Oracle Knowledge Analytics Administrator's Guide

Version 8.4.2.2

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Contents

About This Guide

This guide provides an overview of the Oracle Knowledge Analytics system, describes how to configure an analytics processing task in order to populate reports, describes the basic features of the application user interface and how to set user preferences, and general information on accessing and using both Intelligent Search and Information Manager analytics reports.

In This Guide

This guide is divided into the following sections:

Chapter 1, Introduction to Oracle Knowledge Analytics	This chapter describes the Oracle Knowledge Analytics business intelligence application; its architecture, types of standard reports, and general report features
Chapter 2, Configuring an Analytics Processing Task	This chapter describes the ETL process and how to configure an analytics processing task in order to populate Oracle Knowledge Analytics with data. It contains additional configuration information.
Chapter 3, The Log Data Archive	This chapter explains the Oracle Knowledge Intelligent Search analytics reports and how to make use of them. It also contains a set of scenarios that illustrate using Oracle Knowledge Analytics to investigate various business objectives associated with different types of users, from product managers to system administrators.

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 External Web Content

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

CHAPTER 1

Introduction to Oracle Knowledge Analytics

Oracle Knowledge Analytics is customer-facing decision support system that allows clients to improve customer service, measure author contribution, and measure the overall usage of the Intelligent Search and Information Manager (IM) products. Use Oracle Knowledge Analytics to:

- Understand user behavior, such as why users visit your site, and what they try to achieve
- Assess the quality of Oracle Knowledge responses and whether users are finding the information they need
- Determine if important information is missing from your application content
- Report on application performance, such as system response times

Important! Oracle Knowledge Analytics requires an installed and configured Oracle Knowledge application and installed and configured supplementary software as described in the Oracle Knowledge Analytics Installation Guide.

Oracle Knowledge Analytics Overview

Oracle Knowledge Analytics processes Oracle Knowledge application data to populate the reporting database and uses that data to generate a set of standard reports.

You can create the data structure for the standard report, extract the log data and populate it to database using the processes described in *Chapter 2, Configuring an Analytics Processing Task*.

The standard reports use application-specific data dimensions, such as products, services, business units, and types of end-user questions that you define for your specific business environment.

You can then view, filter, manipulate, print, and export reports using the web-based Oracle Knowledge Analytics user interface.

Important! See the *Oracle Knowledge Analytics Installation Guide* for information on Oracle Knowledge Analytics prerequisites and dependencies.

Oracle Knowledge Analytics Architecture

An Oracle Knowledge Analytics application consists of multiple components configured using one or more deployed Oracle Knowledge instances. The Oracle Knowledge Analytics components include:

- The data warehouse that stores the Oracle Knowledge log data, the reporting hierarchy, and additional metadata used to create the reports.
- An Oracle Knowledge instance configured to perform the data extraction and load (ETL) process.
- The Oracle Knowledge Analytics report server, which hosts the report creation and user interface functions.

Oracle Knowledge Analytics Components

Oracle Knowledge Analytics uses the following components to import data from Oracle Knowledge application log files, populate the reporting databases, and create the standard reports:

Data Warehouse Component:

Normalized reporting (ODS) database	The reporting database stores data extracted from the Oracle Knowledge logs and acts as a staging environment for analytics data. This database stores the Oracle Knowledge log, security and report information in relational form.

Oracle Knowledge Analytics Server Components:

Report Builder	The report builder is configured to build the standard Oracle Knowledge Analytics reports that provide information on customer (end-user) behavior, content utilization, user experience, and system usage and performance. You can also define and save custom reports using the features of the Oracle Knowledge Analytics user interface.
Web-based user interface	The Oracle Knowledge Analytics user interface displays easily readable standard reports and provides a complete set of tools for exploring, displaying, formatting, exporting, and printing reports, as well as customizing existing reports and creating custom reports for your organization.

Oracle Knowledge Analytics Reporting Component

Oracle Knowledge Analytics uses an underlying third-party product to create and present reports on which the Report Builder and Web-based user interface are based. Oracle Business Intelligence Enterprise Edition (OBIEE) is a comprehensive set of enterprise business intelligence tools and infrastructure, including a scalable query and analysis server, an ad-hoc query and analysis tool, interactive dashboards, proactive intelligence and alerts, and an enterprise reporting engine. OBIEE is installed on the designated Reports server using the process described in the OBIEE installation documentation at *http://download.oracle.com/docs/cd/E21764_01/index.htm.*

Note: It is assumed that you have a working knowledge of OBIEE.

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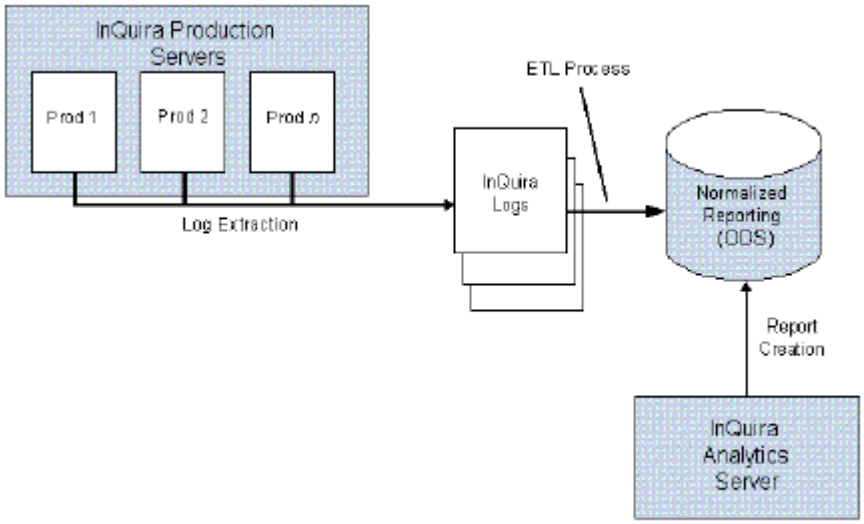
The Oracle Knowledge Analytics Reporting Process

The Oracle Knowledge Analytics reporting process consists of the following steps:

- The Oracle Knowledge production instances produce logs that contain the user questions, application responses, and other user interaction information, such as user session ID
- The Oracle Knowledge Analytics ETL server instance executes tasks to:
  - Extract the log files from configured production instances
  - Load them into the reporting (ODS) database
- The Oracle Knowledge Analytics report server instance executes tasks to build and cache the defined reports
- Oracle Knowledge Analytics users log on to view and manipulate the reports



CHAPTER 2

Configuring an Analytics Processing Task

The Oracle Knowledge Analytics ETL Process

You populate the reporting (ODS) database with log data from both the Intelligent Search and Information Manager configured production instances. You populate the reporting database by:

- Extracting log data from both configured production instances
- Loading both the Intelligent Search and Information Manager data into the normalized reporting (ODS) database
- Transforming the Normalized Intelligent Search and Information Manager Report
- Data to the Star Schema

The ETL Process extracts files from:

```
<Inquira root>\instances\<instance folder>\<environment>\<content/
runtime>\data\log\binary\<runtime instance>
```

and copies them to:

```
<Inquira root>\instances\<instance folder>\<environment>\<content/
runtime>\data\log\binary\<runtime instance>\extractedfiles
```

AND

```
<Inquira root>\instances\<instance folder>\<environment>\<content/
runtime>\data\analytics\logs
```

The ETL process then Transforms and Loads these files to the Report Database. After InQuira Analytics makes use of the data the files are moved to:

```
<inquira root>\instances\<instance folder>\<environment>\<content/
runtime>\data\analytics\archive
```

and deleted from

```
<Inquira root>\instances\<instance folder>\<environment>\<content/
runtime>\data\analytics\logs
```

Executing the Intelligent Search and Information Manager Production Log ETL Task

You can configure and execute the log extraction, load and transfer (ETL) task within System Manager.

Important! Log extraction and synchronization tasks cannot access a runtime instance at the same time. The log extraction will fail with a null point exception because the synchronization task shuts down the services used by the log extraction task.

To execute the ETL task:

- “Defining Oracle Knowledge Analytics ETL Job” on page 10
- “Running Oracle Knowledge Analytics ETL Job” on page 14

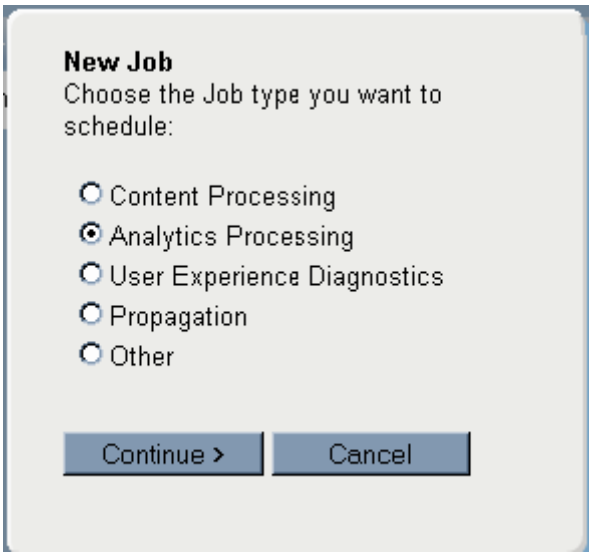
Defining Oracle Knowledge Analytics ETL Job

To define a new Job:

1. Open System Manager.
2. Select the **New...**option on the Job List

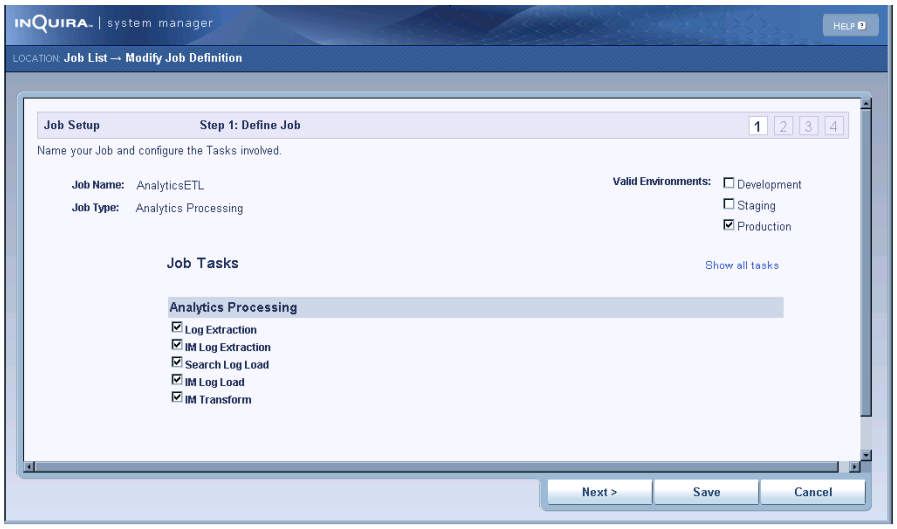
The System Manager displays the New Job dialog:

3. Select the **Analytics Processing** Job type



4. Select **Continue >** to continue the job definition process.
   The Job window displays.

Define Oracle Knowledge Analytics ETL Job



5 Enter text into the Job Name field (such as, AnalyticsETL).

6 Select **Valid Environments: Production**.

7 Select **Check all available boxes (default)**.

Oracle Knowledge provides the following tasks for managing Oracle Knowledge Analytics data:

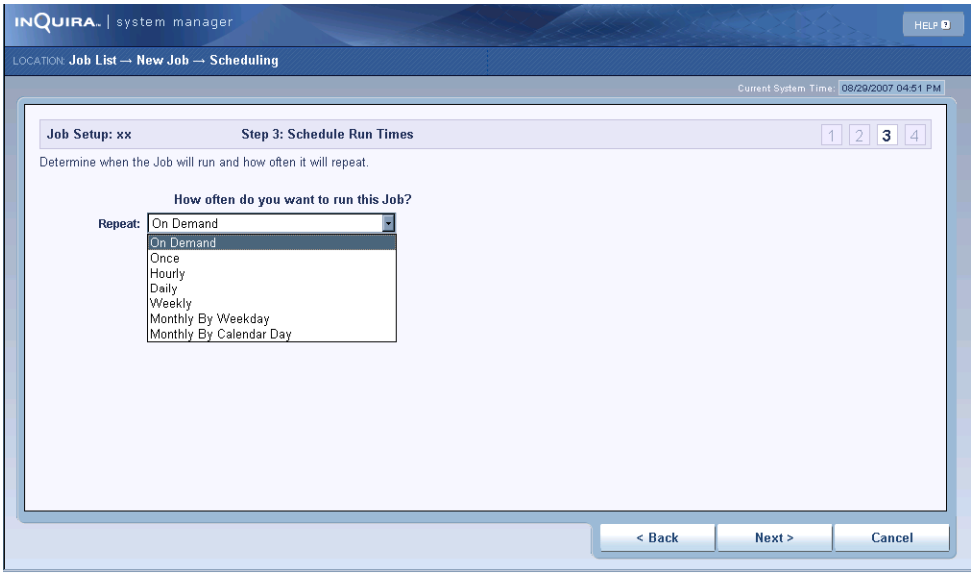
Task	Description
Log Extraction	Use this task to copy log data to the `data/load` directory (or the directory specified in the Oracle Knowledge Analytics configuration) on this instance.
Pre-Log Loading	Use this task to refer to a custom task specific to your application that should be performed prior to log loading.
Information Manager Log Extraction	Use this task to copy Information Manager log data to the `data/load` directory (or the directory specified in the Oracle Knowledge 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 Oracle Knowledge Analytics server.
Information Manager Log Load	Use this task to download only the Information Manager log files from the production servers to the Oracle Knowledge 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

8 Click **Next.**

The **Scheduling** window displays.

Schedule Run Times

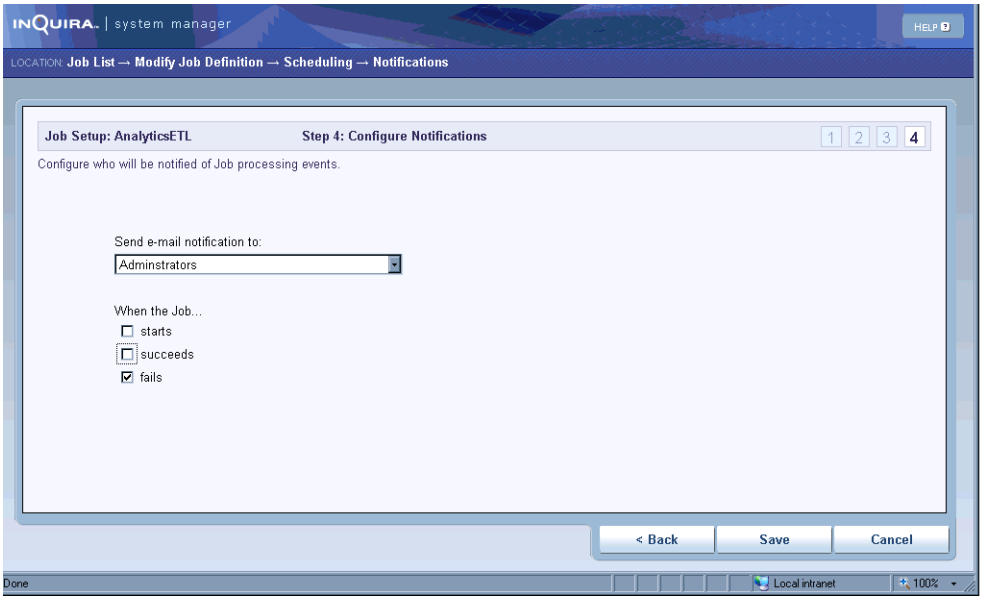


9 Select how often you would like to run the Analytics ETL Task. (Click **On Demand** to run task immediately for verification purposes.)

10 Click **Next**.

The Notification window displays.

Configure Notifications



11 Select who will be notified of job processing events and click **Save.**

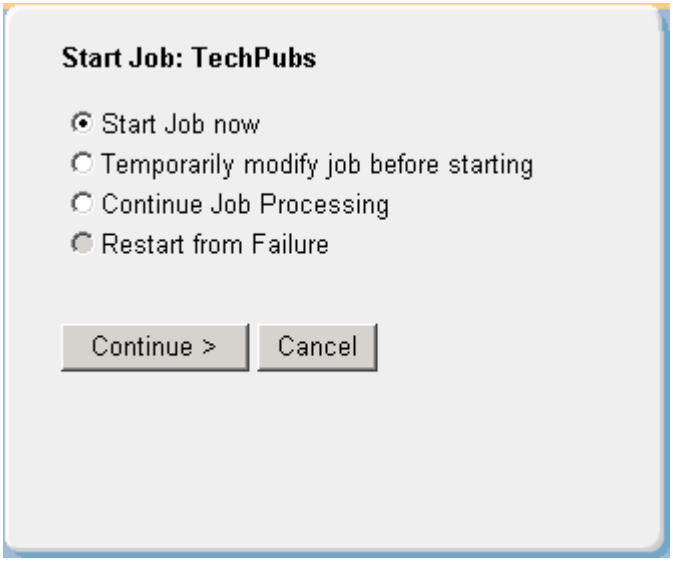
The newly created job appears on the Job list.

Running Oracle Knowledge Analytics ETL Job

To start your Analytics Processing Task, start a configured job interactively from the Job List in System Manager using this procedure:

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

The Start Job dialog displays.



3. Select an option from the **Start Job** dialog box

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.

4 Click **Continue**.

The view displays the Job Status screen.

Managing Analytics User Accounts

You can create, modify, and delete Analytics users using OBIEE, installed on the Oracle Knowledge Analytics server.

The Information Manager Analytics server is the processor on which you have installed OBIEE as described in the *Oracle Knowledge Analytics Installation Guide*.

Note: You must have administrator privileges to create, modify, and delete users.

Oracle Knowledge Analytics uses a configured instance of OBIEE installed on the Reports server. OBIEE is available separately, and is not included in the Oracle Knowledge product distribution. See `http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/overview/index.html` for more information on OBIEE.

This section describes how to configure Oracle Knowledge Intelligent Search and Oracle Knowledge Information Manager instances to supply log data to the Analytics application.

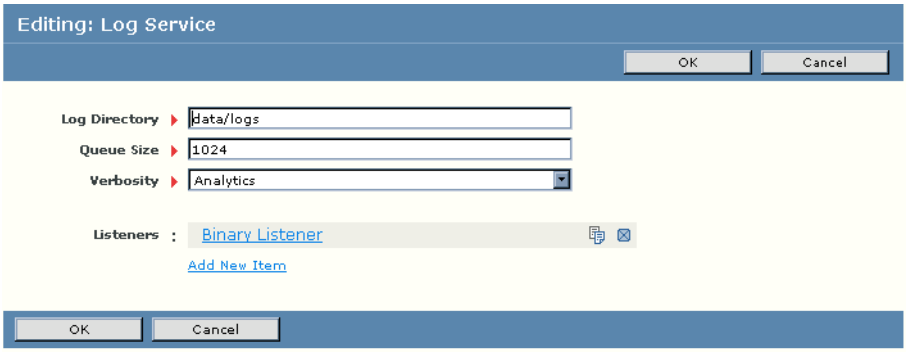
Configuring Logging on Production Instances

You must configure the production instances that supply log data to Oracle Knowledge Analytics to ensure that:

- The Oracle Knowledge Intelligent Search and Oracle Knowledge Information Manager instances are properly defined to the Intelligent Search scheduling instance
- The logs created by configured Intelligent Search instances:
  - Are correctly formatted and contain the appropriate level of detail
  - (Optional) Include data about end-user click-thru behavior

Specifying Runtime Log Characteristics

You must specify the correct log format and level of detail in the production server configuration. Specify the log characteristics using the **Log** page in the **Instances** section of the Advanced Configuration Facility.



Specify the following parameters to generate logs having the proper format and level of detail:

Parameter	Description	Required/Optional/Default
Log Directory	Specifies the directory in which the application will write its log files.	This is a required parameter. The default location is `data/logs`, which corresponds to the following location in the default instance (bootstrap) configuration: `inquira_home/application/data/logs`.
Queue Size	Specifies the size of the queue, which determines the number of messages that will accumulate between write actions.	This is a required parameter. The default value is `1024`.
Verbosity	Specifies the level of detail of the logged application data. Higher levels of detail result in more resource and storage use.	This is a required parameter. The default is `Analytics`. You must set the log level to Analytics or higher to generate Oracle Knowledge Analytics report data.

Listeners	Specifies one of more log listeners for the application. Log listeners are components that handle log information from the Log Service in specified ways.	This is a required parameter. You must specify a Binary log listener to produce loadable log files from which to generate Oracle Knowledge Analytics report data.

Configuring Intelligent Search Reporting Features

Configure the following additional Intelligent Search reporting features using the Advanced Configuration Facility:

- Record the answers that users select from the results page as described in “Specifying Click-thru Tracking” on page 17
- Edit the labels in the User Feedback report to conform to those within your application as described in “Updating Labels for the User Feedback Report” on page 19.

Specifying Click-thru Tracking

Configure the application to record which answers on the results page end-users *clicked-thru* to view the source document. Click-thrus are included as a dimension on the Most Used Content and Least Content reports.

Note: Click-thru tracking is not available for links within embedded managed answers. See “Rules” in the Oracle Knowledge Intelligent Search Language Tuning Guide for more information on embedded managed answers.

When click-thru tracking is enabled, Oracle Knowledge records:

- the session ID
- the answer ID
- the answer URL and anchor

for each click-thru, as well as for click-thrus on similar answers.

Configure click-thru tracking on all production instances for which you want to report on end-user click-thru behavior. Click-thru configuration is available on the **Click-thru** page of the Advanced Configuration Facility.

To configure click-thru tracking:

1. Select **Click-thru** from the Advanced Configuration Facility menu.
   The **Click-thru** page displays the Perform Click-thru Tracking field.
2. Click **On** in the **Perform Click-thru Tracking** field.

Configuring Click-Thru Tracking for Managed Answers

Configure click-thru tracking for links within the individual Dictionary rules that specify custom content managed answers. You configure click-thru tracking using a custom tag within the hypertext link specified in the custom content area of the managed answer rule.

```
<link href="URL">link text</link>
```

where:

<link	Specifies the beginning of the link tag
href	Is the HTML standard hypertext link reference
"URL"	Is the fully qualified URL for the answer source document, enclosed within double quotes
link text	Specifies the text to display as the hypertext link
</link>	Specifies the end of the link tag

The following custom text within a managed answer rule:

```
Answer Title<br>
Click the link to learn more:
<a href="http://www.somewhere.com/index.html">Click Here!</a>
```

To convert the link to be tracked by Oracle Knowledge Analytics, specify the `<link>` tag:

```
Answer Title<br>
Click the link to learn more:
<link href="http://www.somewhere.com/index.html">Click Here!</
link>
```

Updating Labels for the User Feedback Report

You can change the label text associated with the various user feedback levels used to rate answer quality in the User Interface. The labels displayed in the User Interface are configurable; however, they are independent of the labels that are displayed in the User Feedback Report. To maintain consistency, you must manually update both sets of labels.

See the *Oracle Knowledge Intelligent Search User Interface Guide* for more information on editing the following default user feedback labels in the User Interface.

Level	Default Label
0	No Feedback
1	Not Even Close
2	Hardly
3	Sure
4	Usually
5	Absolutely

CHAPTER 3

The Log Data Archive

The log extraction task stores compressed versions of the logs in an archive directory in the Oracle Knowledge Analytics instance. You can use the archive directory to create archive copies of the logs if desired.

The location of the archive directory is specified on the Analytics page of the Advanced Configuration Facility. The default archive directory is `data/archive`.

Configuring Data Archive

Data Archive is used to prune historical data from the current ODS schema to the Archive ODS schema.

Before starting the archive process, make sure that you have a data source set up for the archive database. The archive schema must be located in a different database schema from the ODS schema. Currently, the archive schema must reside on the same SID (Oracle) or the same database instance (SQL Server) as the ODS schema, and the two schemas must be associated with the same database vendor. For example, they must both be either Oracle or MSSQL schemas. This is necessary because each vendor has different variations of SQL. Both data sources are configured within the Analytics page of the Advanced Configuration Facility.

The Oracle Knowledge Intelligent Search and Oracle Knowledge Information Manager Analytics logs are compressed and stored on disk after the data has been loaded and processed into the database. The system does not delete the Analytics archived files. A manual or separate custom process is required to periodically remove these files, as necessary, based on amount of available disk space on the server that performs the Analytics ETL processing.

The Search analytics logs are archived at:
`<INSTALL DIR>\instances\<INSTANCE NAME>\<ENVIRONMENT ROLE>\content\data\analytics\archive.`
The IM analytics logs are archived at:
`<INSTALL DIR>\analytics\im\ETL\archive`

Creating the Data Archive

If the archive schema has not been created, run the following command from the ICE environment:

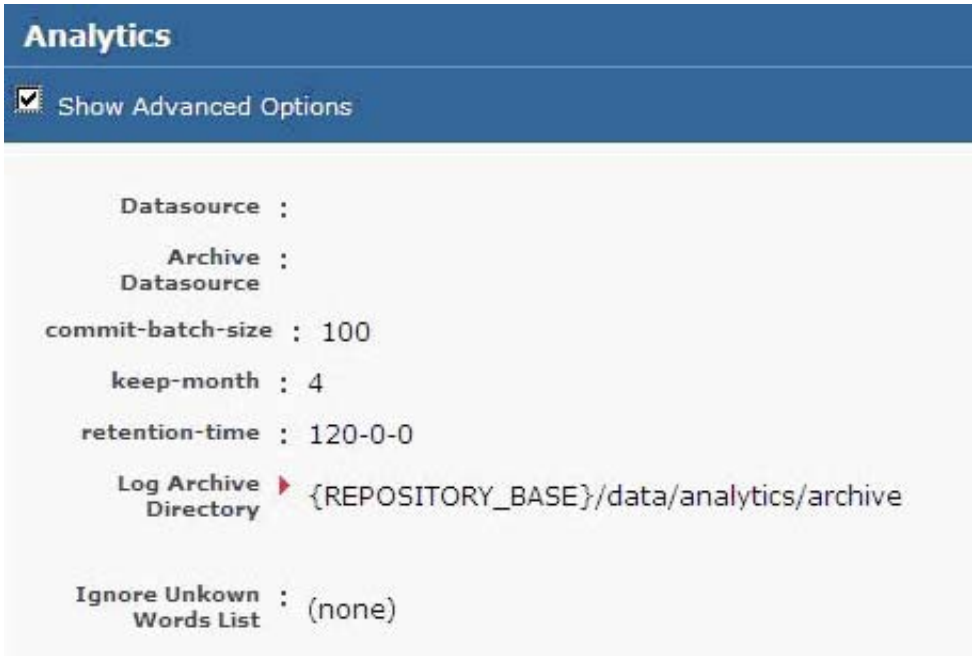
```
scheduler run DBInterface -c odsarchive
```

- Make sure that the archive schema is up to date before running the archive process (ICE environment)

```
scheduler run DBInterface -u odsarchive
```

- Make sure there is adequate disk space to store the amount of records to be archived. The archive process copies all records with REP_GLBL_* to the archive schema. The tables named REP_SESS* contain the older records to be copied to the archive schema and then deleted from the ODS schema. Currently the MS_IM* tables are not archived.
- Set the configuration parameters, **commit-batch-size** and **keep-month**.
  - The **commit-batch-size** parameter is used to set the number of records that are batched for UPDATE, DELETE or INSERT before a database commit is executed. The larger the number, the faster the archiving and log loading processes will be. However, the larger this parameter is, the more temp space and database locks are used. The default is 100.

- The **keep-month** parameter is the number of months to be retained in the ODS schema. The default is 4 months.



Updating the Data Archive Configuration

On the Analytics page of the Advanced Configuration Facility you may configure how many months data to keep in the ODS schema after running the data archive command. The default value is three months.

If you change the default value or make any other configuration changes after creating the Data Archive, you must run the following script in the ICE prompt:

```
scheduler run DBInterface -u odsarchive
```

Manually Archiving Data

To move data from the ODS schema to the Archive ODS Schema enter the following command into the ICE Prompt:

```
scheduler run Analytics -ao
```

Deleting Data from the Archive

To delete the data stored in the Archive ODS schema from the system enter the following command into the ICE Prompt:

```
scheduler run DBInterface -d odsarchive
```

Viewing Archived Data

It is possible to view data after it has been archived. You must change the Intelligent Search Analytics database instance from its current datasource to the Archive ODS datasource.

Create ODBC DSN for Archive Database

- Open the ODBC Data Source Administrator Panel.

  (For Windows, click Start > Administrative Tools > Data Sources (ODBC)
- Select the System DSN tab and click **Add**.
- Create a new ODBC DSN that points to the archive ods database.

You must then configure the Intelligent Search Analytics Warehouse instance to point to the Archive ODS

Modifying the Intelligent Search Analytics Datawarehouse

To modify the Intelligent Search Analytics archive datawarehouse:

- Open System Manager.
- Under **Tools** select **Advanced Config**.
- Select Analytics.
- Select Edit.
- Select the **Archive Datasource** from the drop down list, or edit list.