Item](#)

Socket Communication :

- [default Socket Transport](#)  
- [MLD24rt1 Socket Transport](#)  
- [scheduler Socket Transport](#)  

[Add New Item](#)

OK Cancel

RMI Communication Lists the available Remote Method Invocation configurations for the instance. To modify select **Add New Item**.

EJB Communication Lists the available Enterprise Java Bean configurations for the instance. To modify select **Add New Item**.

SOAP Communication Lists the available Simple Object Access Protocol configurations for the instance. To modify select **Add New Item**.

Socket Communication Lists the available socket configurations for the instance. To modify select **Add New Item**.

Gateways

Selecting Gateways from Advanced Configuration Facility allows you to see and modify the Gateway connections used by InQuira.

By selecting **Gateways, Show Advanced Options, Edit** the Editing: gateway screen displays.

The screenshot shows a dialog box titled "Editing: gateway". At the top right are "OK" and "Cancel" buttons. The main area contains two sections:

- SOAP Gateway :** A text input field containing "default", a list icon, and a close icon. Below it is a blue link "Add New Item".
- RMI Gateway :** A text input field containing "default", a list icon, and a close icon. Below it is a blue link "Add New Item".

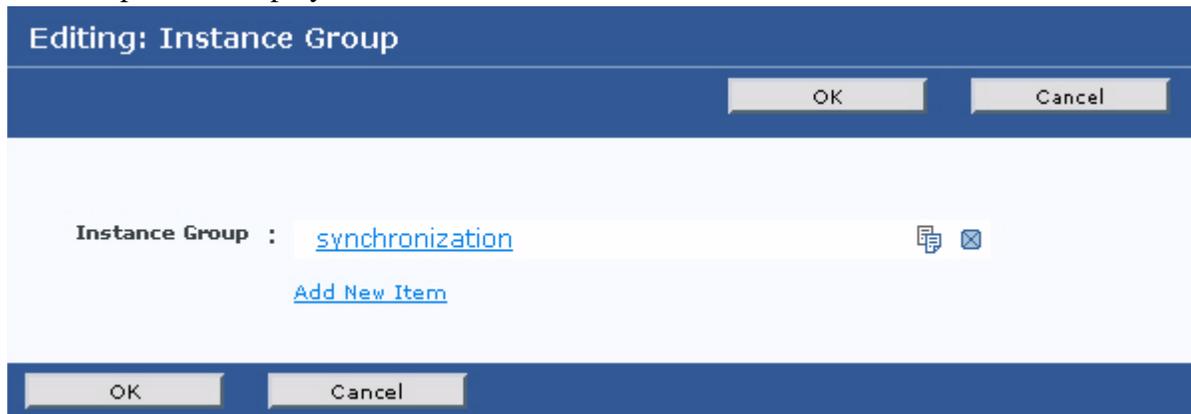
At the bottom of the dialog are "OK" and "Cancel" buttons.

- | | |
|---------------------|---|
| SOAP Gateway | Lists configured SOAP Gateway connections. To modify select Add New Item |
| RMI Gateway | Lists configured RMI Gateway connections. To modify select Add New Item. |

Instance Groups

Selecting Instance Groups from Advanced Configuration Facility allows you to see and modify groups of InQira instances.

By selecting **Instance Groups, Show Advanced Options, Edit** the Editing: Instance Group screen displays:



The screenshot shows a dialog box titled "Editing: Instance Group". At the top right, there are two buttons: "OK" and "Cancel". The main content area has a label "Instance Group :" followed by a text input field containing the word "synchronization". To the right of the input field are two small icons: a copy icon and a close icon. Below the input field is a blue link labeled "Add New Item". At the bottom of the dialog box, there are two buttons: "OK" and "Cancel".

Instance Group

Lists InQira runtime instances that have been grouped together to perform a set task. To modify select **Add New Item**.

Synchronizer Defaults

Selecting Synchronizer Defaults from Advanced Configuration Facility allows you to see and modify n/a

By selecting Synchronizer Defaults, **Show Advanced Options**, **Edit** the Editing: Synchronizer Defaults screen displays:

Editing: Synchronizer Defaults

Instance Group ▶ synchronization [Edit List](#)

Target Application ▶ default application [Edit List](#)

Instance Failure Threshold : 0

Development Data Cleanup History : 2

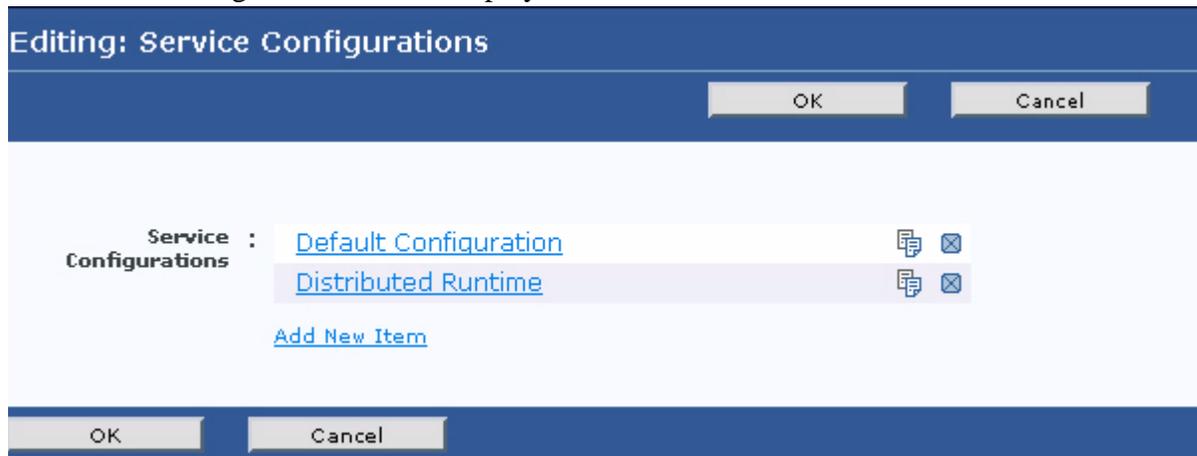
OK Cancel

Instance Group	Lists the defined instance groups for the InQira application. To modify select Edit List .
Target Application	Lists the available InQira applications. To modify select Edit List .
Instance Failure Threshold	Defines the number of synch tasks a may fail before it is considered to be an error. The default value is 0.
Development Data Cleanup History	Specifies to keep data for the last X number of runtime revisions, while removing all older data after a successful synch.

Service Configuration

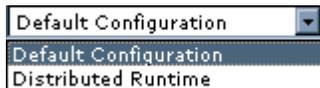
Selecting Service Configurations from Advanced Configuration Facility allows you to see and modify configured InQuira Instances.

By selecting **Service Configurations, Show Advanced Options, Edit** the Editing: Service Configurations screen displays:



Service Configurations Lists the available InQuira instances. To modify select **Add New Item**.

By selecting an Instance from the drop down menu you can see and modify settings specific to that instance.



For more information see:

[Content Storage on page 215](#)

[Context Variable on page 216](#)

[Default-Subjectmap on page 217](#)

[Excerpt on page 218](#)

[Excerpt Security on page 219](#)

[Index on page 220](#)

[Log on page 223](#)

[Ontology on page 224](#)

[Structured Data on page 225](#)

[Authorization on page 227](#)

Content Storage

Selecting Content Storage from Advanced Config allows you to see and modify settings related to InQuira Intelligent Search.

By selecting **Content Storage, Show Advanced Options, Edit** the Editing: Content Storage screen displays.

Editing: Content Storage

Show Advanced Options OK Cancel

Data Source : [Edit List](#)

Default Encoding ▶

Default Language ▶

Advanced Options

Reset Commit Interval :

OK Cancel

- Data Source (required)** Lists the database associated with InQuira Intelligent Search content store. To modify select **Edit List**.
- Default Encoding** Specifies the encoding used during crawling.
- Default Language** Specifies the default language of the documents to be crawled.
- Reset Commit Interval** Refers to the number of documents that are deleted before a database commit is done. The default value is 2.

Context Variable

Selecting Context Variables from Advanced Config allows you to see and modify the context variables used by InQuira Intelligent Search.

By selecting **Context Variables, Show Advanced Options, Edit** the Editing: Context Variables screen displays.



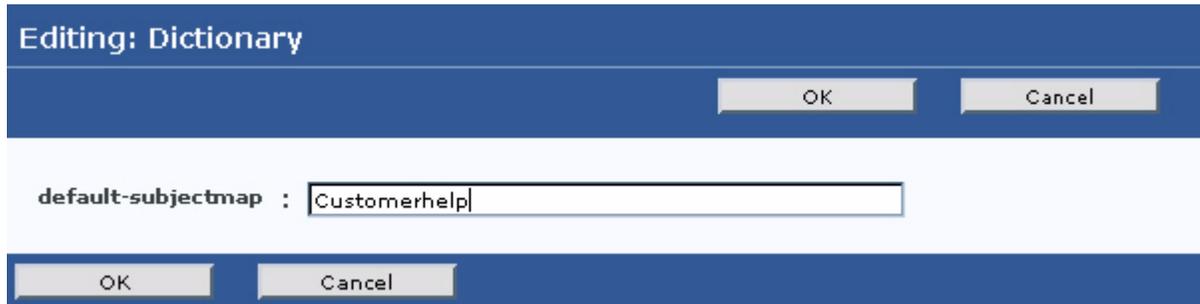
Variables

Lists the variables used within InQuira. To modify select **Edit List**.

Default-Subjectmap

Selecting Default-Subjectmap from Advanced Config allows you to see and modify the default dictionary used by InQuira Intelligent Search

By selecting **Default-Subjectmap, Show Advanced Options, Edit** the Editing: Dictionary Services screen displays.



The screenshot shows a dialog box titled "Editing: Dictionary". The dialog has a blue header bar with the title. Below the header, there are two buttons: "OK" and "Cancel". The main content area is white and contains the text "default-subjectmap : Customerhelp" followed by a text input field containing the value "Customerhelp". At the bottom of the dialog, there are two more buttons: "OK" and "Cancel".

default-subjectmap Specifies the default subject map to use with InQuira Intelligent Search.

Excerpt

Selecting Excerpt from Advanced Config allows you to see and modify n/a

By selecting **Excerpt, Show Advanced Options, Edit** the Editing: Excerpt Service screen displays.

Editing: Excerpt Service

Show Advanced Options OK Cancel

Answer Format Algorithms

ACT		
ANSWER		
CONTACT		
CONVERSE		
DEFINE		
FEATURE_CONTENT		
JUMP_TO_PAGE		
PROMOTE		
RELATED_TOPIC		

[Add New Item](#)

Advanced Options

Maximum Open Files :

OK Cancel

Answer Format Algorithms Lists the available portlets. To modify select **Add New Item**.

Maximum Open Files Refers to the maximum number of open files to be used by InQira. The default value is 512

Excerpt Security

Selecting Excerpt Security from Advanced Config allows you to see and modify n/a

By selecting Excerpt Security, Show Advanced Options, Edit the Editing: Excerpt Security Service screen displays.

Editing: Excerpt Security Service

Show Advanced Options OK Cancel

Enable Excerpt Security On Off

LDAP Security : (none) [Edit List](#)

Advanced Options

Security Class : com.inquiria.excerpt.security.LDAPSecurity

OK Cancel

Enable Excerpt Security	N/A. The default value is off
LDAP Security	Lists the available methods used to communicate with the LDAP security. To modify select Edit List .
Security Class	The code used to communicate with LDAP security

Index

Selecting Index from Advanced Config allows you to see and modify settings related to the InQira Intelligent Search results.

By selecting **Index, Show Advanced Options, Edit** the Editing: Index Service screen displays.

Editing: Index Service

Show Advanced Options **OK** **Cancel**

Directory ▶ data/index

Parameters

Default Search Weight : 0.99999999

Default Relevance Weight : 0.00000001

Default Recency Weight : 0

Maximum # of Search Results : 15

Maximum # of Search Results per Document : 1

dynamic-SCCache-enabled : On Off

uncomment-enabled : On Off

guarantee-max-results-enabled : On Off

use-delayed-doc : On Off

max-delayed-docs : 1000

max-delayed-tied : 10

use-answer-buckets : On Off

max-answers-per-bucket : 4

max-memory : 786000

io-buffer-size : 32

Cache Sizes : [query](#)

Directory

Refers to the directory used to store data related to the Index. The default is data/index

Default Search Weight	Refers to the weight given to a document based on created dictionary rules. The default value is .99999999
Default Relevance Weight	Refers to the weight given to a document based on how often that document is linked to other documents. The default value is .00000001
Default Recency Weight	Refers to the weight given to documents based on the frequency of use. The default value is 0.
Maximum # of Search Results	Refers to the maximum number of search results returned for any question. The default value is 15. (Note: This configuration takes precedence over the max results setting defined under Dictionary.)
Maximum # of Search Results per Document	Refers to the maximum number of times one article may be returned in the search results. The default value is 1.
dynamic-SCCache-enabled	Specifies whether to update the Search Component cache is realtime, allowing answers to be returned faster. The default value is on.
uncomment-enabled	Enables very low level scoring debug. The default value is off.
guarantee-max-results-enabled	Specifies to return the configured maximum number of results regardless of scores. The default value is off.
use-delayed-doc	n/a The default value is off.
max-delayed-docs	n/a The default value is 1000.
max-delayed-tied	Alternate scoring algorithm that is useful only if document weighting is high. The default value 10.
use-answer-buckets	n/a The default value is off.
max-answers-per-bucket	Allows you to set a maximum number of documents that can be returned as answers per "answer bucket." The default value is 4.
max-memory	Refers to the maximum amount of memory to allocate to the search User Interface. The default value is 786000.
io-buffer size	Changes the size of the IO buffer used by the UDS. The default value is 32.
Cache Sizes	Specifies the amount of memory allowed for caching IML results. To modify select Add New Item .

Relevance Page Rank Weight	Specifies how relevant is page ranking. The default value is .9. The value must be set between 0 and 1, and in combination with the TFIDF Weight may not equal greater than 1.
Relevance TFIDF Weight	Specifies how relevant is TFIDF score. The default value is .1. The value must be set between 0 and 1, and in combination with the Page Rank Weight may not equal greater than 1.
TFIDF Token Weight	N/A. The default value is 1.
TFIDF Stem Weight	N/A. The default value is 0.
TFIDF Concept Weight	N/A. The default value is 0.
Hypercommon Result Threshold	N/A. The default value is 10000.
Title Boost	Specifies the amount of points to assign to a result appearing in a document title. The default value is 10.
Reoccurrence in Sentence Boost	Specifies the amount of points to assign to a result appearing numerous times in a document sentence. The default value is 0.
Reoccurrence in Section Boost	Specifies the amount of points to assign to a result appearing numerous times in a document section. The default value is 0.
Title Boos Max	Specifies the maximum amount of points to assign to a result appearing in a document title.
tf-ruleid-keyword	Specifies the value used in the TFIDF algorithm. The default value is 1755852687.
tf-ruleid-nl	Specifies the value used in the TFIDF algorithm. The default value is 799415718.
tf-slot	Specifies the value used in the TFIDF algorithm. The default value is 7.
base-score-floor	Specifies the value used in the TFIDF algorithm. The default value is .7.
industry-score-floor	Specifies the value used in the TFIDF algorithm. The default value is .4.
Heuristic Always Optimal-pos	N/A. The default value is 3.
Heuristic Negligible-score-changes	N/A. The default value is 0.

Scale Final Score	N/A. The default value is off.
Score Scaling Exponent	N/A. The default value is 5.
Score Scaling Base	N/A. The default value is 10.
Scope Limit Per Document	N/A. The default value is 0.
Preload SC Cache	N/A. The default value is off.
Preload Document Structure Cache	N/A. The default value is off.

Log

Selecting Log from Advanced Config allows you to see and modify the log files related to InQira Analytics.

By selecting **Log, Show Advanced Options, Edit** the Editing: Log Service screen displays.

Verbosity	Refers to the amount of detail reported within log files
mode	N/A.
Log Directory	Specifies the directory used to store log files. The default value is logs.

Ontology

Selecting Ontology from Advanced Config allows you to see and modify settings regarding the n/a

By selecting **Ontology, Show Advanced Options, Edit** the Editing: Ontology Service screen displays.



Structured Data

Selecting Structured Data from Advanced Config allows you to see and modify the databases configured. By selecting **Structured Data, Show Advanced Options, Edit** the Editing: Structured Data Service screen displays.

Editing: Structured Data Service

Show Advanced Options OK Cancel

Schemas

Table : (none)
[Add New Item](#)

Options

Max Answers : 500

Max Ranking Answers : 30

Max IML Results In Query : 500

Process Subselects : On Off

XML Query Script :

XML Results Script :

Advanced Options

Directory ▶ data/structured

Connection Type ▶ **jdbc**

xml

Table	Lists the tables within the Structured Database. To modify select Add New Item .
Max Answers	Refers to the maximum number of allowed results returned from a structured query. The default value is 500. Refers to the maximum number of allowed results returned from a structured query. The default value is 500.
Max Ranking Answers	Refers to the maximum number of allowed results from an unstructured search of a structured database. The value should be less than the Max Answers configured above. The default value is 30.
Max IML Results In Query	Refers to the maximum number of allowed results from an IML query to be analyzed in a structured query. The default value is 500.
Process Subselects	Specifies whether to allow InQuira to process subselect statements in the SQL query, regardless of the capabilities of the associated structured database. The default value is on
XML Query Scrip	Allows structured search using XML not SQL in question processing.
XML Results Script	Allows structured search using SML not SQL in search retrieval.
Directory	Specifies the directory to used to store files from the structured database.
Connection Type	Specifies the method used to connect to the structured database. To modify select Add New Item .

Authorization

Selecting Authorization from Advanced Config allows you to see and modify n/a

By selecting **Authorization, Show Advanced Options, Edit** the Editing: Authorization screen displays.

Editing: Authorization

Show Advanced Options OK Cancel

Authentication Domain : 1. [internal](#) ✖ ▲ ▼
[Add New Item](#)

Roles : [Administrator](#) ✖
[LanguageAdministrator](#) ✖
[LanguageDevelopment](#) ✖
[Add New Item](#)

Advanced Options

Delegation Detector : (none) ▼ [Edit List](#)

OK Cancel

Authentication Domain Lists available LDAP domains. To modify select **Add New Item**.

Roles Lists available user roles. To modify select **Add New Item**.

Delegation Detector Used to integrate with Single-Sign-On solutions (SSO). When configured, if there is no user associated with the current session InQuira attempts to detect if a security delegation has occurred. To modify select **Edit List**.

