SIEMENS

XHQ

Performance Management Guide

06/2019 V6.0.0.1

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
Indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ **WARNING**
Indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ **CAUTION**
Indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
Indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage. See the topic, Visual Cues for Online Viewing, for additional XHQ-specific notices.

Qualified Personnel

The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ **WARNING**
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Siemens Product Lifecycle Management Software, Inc.
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Aliso Viejo, CA 92656-5318, USA
siemens.com/xhq

Additionally, Siemens' guidance on appropriate security measures should be taken into account. For more information about industrial security, please visit https://www.siemens.com/industrialsecurity.

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends to apply product updates as soon as available and to always use the latest product versions. Use of product versions that are no longer supported, and failure to apply latest updates may increase customer's exposure to cyber threats.

For the Siemens Security Advisory, visit https://www.siemens.com/industrialsecurity.

To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under https://www.siemens.com/industrialsecurity.

While every effort is made to ensure the accuracy of content, the XHQ product documentation set (which includes online help) could contain inaccuracies or out-dated material (which includes product screenshots and images) due to the large number of product enhancements being added. As such, the documentation set is subject to change at any time without notice. Refer to the README for documentation corrections and addendum. Please note, updates to the documentation set are reflected in the next general availability major release of XHQ.

Table of Contents

About This Guide

Conventions Used in This Guide

The following formatting cues are designed to allow you to quickly locate and understand the information provided in this guide.

Formatting Conventions

Convention	Example
Acronyms are spelled out the first time they appear.	Alert Notification System (ANS)
Bold is used for menu names, command options, and dialog box names in primary task procedures.	From the **XHQ Workbench**, go to the **Add** menu and click **New Component**.
Italic is used for glossary terms.	The first step in building this model is to develop reusable software building blocks, called *components*.
A **`monospaced font`** is used for program and code examples.	The subdirectory `\log` is automatically created below the location you choose. All log files are written to this subdirectory. **`C:\XHQ`**
Key combinations appear in uppercase, bold. If joined with a plus sign (+), press and hold the first key while you press the remaining keys.	**CTRL+B**
The *.x* (in italics) is used to indicate release numbers of a product.	Enable (by checking) the **Use Java *x.x.x_xx* for <applet>** option.
In See Also notices, sub-chapter headings are in italics, chapter headings are in quotes, and guide titles are in bold.	For more information, go to the *About install.properties* topic located in the "Working with PROPERTIES Files" chapter of the **XHQ Administrator's Guide**.

Visual Cues for Online Viewing

This document uses the following styled paragraphs.

Notes are used to offer information that supplement important points of the main text. Tips suggest certain techniques and procedures that may help you achieve your task quickly.

Depending on your network configuration, include domain information only if the domains are different.

See Also notices provide you with additional references to similar topics and/or concepts within the documentation set. Sub-chapter headings are in italics, chapter headings are in quotes, and guide titles are in bold.

For more information, go to the About the Options Menu topic located in the "Working with PROPERTIES Files" chapter of the **XHQ Administrator's Guide**.

Web References point you to external web sites that give additional information on the given topic.

Refer to Microsoft support information with regards to the various server settings for application performance and network utilization.

`http://support.microsoft.com`

Tips provide additional hints to help you use the product more efficiently.

Use the `NavbarWestVerticalOffset` property to make fine adjustments in pixels. The upper, left-hand corner is the origin. The positive horizontal direction moves to the right and the positive vertical direction moves down.

Important notices provide information that are required to completing a given task.

XHQ must run as a domain user.

Warnings tell you that failure to take or avoid a certain action could result in loss of data or application malfunction.

WARNING

Do not modify the `shutdown.dat` template file.

Related XHQ Product Documentation

The XHQ documentation set includes the following titles.

XHQ Documentation Set

Title	Target Audience
XHQ Administrator's Guide Provides the steps required to begin administering XHQ. It also covers security and access, property settings, redundancy, and localization.	Administrators
XHQ ANS User's Guide Learn how to use and administer the XHQ Alert Notification System (XHQ ANS).	ANS Users, Administrators
XHQ Backup and Recovery Guide Learn how to properly backup XHQ.	Administrators
XHQ Connection Guide Provides information on injecting an XHQ-supported connector type and configuring the connection.	Connector Developers
XHQ Developer's Guide Introduces the XHQ Development Client (Workbench and Solution Builder) user interface and provides information on how to set-up XHQ, develop reusable components, create views, and build a solution hierarchy.	Content and Solution Developers
XHQ Getting Started Gives you step-by-step instruction on how to set up your model and solution.	Content, Connector, and Solution Developers
XHQ Installation Guide Provides the system requirements, installation instructions, and upgrade information for the current release of the XHQ System.	Administrators
XHQ Integrated Data Gateway Guide Includes information on the ADO.NET and the XHQ OPC UA Server.	Application Engineers, Integrators
XHQ Performance Analytics Guide Learn how to use the Engineering Environment to enable the generation of the processes necessary to extract and transform data for source systems, and populate the XHQ Data Store and Data Mart.	Solution Developers/Users, Analysts
XHQ Performance Management Guide Learn how to use Target Management to monitor performance indicators and eLogs to create shift reports.	Administrators, End Users
XHQ Reference Guide Lists the functions and methods used in XHQ, and provides examples,	Content and Solution Developers

Title	Target Audience
usage notes, and parameter descriptions.	
XHQ Reporting Services Guide Introduces the XHQ Reporting Services and provides instruction on how to connect to an XHQ data source.	Application Engineers, End Users
XHQ SDK Reference Guide Provides a set of development tools that allows you to create applications that extend XHQ. Includes information on the Client API and Web Services.	Application Engineers, Integrators
XHQ Solution Design and Architecture Provides best-practice examples for XHQ solution design. Includes information on tag synchronization.	Solution Architects
XHQ Solution Viewer User's Guide Gives you step-by-step instruction on how to access your solution through a browser client and set browser preferences.	All End Users
XHQ System Guide Contains information regarding secure handling of an XHQ implementation.	Administrators, Application Engineers, Integrators
XHQ Trend Viewer User's Guide Learn how to use the XHQ Trend Viewer to view both real-time and historical data.	All End Users
XHQ Visual Composer Guide Provides end-user information for the XHQ Visual Composer and associated programs, which are used in the development of presentation content.	Content Developers

Contacting Customer Support

For general XHQ product support or related questions, pre-registered customer or partner support staff with a valid XHQ customer support agreement may contact the XHQ Customer Support Team using any of the following means:

- **Web Portal**

  The support portal leverages a system called GTAC (Global Technical Access Center). GTAC provides one common support entry point for many Siemens products. It is available via this URL:

  https://www.siemens.com/gtac

  Customers must be pre-registered to be able to use the web portal. A log-in can be requested at any time by self-registering in the GTAC portal. Note, the end user "sold to" identifier is needed in order to register.

  Use of the support portal is the preferred means to report incidents to the XHQ Customer Support Team unless immediate interactive telephone assistance is required. The support portal is available twenty four hours per day/seven days per week ("24/7").

- **E-mail**

  support.xhq@siemens.com

- **Phone Support and Hours of Coverage**

  International: +1 (949) 448-7463

  U.S. only: +1 (877) 700-4639

  The following paid support levels are available:

  ### Bronze Support: 9/5

  9 x 5 hours support. 9 hours per day, 5 days per week. Monday to Friday. Daylight Saving Time is honored.

  Choice of one coverage zone out of the following options (default: Americas):

  - Americas (15-1 GMT)
  - Europe (8-17 GMT)
  - Asia (1-10 GMT)

  Excludes national holidays as defined by the following countries for the related coverage zone:

  - USA (Americas)
  - Germany (Europe)
  - Singapore (Asia)

  Example Americas: *Implies coverage from 7:00 AM to 5:00 PM, Pacific Time, Monday to Friday, excluding US national holidays.*

  ### Silver Support: 24/5

  24 x 5 hours support. 24 hours per day, 5 days per week. Monday to Friday. Daylight Saving Time is honored.

  Choice of one coverage zone out of the following options (default: Americas):

  - Americas
  - Europe
  - Asia

  The weekly start/end times of coverage follow the local times of the following countries in each coverage zone:

- California/USA (Americas)
- Germany (Europe)
- Singapore (Asia)

Example Americas: *Implies coverage from midnight on Sunday until midnight on Friday, Pacific Time, Monday to Friday.*

Gold Support: 24/7

24 x 7 hours support. 24 hours per day, 7 days per week.

- **Postal Mail**

  Siemens Product Lifecycle Management Software, Inc.

  XHQ Operations Intelligence

  Attn: XHQ Customer Support Department

  6 Journey, Suite 200

  Aliso Viejo, CA 92656, USA

General Feedback and Comments

Please send an e-mail to:

info.xhq@siemens.com

Siemens Product Lifecycle Management Software, Inc. and affiliated Siemens Industry Software companies (collectively referred to as "SISW") are committed to working with our customers. Your comments, suggestions, and ideas for improvements are very important to us. Thank you for taking the time to send us your feedback.

Set-up of XHQ Performance Management

XHQ Performance Management is automatically installed with XHQ. Therefore, standard pre-requisites and requirements for XHQ apply.

For a complete list of XHQ Performance Management requirements, refer to the topic, *System Requirements*, located in the XHQ Installation Guide.

Additional Set-up Requirements For Target Management

For `app.ans.tmsystem.username`

The `app.ans.tmsystem.username` property defines the system owner for all the limits created for the KPIs in Target Management. It is located in the `app.properties` file for the Application server (which is stored at the location specified by the environment variable **`%XHQ_SERVER_REPOS%`**) and, by default, is set to `tmsystem`.

The default value of `tmsystem` represents the Target Management system user name that is used in XHQ ANS.

In order to use Target Management with XHQ ANS (and XHQ security is enabled), this property must be **set to a valid user** that can be authenticated by the XHQ Enterprise Server. Do not use the default value of `tmsystem`.

The user name value for this property is **case-sensitive**.

In fact, user names in XHQ Performance Management (Target Management, XHQ ANS, Audit Trail) are **case-sensitive**. So `ACME1\JoeSmith` and `ACME1\joesmith` are treated as two distinct users. Whenever you define user names in properties, we recommend you use all lower case letters.

The exceptions when the `tmsystem` value can be used are:

- If XHQ security is disabled.
- If XHQ security is enabled, but Roles are set to Everyone.
- User Access and Permissions for eLogs.

Virtual Directories and Application Pools

The virtual directories and application pools for the following XHQ Performance Management (PM) applications, are automatically created during XHQ installation:

- Target Management
- eLogs
- Administration
- Alert Notification System (ANS)

No additional configuration is needed.

Virtual Directories and Applications Pools

PM Application	Virtual Directory Path	Application Pool Name
Target Management	`/indx/tm`	XhqTMPool
eLogs	`/indx/elogs`	XhqELogsPool
Administration	`/indx/admin`	XhqAdminPool
ANS	`/indx/ans`	DefaultAppPool

1 | Getting Started

Launching XHQ Performance Management

To use XHQ Performance Management, you must enable the XHQ Application Server.

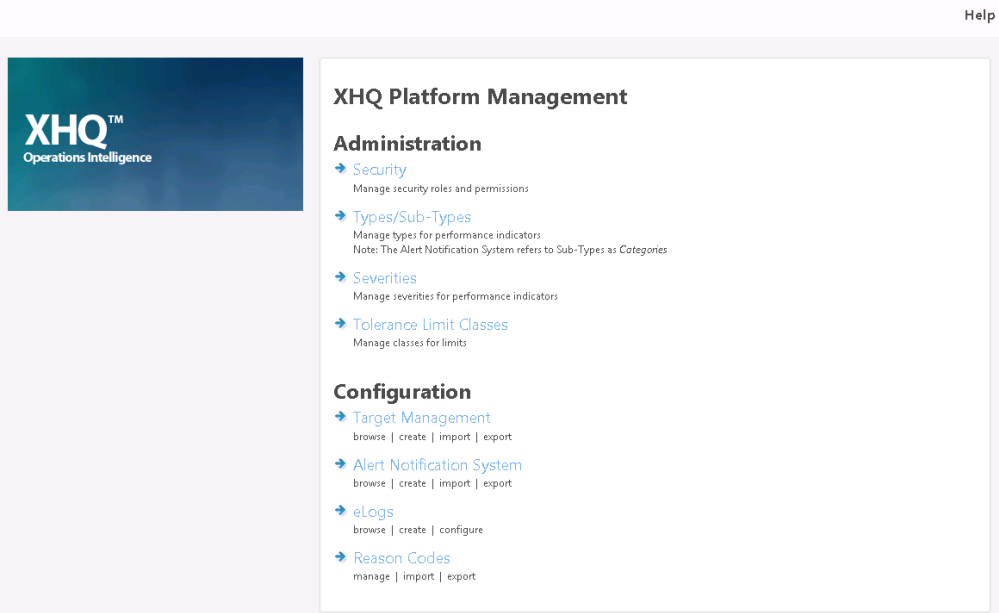
For information on how to start the XHQ Application Server, go to the topic, *About xhqboot.properties*, located in the XHQ Administrator's Guide.

To launch XHQ Performance Management from a browser client, enter the URL address that points to the machine on which you installed the PM client web application, **`http://<servername>/indx/admin/index.html`**.

For example, if the server name is **`acme`**, then enter the URL:

```
http://acme/indx/admin/index.html
```

The **XHQ Platform Management** homepage appears.



XHQ Platform Management Homepage

How to Use XHQ Performance Management with Your Current Repos

Follow these steps to use XHQ Performance Management (PM) with a **pre-existing** repos.

To use PM with a pre-existing repos

1. From the **XHQ Workbench**, **import** the **`PerformanceManagement.zip`** file, which is located in the **`\Support\Siemens`** directory off the root of the XHQ installation media.
   This .zip file contains the PM components.
2. Then, from the **XHQ Solution Builder**, perform an **Update to latest**.
3. Go to the **`\XHQ\XHQ Server\repos_Sample_Perf_Mgmt\bin`** folder, locate and copy the **`XhqPM.bat`** file.
4. Go to the **`\XHQ\XHQ Server\repos\bin`** folder and **paste** the copy of the `XhqPM.bat` file.
5. Next, go the **`\XHQ\XHQ Server\repos_Sample_Perf_Mgmt`** directory, locate and copy the **`app.properties`** file.
6. Go to the **`\XHQ\XHQ Server\repos`** directory and **paste** the copy of the `app.properties` file.
7. OPTIONAL
   Modify the **`app.properties`** file as needed.
8. To use XHQ Performance Management, you must enable the XHQ Application Server.

For information on how to start the XHQ Application Server, go to the topic, *About xhqboot.properties*, located in the XHQ Administrator's Guide to learn how to start the XHQ Application Server.

9. Open **`app.properties`** and modify the **`app.metric.class=XTag`** property, as needed, to reflect the Tag component that is in the repos catalog.

For more information on the `app.properties` file, go to the section, *Application Server*.

2 | Overview

The goal of XHQ Performance Management is to allow responsible stakeholders in a company to enter Performance Indicators against their targets and limits, and monitor the vital indicators of the company. The very core and backbone of the XHQ Performance Management application is the Application Server, which plays the pivotal role of broker and coordinator in this type of enterprise application.

XHQ Performance Management (PM) consists of the following components:

- **Configuration User Interface**
  The XHQ Platform Management interface helps you configure the various elements of PM (such as Performance Indicator, Targets, and Limits) and perform administrative duties (such as managing security roles and permissions).
- **Application Server**
  This server manages, coordinates, and orchestrates PM elements (such as Performance Indicator, Targets, Limits and Metrics) and their relationships. In addition, the Application Server facilitates the extensibility of PM by enabling other systems to interact with and consume PM elements.

  
  For more information, see the topic, *Application Server*.
- **Solution Server**
  This is the repository of XHQ elements (such as Target, Performance Indicator, and Tags). It also serves as the calculation engine for PM.
- **XHQ Alert Notification System (XHQ ANS)**
  This is the repository of Limits. It aids in event detection, e-mail notification, excursion logging, and so forth.

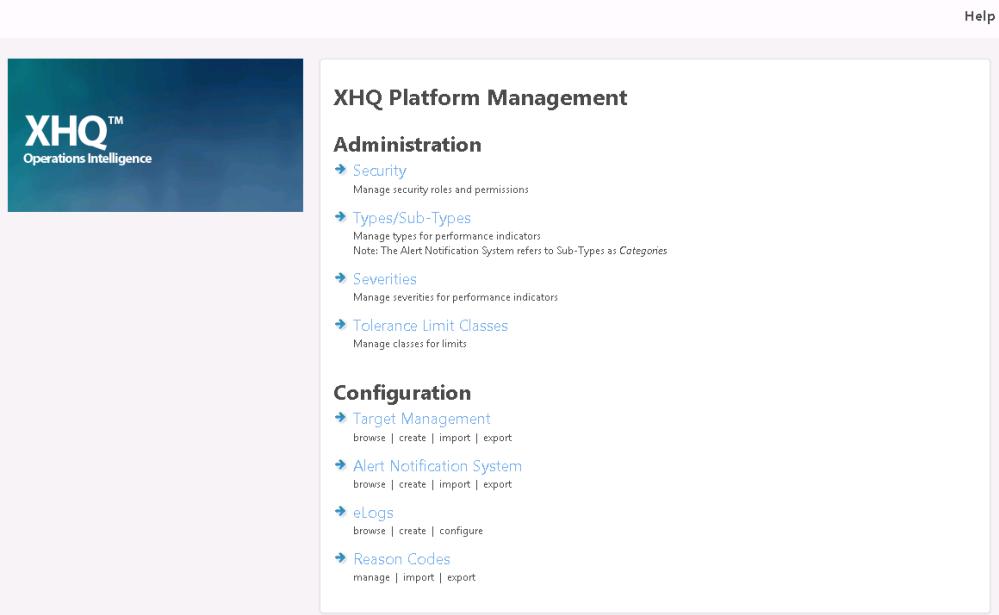
  
  Refer to the *XHQ ANS User's Guide* for in-depth information on XHQ ANS.

  
  Safari browser users, see *this note regarding the export file*.
- **XHQ Data Recorder**
  This is the repository of Target Values and any other calculated values.

  
  For in-depth information on the Data Recorder, see the topic, *About the Data Recorder*, located in the XHQ Developer's Guide.

Touring XHQ Platform Management

XHQ Platform Management is the homepage to the XHQ Performance Management client web application. This homepage enables you to manage the different aspects of XHQ Platform Management as permitted by your given role and authorization level.



XHQ Platform Management Homepage

This homepage consists of two distinct areas: **Administration** and **Configuration**.

Administration Tasks

From the Administration section of the XHQ Platform Management homepage, you can:

- Configure security settings, such as role permissions, types, sub-types, and write paths.
- Manage types and sub-types, as well as assigning them to specific applications (for example, Target Management, eLogs, ANS).
- Manage Performance Indicator (PI) severities.
- Manage PI limit classes.

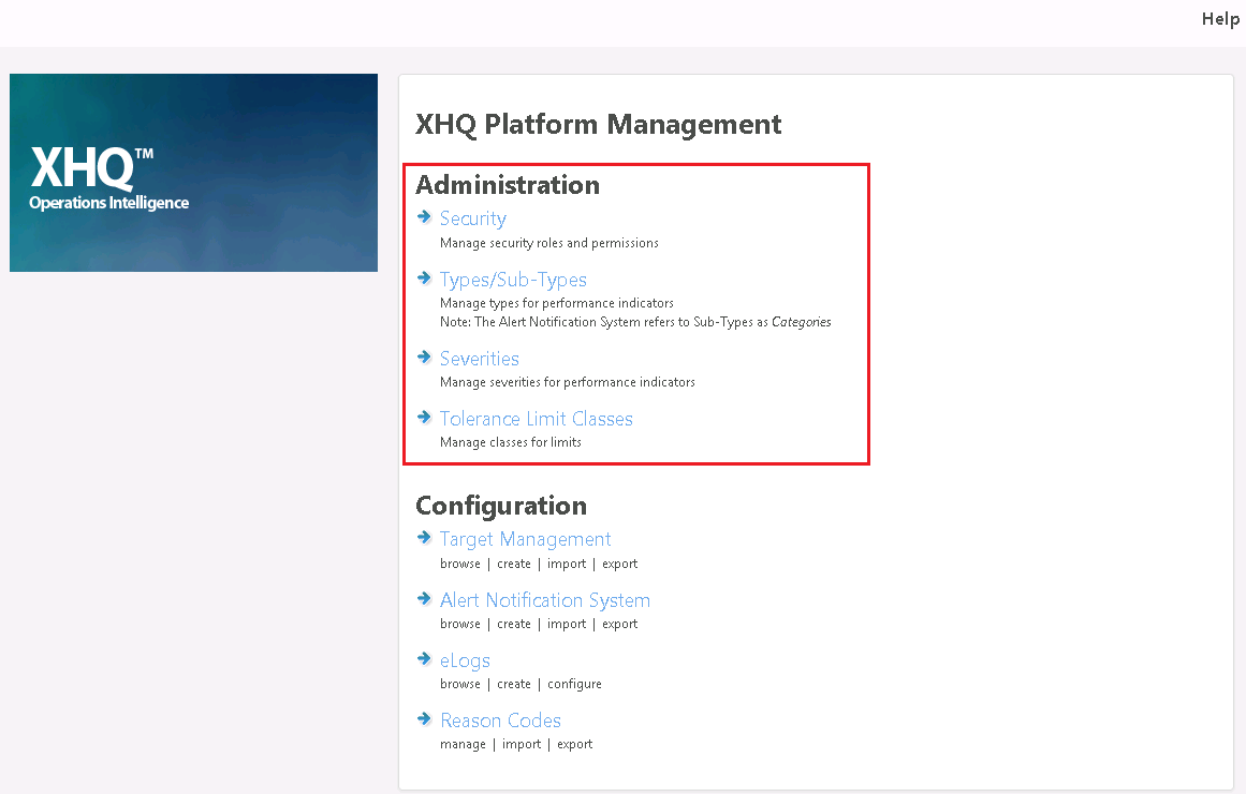
Configuration Tasks

From the Configuration section of the XHQ Platform Management homepage, you can:

- Set-up **Target Management** (TM)
  View and create Performance Indicators (PI), and set Target and Tolerance Limits.
- Access the **Alert Notification System** (ANS) management console application
  View alerts and create alert definitions, and import and export alert definitions.
- Access the **eLogs** application.
- Set-up **Reason Codes**.

3 | Administration

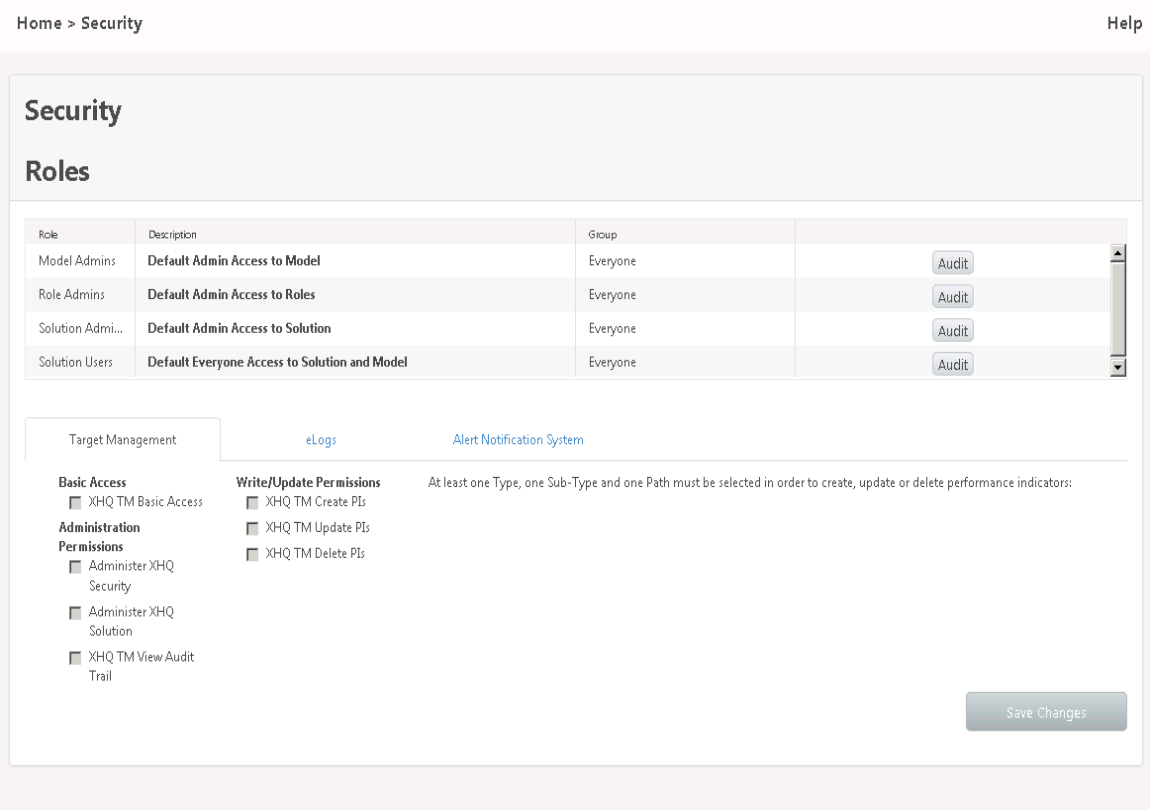
The Administration section of XHQ Performance Management enables you to configure security settings and manage types, sub-types, PI severities, and PI limit classes.



XHQ Platform Management Homepage – Administration

Managing Security Roles and Permissions

From the homepage, under the Administration section, click **Security**. The "Security" page appears.



Security Page

From here, the administrator can set permissions, Types, Sub-types, and write Paths/nodes for each supported application based on the end-user role.

Selecting a role from the **Roles table** automatically populates the application tabs below with the given set of permissions for that particular role.

Certain operations, such as creating and editing a PI, involve creating and editing alert definitions in XHQ ANS. In this case, the TM administrator must also have XHQ ANS administrative permissions.

About Roles

The Application Server uses a role-based security model and access control. Roles are mapped to one or more operating system (OS) groups.

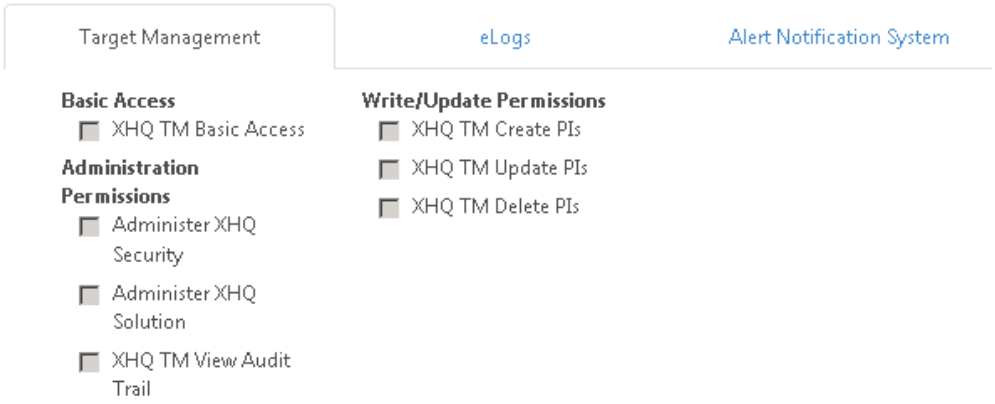
There are four default (pre-defined) roles:

- **Model Admins**
  Can assign access to individual components within the XHQ model.
- **Role Admins**
  Can administer and assign roles and rights.
- **Solution Admins**
  Can perform solution imports and make changes to member access settings.
- **Solutions Users**
  Have access to both the solution and the model.

Each role has a list of permissions associated with it, as well as a list of PI types, sub-types and paths/nodes. These access rules decide how the role can access a group of entities within the XHQ Performance Management application.

About the Application Tabs

Different access rules are supported by each PM application. These rules are set in the Applications tabs, located below the Roles table.

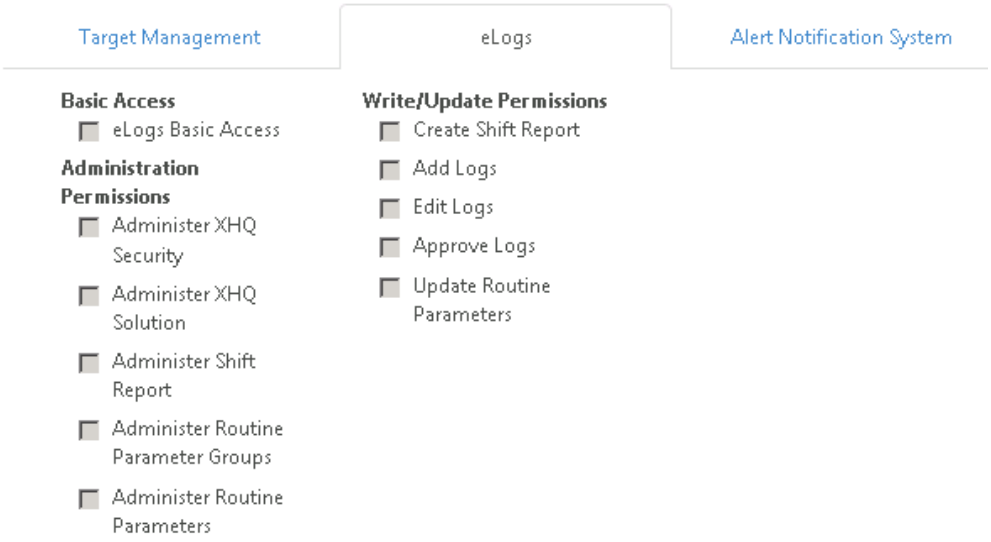


Target Management Tab Options – Access and Permissions

Target Management Tab – Option Descriptions

Access/Permission	Description
XHQ TM Basic Access	This grants the user the ability to access the XHQ runtime screens and basic configuration screens, as well as the ability to read PIs.
Administer XHQ Security	This grants the user security and role administration permissions. **Important:** This permission is always assigned to the Role Admins

Access/Permission	Description
	role.
Administer XHQ Solution	This grants the user metadata management permissions, allowing the user to create and delete Types, Sub-types, PI Severities and Limit Classes. **Important:** This permission is always assigned to the Solution Admins role.
XHQ TM View Audit Trail	This grants the user the ability to view and/or read the PI history data for audit purposes.
XHQ TM Create PIs	This grants the user the ability to create PIs in the system.
XHQ TM Update PIs	This grants the user the ability to update PIs in the system.
XHQ TM Delete PIs	This grants the user the ability to delete PIs in the system.

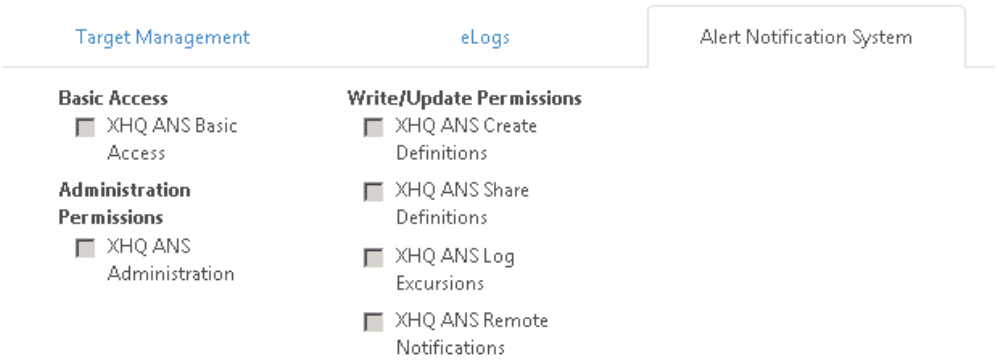


eLogs Tab Options – Access and Permissions

eLogs Tab – Option Descriptions

Access/Permission	Description
eLogs Basic Access	This grants the ability to access the eLogs runtime screens, as well as the ability to read.
Administer XHQ Security	This grants the user security and role administration permissions. **Important:** This permission is always assigned to the Role Admins role.
Administer XHQ Solution	This grants the user metadata management permissions, allowing the user to create and delete Types, Sub-types, PI Severities and Limit Classes.

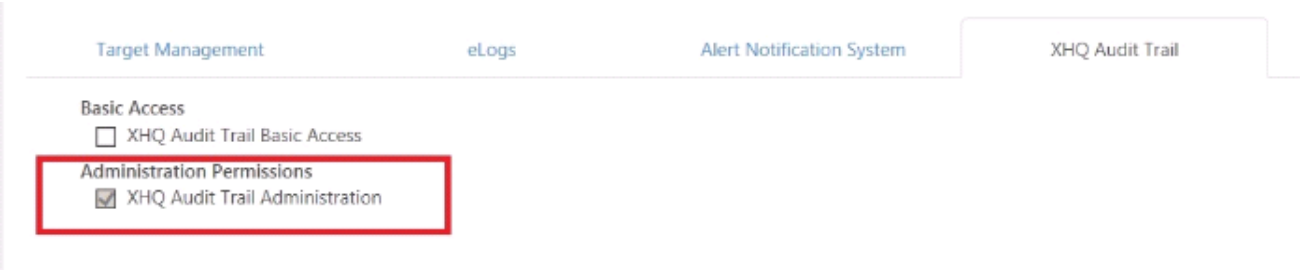
Access/Permission	Description
	Important: This permission is always assigned to the Solution Admins role.
Administer Shift Report	This grants the user the ability to manage and configure the shift report template.
Administer Routine Parameter Groups	This grants the user the ability to manage and configure Routine Parameter Groups.
Administer Routine Parameters	This grants the user the ability to manage and configure Routine Parameters.
Create Shift Report	This grants the user the ability to create Shift Reports or update them during the Shift time.
Add Logs	This grants the user the ability to create operational logs.
Edit Logs	This grants the user the ability to update operational logs.
Approve Logs	This grants the user the ability to approve operational logs.
Update Routine Parameters	This grants the user the ability to modify and update Routine Parameters.



XHQ ANS Tab Options – Access and Permissions

XHQ ANS Tab – Option Descriptions

Access/Permission	Description
XHQ ANS Basic Access	This grants the user the ability to access XHQ Alert Notification System.
XHQ ANS Administration	This grants the user access to XHQ ANS Administration.
XHQ ANS Create Definitions	This grants the user the ability to create alert definitions.
XHQ ANS Share Definitions	This grants the user access to shared alert definitions.
XHQ ANS Log Excursions	This grants the user access to log excursions.
XHQ ANS Remote Notifications	This grants the user access to remote notifications.



XHQ Audit Trail Tab Options – Access and Permissions

XHQ Audit Trail Tab – Option Descriptions

Access/Permission	Description
XHQ Audit Trail Basic Access	This grants the ability to access XHQ Audit Trail runtime screens, as well as the ability to read.
XHQ Audit Trail Administration	This grants the user access to XHQ Audit Trail Administration. **Important:** This permission is assigned by default to the Solution Admins role.

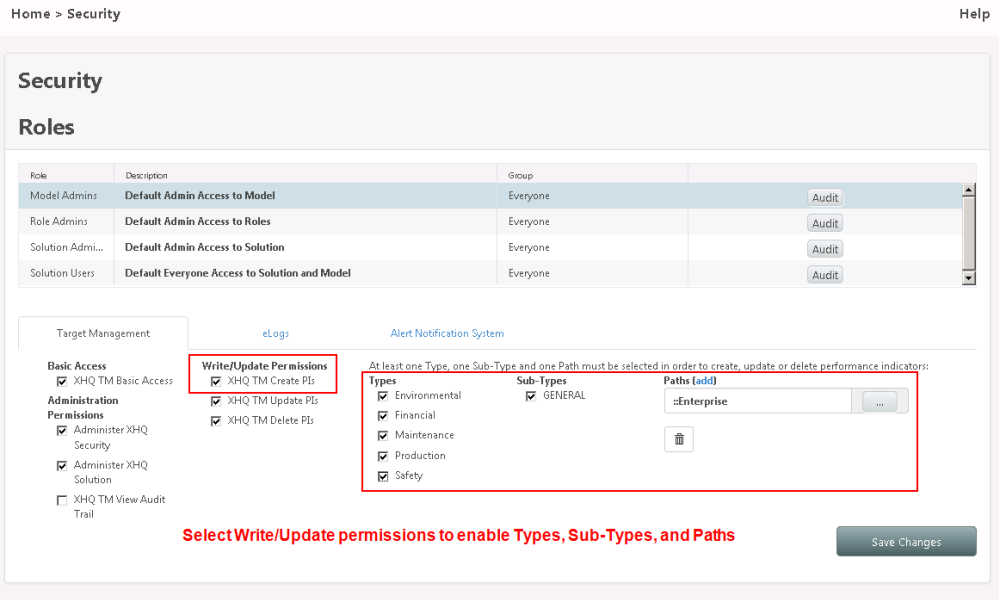
For more information, see the topic, *XHQ Audit Trail*, located in the XHQ Administrator's Guide.

Setting Access and Permissions Options

Initially, these access and permissions options are disabled (checkbox are gray). To enable, you must select a role from the "Roles" table.

XHQ ANS permissions can only be edited by a PM administrator with XHQ ANS administration rights.

Types, *Sub-Types*, and *Paths* options appear when any of the Write/Update Permissions options are selected from either the **Target Management** or **eLogs** application tabs.



Types, Sub-Types, and Paths Options

Select **at least** one Type, one Sub-Type, and one Path in order to create, update, or delete PIs.

The Path can be any XHQ absolute path (for example, `::Enterprise.Area1`).

In TM and eLogs, the configured paths options are used to populate the Path Selector.

About Importing PIs

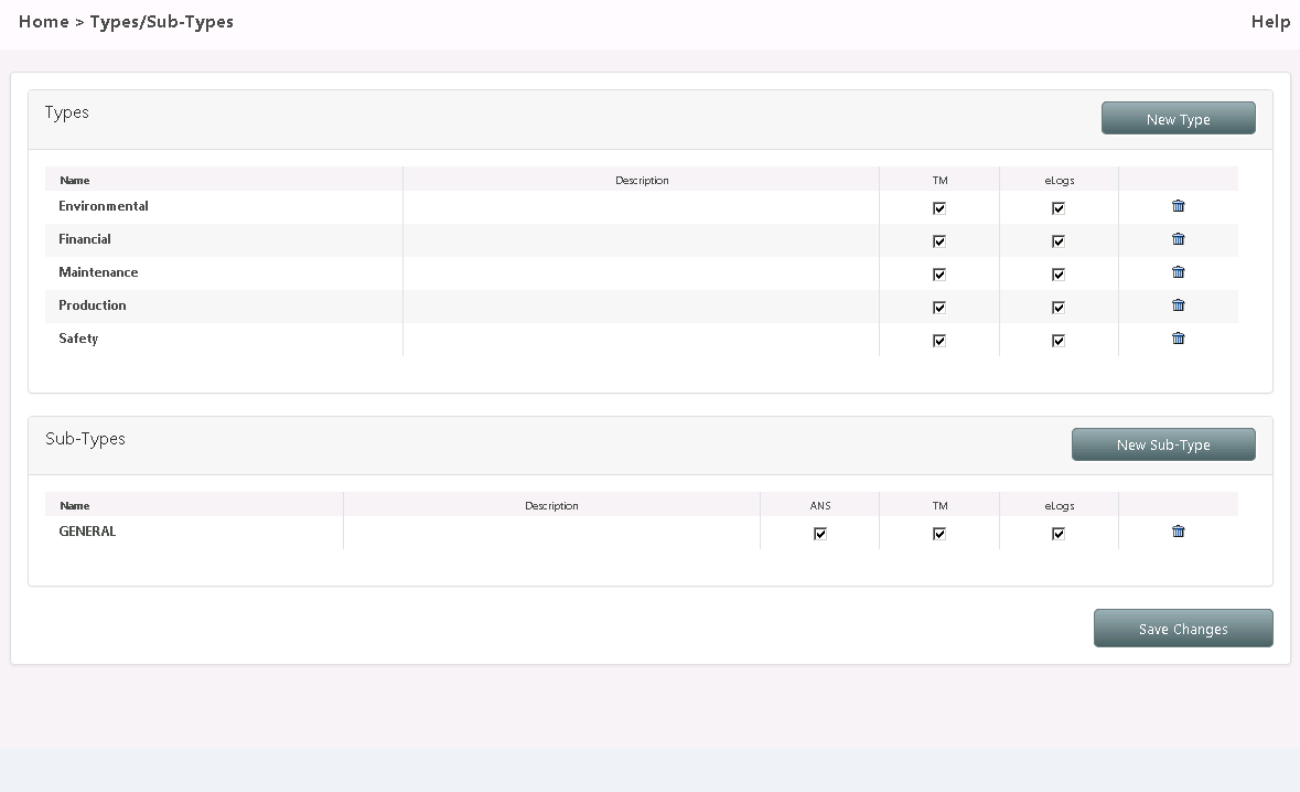
A user, who does not have permissions to use certain Types/Sub-types, can still import PI definitions using these Types/Sub-types.

Managing Types and Sub-types

Types and Sub-types are user-defined groupings for the purpose of providing classifications and sub-classifications, respectively.

The Types/Sub-types page allows you to browse all Types and Sub-types shared between the PM applications. From this page, you can **create** or **delete** Types/Sub-types.

To delete a Type/Sub-type, it must not be used in any saved PI or active list.
Currently, editing existing Types/Sub-types is not supported.

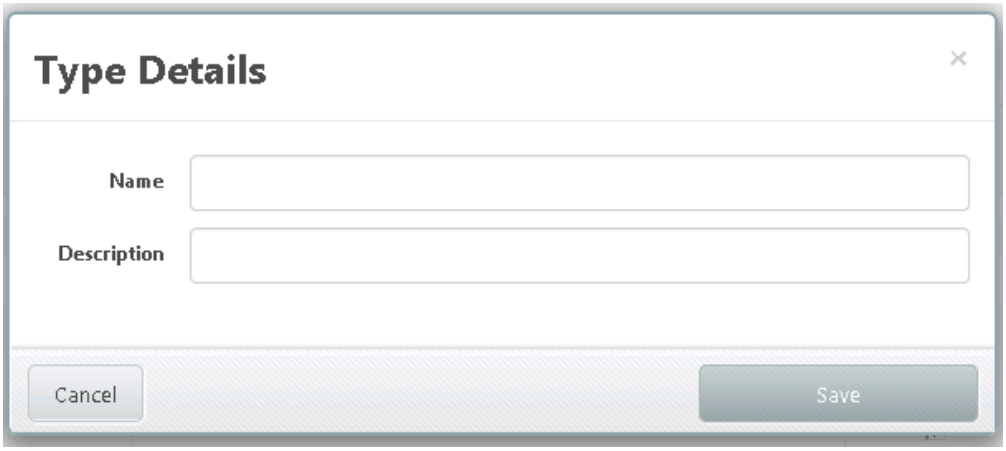


Type and Sub-Types Page

You can also indicate, by selecting the appropriate check box, if the Type or Sub-type is to be used in given PM application.

Creating Types and Sub-types

From the Types/Sub-types page, click **New Type** or **New Sub-Type**.



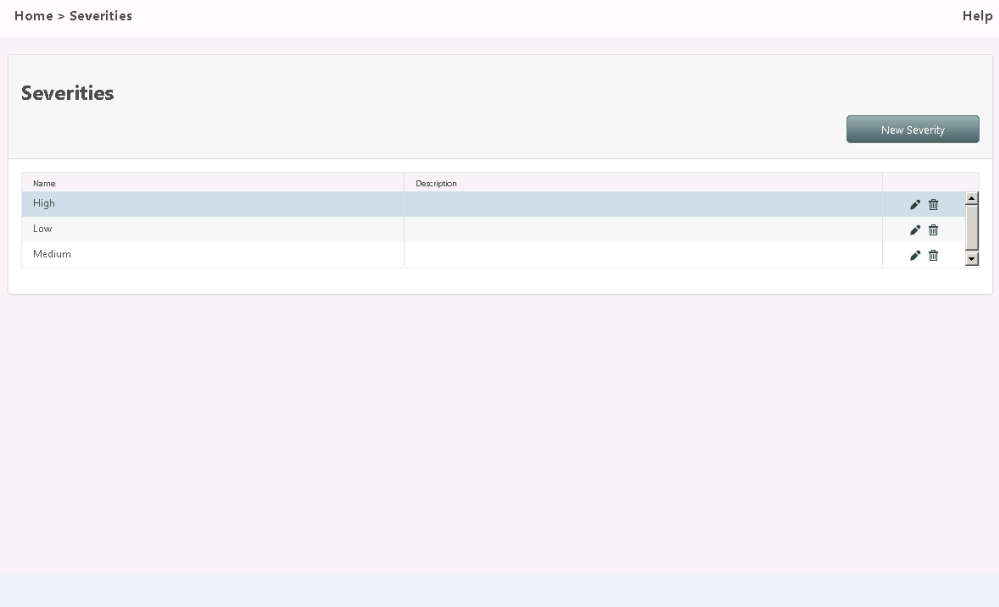
Type Details Pop-up

Enter a **Name** and **Description**, and click **Save**.

Managing Severities

Severities indicate the priority level of a PI or an operation log.

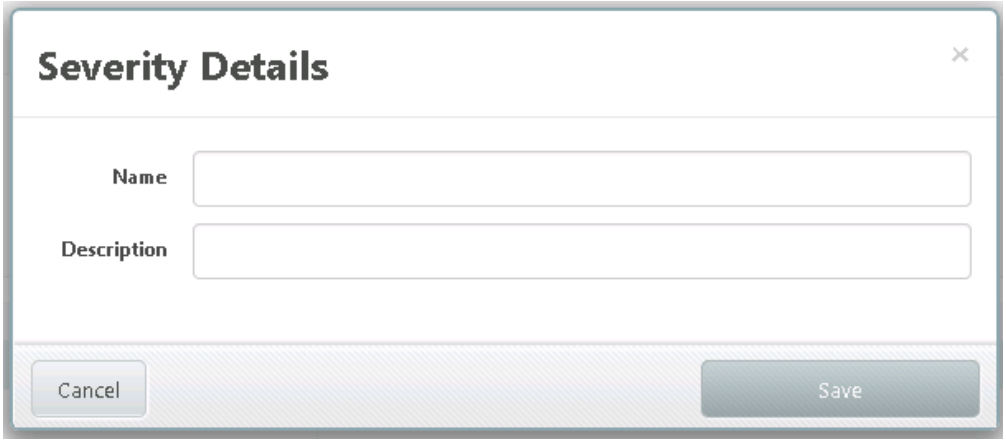
From the Severities page, you can browse, **create**, **edit**, or **delete** severities for PIs.



Severities Page

Creating Severities

From the Severities page, click **New Severity**.



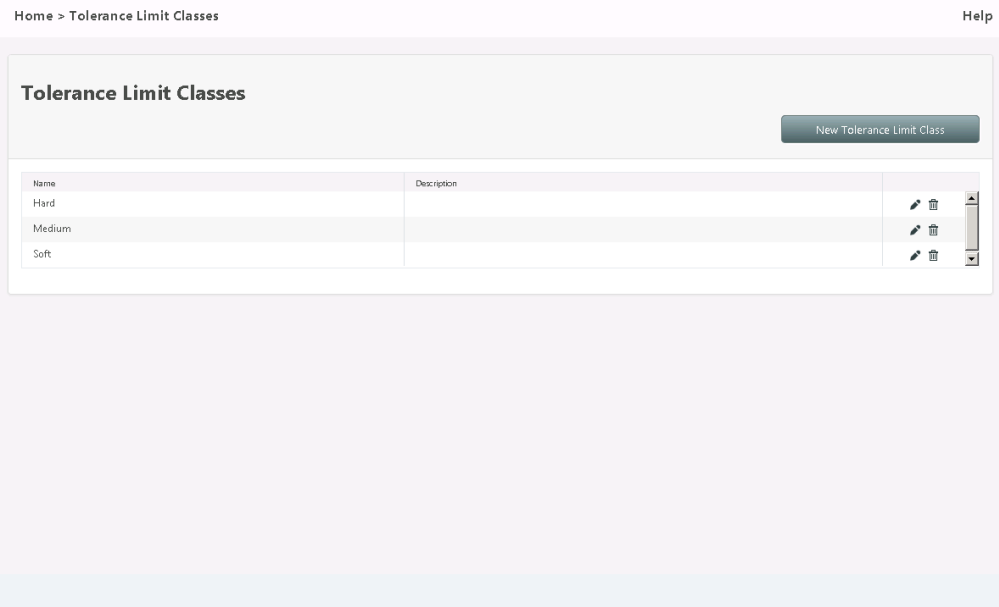
Severity Details Pop-up

Enter a **Name** and **Description**, and click **Save**.

Managing Limit Classes

Tolerance Limit Classes provide a way to classify the PI's Limits.

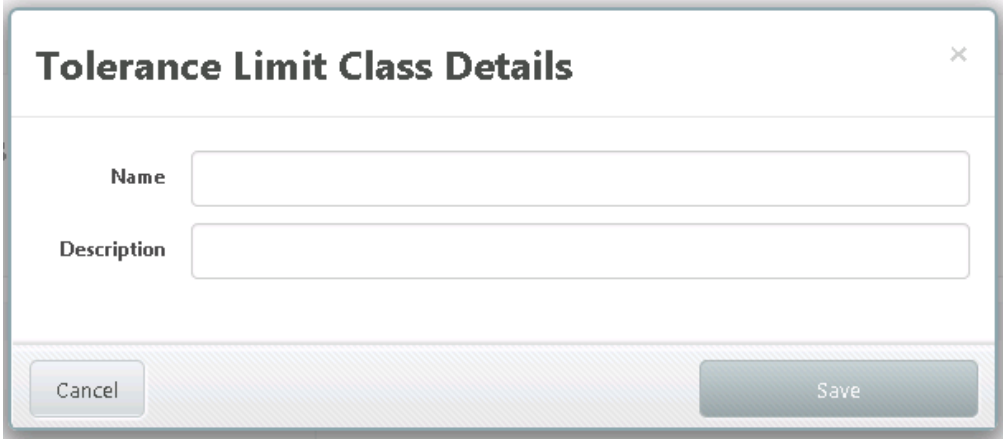
From the Tolerance Limit Classes page, you can browse, **create**, **edit**, or **delete** classes for limits.



Tolerance Limit Classes Page

Creating Tolerance Limit Classes

From the Tolerance Limit Classes page, click on **New Tolerance Limit Class**.



Tolerance Limit Class Details Pop-up

Enter a **Name** and **Description**, and click **Save**.

4 | Target Management

The Performance Indicator Browser

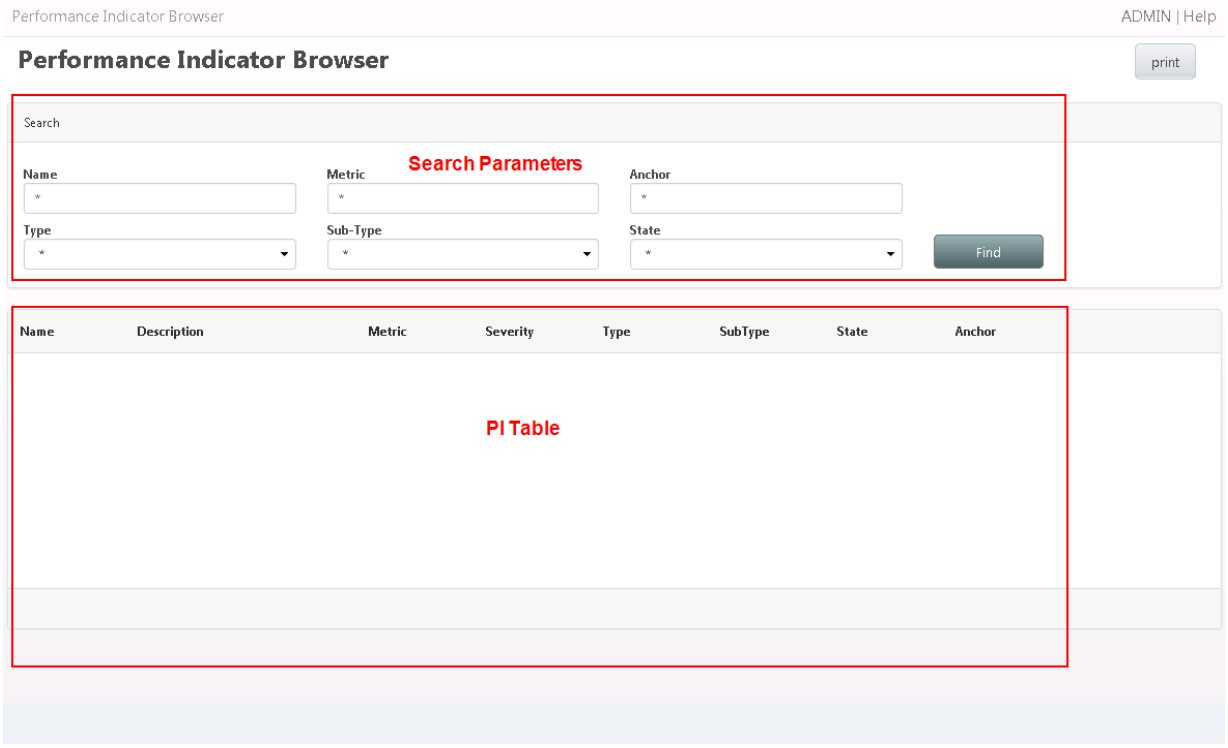
The Performance Indicator Browser allows the user to browse and filter the PI from one central point in the Target Management configuration application.

User names in XHQ Performance Management (Target Management, XHQ ANS, Audit Trail) are **case-sensitive**. So `ACME1\JoeSmith` and `ACME1\joesmith` are treated as two distinct users.

To access the PI Browser

1. From the **XHQ Management homepage**, go to the **Configuration** section.
2. Under **Target Management**, click **Browse**.
   The "Performance Indicator Browser" page appears.

The browser consists of two main sections: Search and the PI Table.



Performance Indicator Browser

From the PI Browser, you can execute the following tasks:

- Use search filters to narrow your query and display specific PIs.
- Sort the PI table by single column heading name.

- Create, edit, delete, and audit Performance Indicators.
- Print the PI table.

Using Search Filters

From the Search section, you can filter the Performance Indicators using the following criteria.

Criteria (Filter Name)	Description
Name	Enter the name of the Performance Indicator on which you want to filter.
Metric	Enter a metric value. A *metric* is a time-series measurement of either a process or a non-process value. It can also be a calculated value or the result of an expression.
Anchor Path	Enter the path to an XHQ area node in the Solution tree. It can be an XHQ absolute path such as ::Enterprise.Area1.
Type	Select a pre-defined type.
Sub-Type	Select a pre-defined sub-type.
State	Select a state of enabled, disabled, or either (wildcard).

About Wildcards

By default, the search criteria (filters) use the asterisk character (*) to indicate a wildcard. The asterisk means that all Performance Indicators are listed in the table. To narrow the scope of your search, you can enter a string in combination with the asterisk. For example, if you enter the string **`PI1*`** in the name criteria, only the PIs whose names start with the substring **`PI1`** are displayed in the table. For the string **`*test`**, only the PIs whose names end with the substring **`test`** are displayed in the table.

Search text is case sensitive.

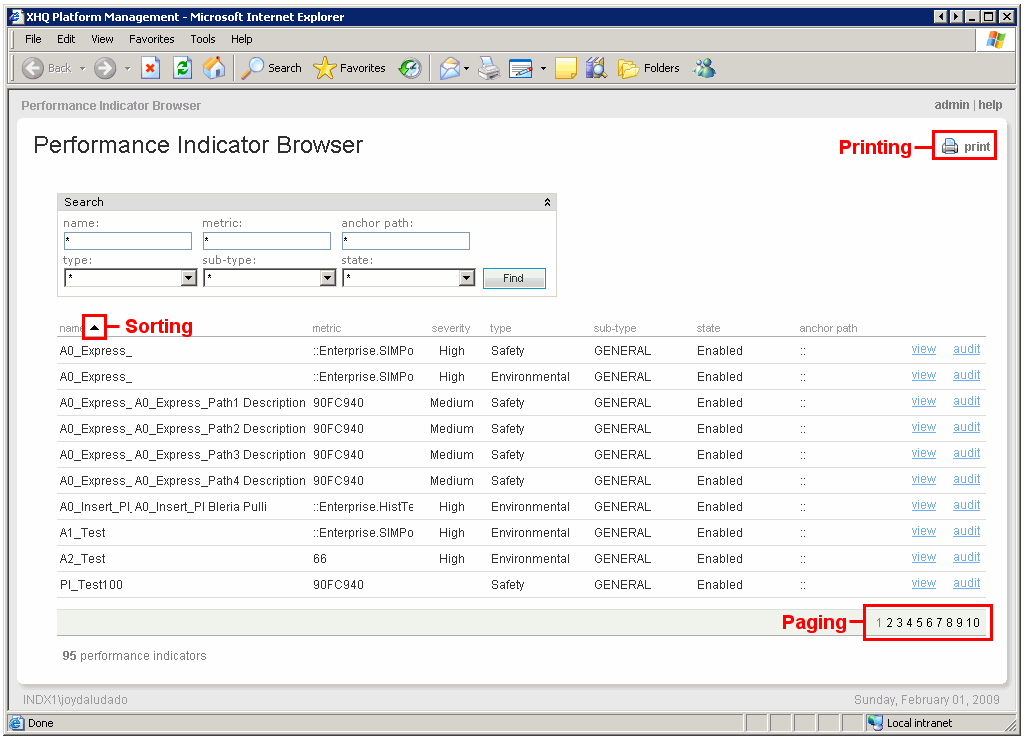
To search PIs using filters

1. In the **Search box**, do any of the following:
   - **Enter** filter criteria in the name, metric, and/or anchor path text boxes.

   or

   - **Select** a filter item from (or **enter** filter criteria in) the type, sub-type, and/or state drop-down boxes.
2. Click **Find**.
   The PI table below refreshes to display the outcome of your search.

Printing, Sorting, and Paging the PI Table



Printing, Sorting, Paging

How to Print the PI Table

To print the PI table, click the **print** icon located at the upper, right-hand corer of the PI Browser.

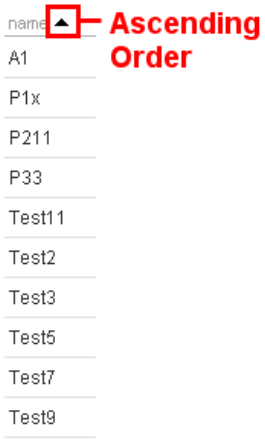
This launches your computer's print function.

How to Sort the PI Table

Once your filters are applied and the table is displayed, you can sort by single column in ascending or descending order.

To sort the PI table by column

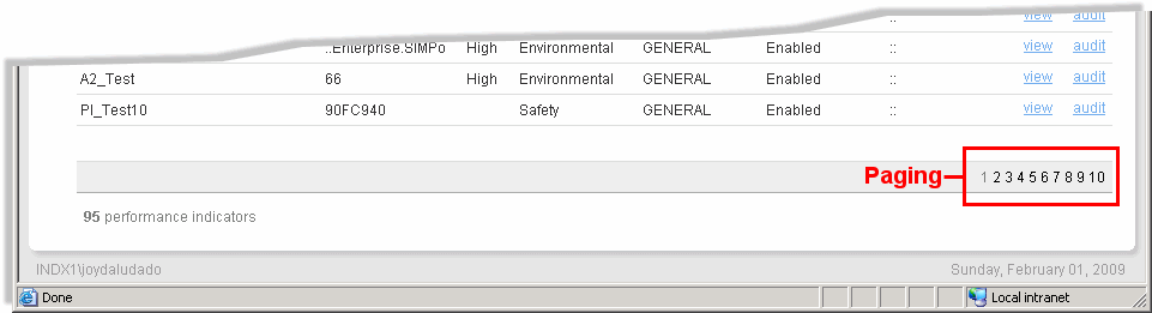
1. In the PI table, click the column heading name.
   An **up arrow** ▲ appears next to the column name and the table is sorted, by this column, in **ascending** order.



2. Click the column heading name again.
   Now a **down arrow** ▼ appears and the table is sorted in **descending** order.

How Paging Works

By default, the number of PIs listed per page is 10. With multiple pages, you can access each page by clicking on the number that appears at the lower, right-hand corner of the PI Browser.

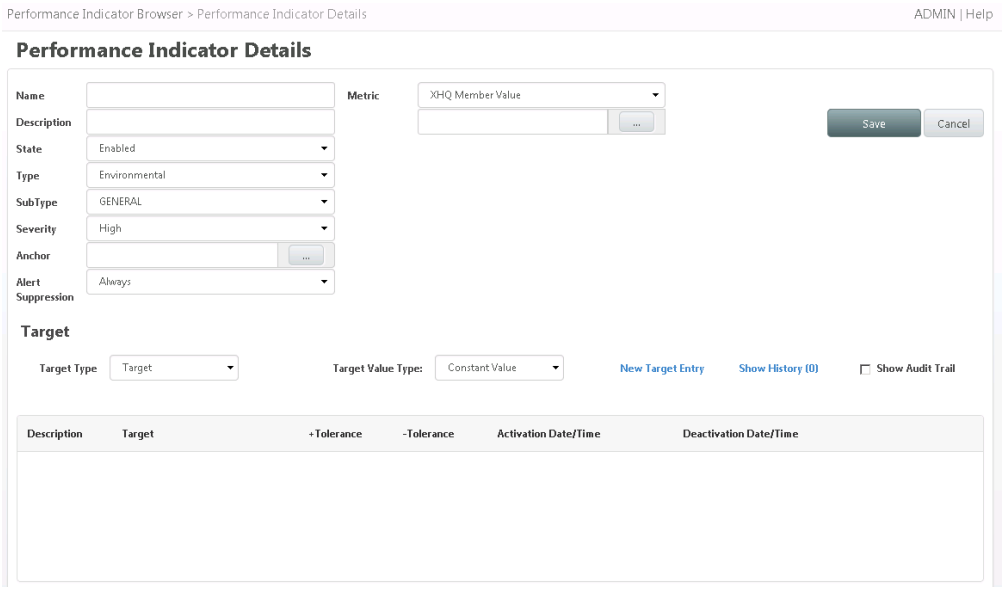


Paging through the PI Table

For information on how to change the default number of 10 pages, go to topic, *Features You Can Customize*.

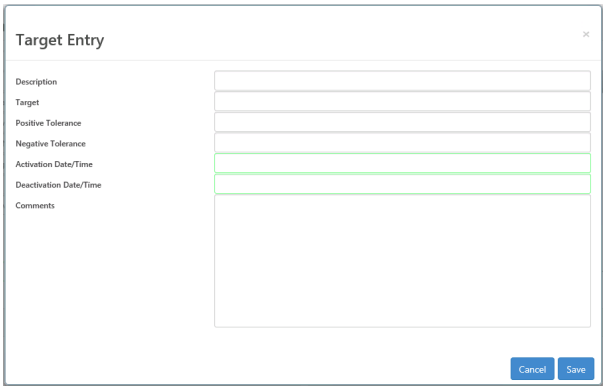
Working with Performance Indicators

To configure a Performance Indicator, click **New Performance Indicator** located at the top of the PI Browser. The "Performance Indicator Details" page appears.



Performance Indicator Details

From this page you can configure PI attributes and establish relationships to elements, such as **Targets** and **Tolerance Limits**.



Performance Indicator Details: Target and Tolerance Limits

Setting PI Attributes

Performance Indicator Details Options

Attribute	Description
Name	The Performance Indicator (PI) name.

Attribute	Description
Description	The PI description.
State	A PI has two states: Enabled (which is the default) and Disabled.
Type	The PI type. A Type is a user-defined grouping for the purpose of providing different perspectives and classifications. **See Also:** *Managing Types and Sub types*
Sub-type	The PI sub-type, which is similar to Types but is used for sub-classifications. **See Also:** *Managing Types and Sub types*
Severity	This indicates the priority level of the PI. **See Also:** *Managing Severities*
Anchor Path	Also known simply as the "Path," this is an XHQ area node in the Solution tree.
Alert Suppression	This allows the user to enable or disable alert notification for all the limits at the KPI level.
Metric	A *metric* is a time-series measurement of either a process or a non-process value. It can also be a calculated value or the result of an expression. *Options:* • XHQ Member Value • Expression
Scheduler	The Target expression scheduler attribute. **Note:** This option is only visible if the Metric selected is Expression.
Schedule Base	The Target schedule time-base attribute. It represents the moment in time from which the Target expression starts to get evaluated. *Example:* 3/4/2009 1:00:00 PM **Note:** This option is only visible if the Metric selected is Expression, and is enabled only if the Scheduler checkbox is checked.
Schedule Period	The Target schedule period-base attribute, specified in **minutes**. It represents the period of time after which the target expression is reevaluated. *Example:* 120 **Note:** This option is only visible if the Metric selected is Expression, and is enabled only if the Scheduler checkbox is checked.

About Alert Suppression

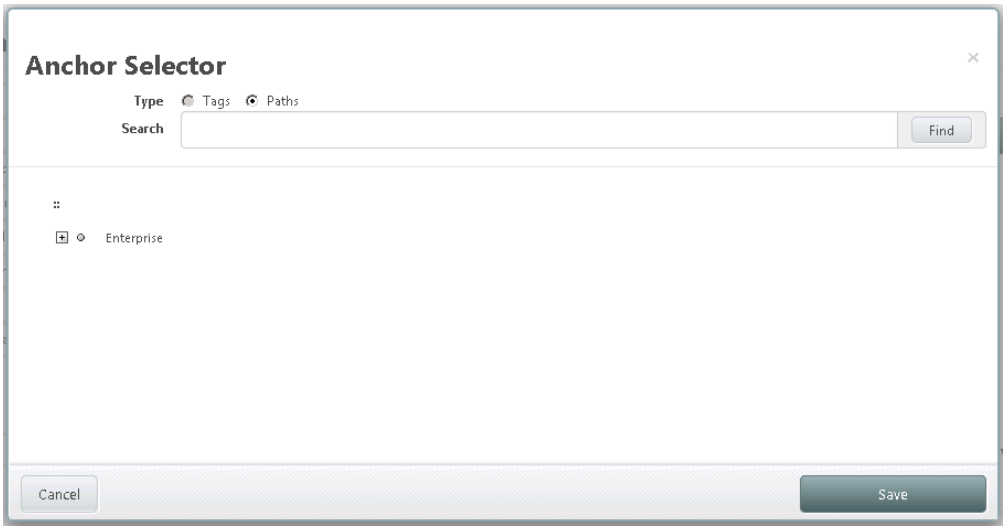
Alert Suppression allows the user to enable or disable alert notification for all the limits at the KPI level. For example, a user can set the alert suppression so that the notification for all limits that are associated with a KPI that is monitoring a pump are disabled (masked).

The following options are available:

- To never suppress the alerting for the given KPI;
- To always suppress the alerting;
- To use an XHQ member's (or tag's) Boolean value to specify the alert suppression.
  In this case, you will need to browse for the tags configured in XHQ.

About the Anchor Path Attribute

The Anchor is an XHQ area node in the Solution tree. Click the Browse button [...] next to the **Anchor** text box and the "Anchor Selector" dialog box appears.



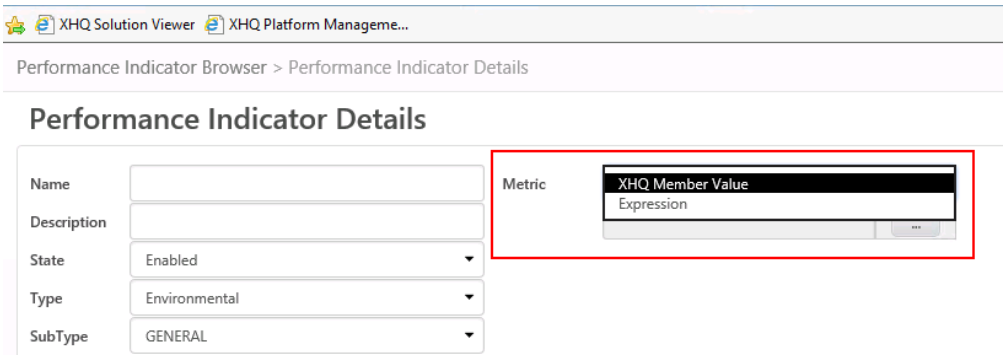
Anchor Path Dialog Box

About the Metric (Value Selector) Attribute

A metric can be:

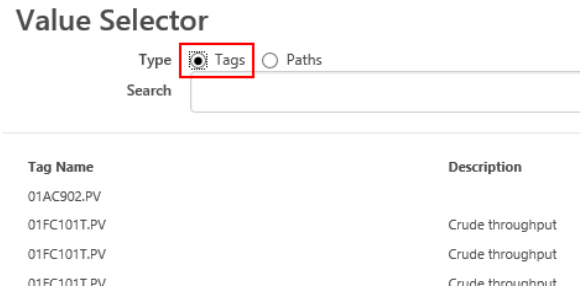
- An XHQ member (for example, a **tag** or an alias)
  Search and select Tags configured in XHQ.
- An XHQ member **path**
  Browse (or search) the XHQ navigation tree and select a given member node.
- An **expression**
  Enter an expression

From the **Metric** drop-down box, select either **XHQ Member Value** or **Expression**. Then click the Browse button [...].

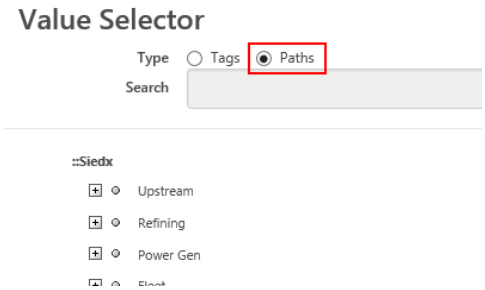


Metric Options

For an XHQ Member Value, select either Tags or Paths.

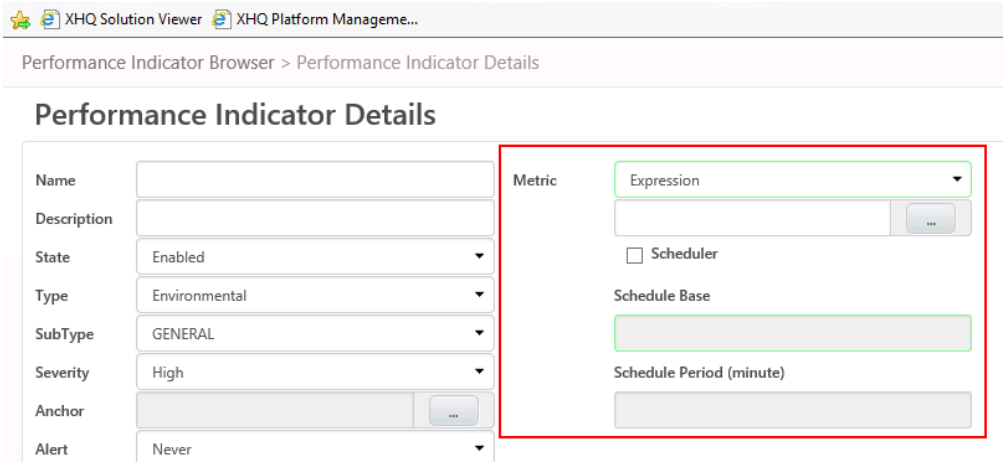


Metric for XHQ Member Value, Tags

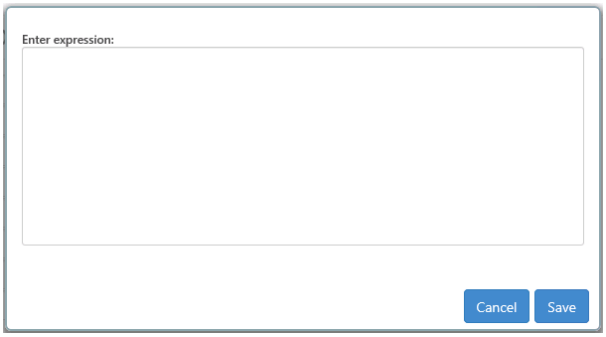


Metric - Paths

For Expressions, click the Browse button to enter an expression then set schedule options (which appear when you select the Expression metric).



Metric for Expression, Schedule settings

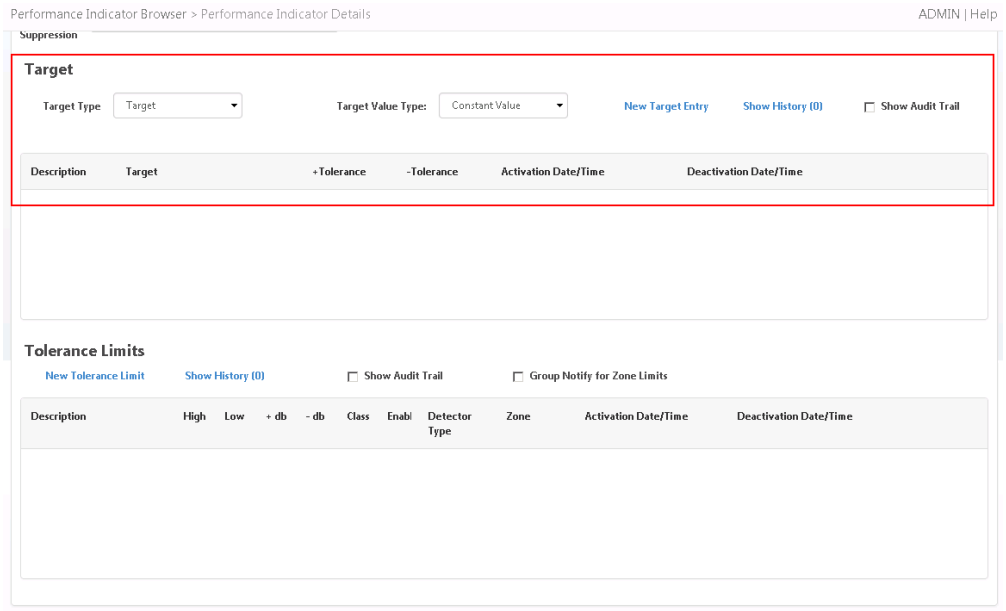


Metric for Expression

Setting Target Records

A PI is associated with a single Target element. In turn, this single Target has either no or multiple Target records associated with it.

From the "PI Details" page, you can create, edit, or delete Target records to the PI.

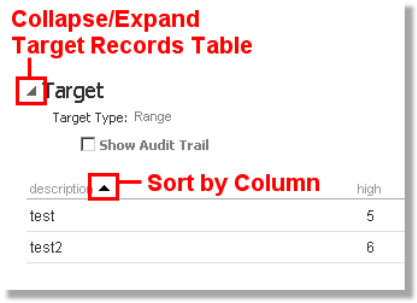


PI Details – Setting Target Records

Target Options

Option	Description
Target Type	*Options:* • Target • Maximize • Minimize • Range
Target Value Type	*Options:* • Constant Value • XHQ Member Value • Expression
New Target Entry	Creates a new Target record entry. **See Also**: *Creating a Target Record*
Show History	Shows the de-activated Targets associated with the PI.
Show Audit Trail	Enable (check) to show the audit trail, which displays the Target for each PI.

Target records are listed in a table below the Target options.



About Target Records

Each target record is associated with a given ANS alert. So, when a target record is added/updated/deleted, the corresponding ANS alert is created/updated/deleted, respectively. This means that when a new target record is added to a KPI, a new corresponding alert is also created in XHQ ANS. And when an existing target record is updated/edited for an existing KPI, the corresponding alert is also updated/edited in XHQ ANS. Lastly, when an existing target record is deleted from an existing KPI, the correspoinding alert is also deleted from XHQ ANS.

When a corresponding alert is created or updated, it is done so under an ANS definitions list that has the name of the given KPI's type (for example, Environmental, Financial, and so forth). The same is true for Tolerance Limits.

In XHQ ANS, the corresponding alert is named using this convention:

```
alertName = piName + "_Target_" + targetType + "_" + n
```

where `n` is an incremented number, starting with "1".

Example:

```
AcmeKPI_Target_Range_1
```

Important Things to Note

- Targets with the Target Value type set to "Expression" will not have corresponding alerts created in XHQ ANS (because XHQ ANS only supports constants or member types (tags) as values).
- All alerts created in XHQ ANS for the same KPI will have the same detector type as dictated by the given Target type. For example, it the Target type is Range, then in XHQ ANS, all alerts for the given KPI are assigned the HI_LO detector type.
- In the same respect, all alerts created in XHQ ANS for the same KPI will have the same value type as dictated by the chosen target value type. For example, if the target value type is "Constant", then in XHQ ANS, all alerts for the given KPI are all Constant value types.
- Unlike Tolerance Limits, Targets do not have a Subscription List. So alerts created from targets are not automatically subscribed. This must be done manually using XHQ ANS.

To collapse/expand the Target records table

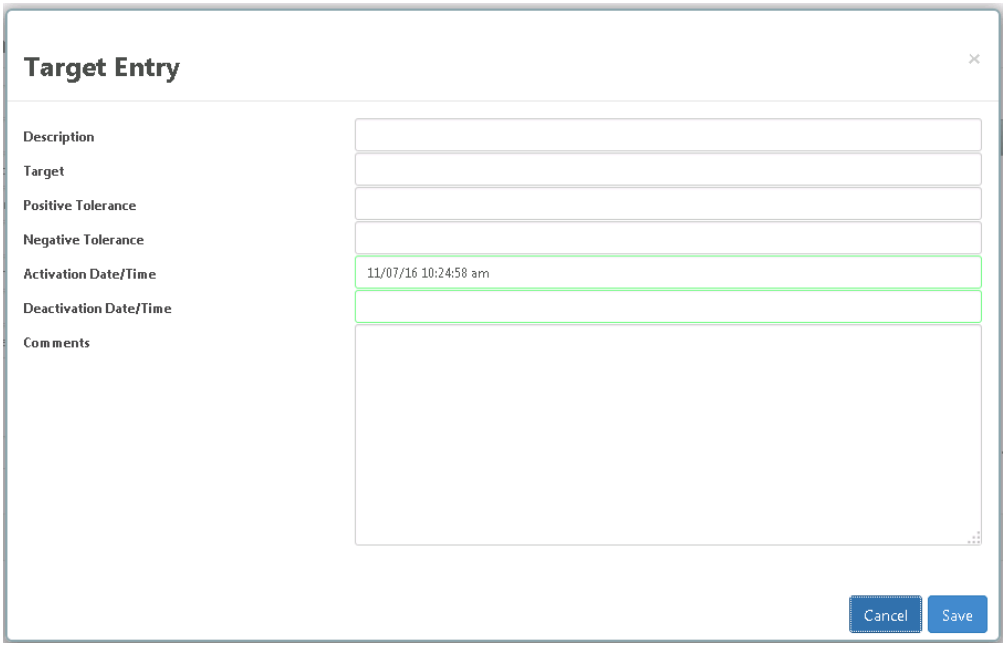
1. Click the **solid arrow** ◢ to the left of the "Target" heading to **collapse** the table.
   The solid arrow icon changes to an open arrow and the table is no longer visible.
2. Click the **open arrow** ▷ to **expand** the table.
   The open arrow icon changes back to a solid arrow and the table is again visible.

To sort the Target records table by column

1. In the Target records table, click the column heading name.
   An **up arrow** ▲ appears next to the column name and the table is sorted, by this column, in **ascending** order.
2. Click the column heading name again.
   Now a **down arrow** ▼ appears and the table is sorted in **descending** order.

Creating a Target Record

Clicking the **New Target Entry** link launches the "Target Entry Details" page.



Example: Target Entry Details

The configurable options available on the "Target Entry Details" page depends on the **Target Type/Target Value Type** combination you select on the parent "PI Details" page. The following table lists the different combination possibilities.

For descriptions of the Target Entry Options, refer to the table, *Configurable Target Options*.

Target Entry Detail Combination Options

Target Type	Target Value Type	Target Entry Options
Target	Constant Value	Description
		Target
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time

Target Type	Target Value Type	Target Entry Options
		Comments
	XHQ Member Value	Description
		Target
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	Expression	Description
		Target
		Scheduler
		Schedule Base
		Schedule Period
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
Maximize	Constant Value	Description
		Target
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	XHQ Member Value	Description
		Target
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	Expression	Description
		Target
		Scheduler
		Schedule Base
		Schedule Period
		Negative Tolerance

Target Type	Target Value Type	Target Entry Options
		Activation Date/Time
		Deactivation Date/Time
		Comments
Minimize	Constant Value	Description
		Target
		Positive Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	XHQ Member Value	Description
		Target
		Positive Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	Expression	Description
		Target
		Scheduler
		Schedule Base
		Schedule Period
		Positive Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
Range	High: Constant Low: Constant	Description
		Target High
		Target Low
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: Constant Low: XHQ	Description
		Target High
		Target Low
		Positive Tolerance

Target Type	Target Value Type	Target Entry Options
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: Constant	Description
	Low: Expression	**Target High**
		Target Low
		Scheduler
		Schedule Base
		Schedule Period
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
Range	High: XHQ	Description
	Low: Constant	**Target High**
		Target Low
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: XHQ	Description
	Low: XHQ	**Target High**
		Target Low
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: XHQ	Description
	Low: Expression	**Target High**
		Target Low
		Scheduler
		Schedule Base

Target Type	Target Value Type	Target Entry Options
		Schedule Period
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
Range	High: Expression Low: Constant	Description
		Target High
		Scheduler
		Schedule Base
		Schedule Period
		Target Low
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: Expression Low: XHQ	Description
		Target High
		Scheduler
		Schedule Base
		Schedule Period
		Target Low
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments
	High: Expression Low: Expression	Description
		Target High
		Scheduler
		Schedule Base
		Schedule Period
		Target Low
		Scheduler
		Schedule Base

Target Type	Target Value Type	Target Entry Options
		Schedule Period
		Positive Tolerance
		Negative Tolerance
		Activation Date/Time
		Deactivation Date/Time
		Comments

Important Things to Note

- A PI is associated with a single Target element. In turn, this single Target has either no or multiple Target records associated with it.
- Only with the Range Type will you be able to configure High and Low Target values.
- You can historize a Target Value (including a High and/or Low Target Value for Range) of type Constant in the XHQ Data Recorderr.

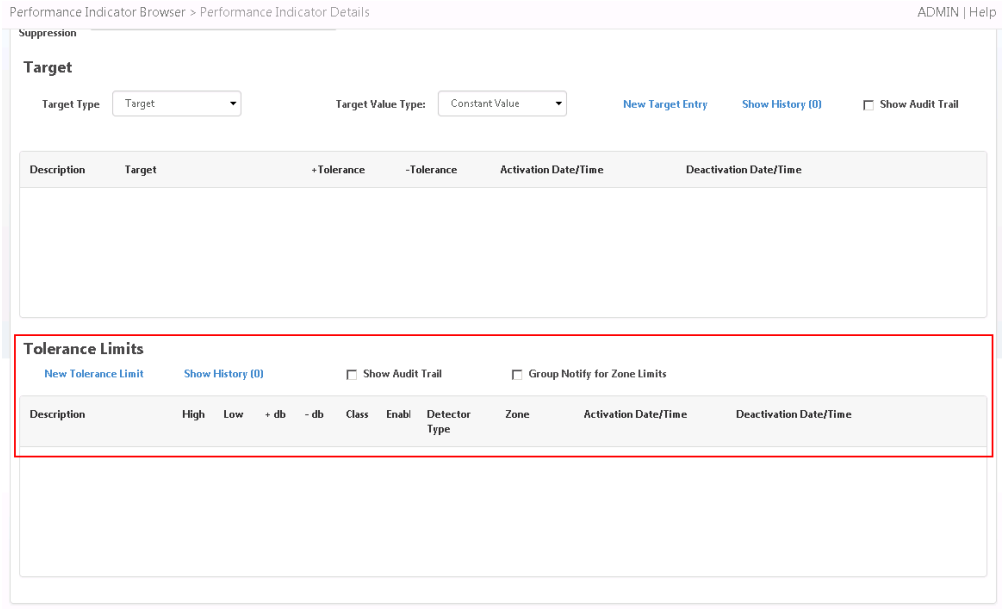
Configurable Target Options

Option	Description
Description	The Target description.
Target	The Target value. This attribute is used for "Maximize," "Minimize," and "Target" target types.
Target High	The High Target value. This attribute is used only for "Range" target type.
Target Low	The Low Target value. This attribute is used only for "Range" target type.
Scheduler	The Target expression scheduler attribute. **Note:** This option is only visible if the target is an XHQ expression.
Schedule Base	The Target schedule time-base attribute. It represents the moment in time from which the Target expression starts to get evaluated. *Example:* 3/4/2009 1:00:00 PM **Note:** This option is only visible if the target is an XHQ expression, and is enabled only if the Scheduler checkbox is checked.
Schedule Period	The Target schedule period-base attribute, specified in **minutes**. It represents the period of time after which the target expression is reevaluated. *Example:* 120 **Note:** This option is only visible if the target is an XHQ expression, and is enabled only if the Scheduler checkbox is checked.

Option	Description
Positive Tolerance	The Target positive tolerance.
Negative Tolerance	The Target negative tolerance.
Activation Date/Time	The Target activation date and time. *Required* *Example:* 2/27/2009 1:00:00
Deactivation Date/Time	The Target de-activation date and time. *Optional* *Example:* 2/28/2009 1:00:00
Comments	The Target comments.

Setting Tolerance Limits

From the PI Details page, you can create, edit, or delete Limits associated with the PI.

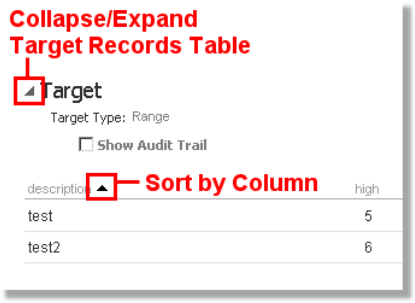


PI Details – Setting Tolerance Limits

Limit Options

Option	Description
New Tolerance Limit	Creates a new Limit record entry. **See Also:** *Creating a Tolerance Limit*
Show History	Shows the Limits history associated with the PI.
Show Audit Trail	Enable (check) to show the audit trail, which displays the Limit versions for each PI.
Group Notify for Zone Limits	Enables group notification for zone limits. **See Also:** *About Grouping for Zone Limits*

Limits are listed in a table below the Tolerance Limits options.



To collapse/expand the Tolerance Limits records table

1. Click the **solid arrow** to the left of the "Tolerance Limits" heading to **collapse** the table.
   The solid arrow icon changes to an open arrow and the table is no longer visible.
2. Click the **open arrow** again to **expand** the table.
   The open arrow icon changes back to a solid arrow and the table is again visible.

To sort the Tolerance Limits records table by column

1. In the Tolerance Limits records table, click the column heading name.
   An **up arrow** appears next to the column name and the table is sorted, by this column, in **ascending** order.
2. Click the column heading name again.
   Now a **down arrow** appears and the table is sorted in **descending** order.

About the Zoning

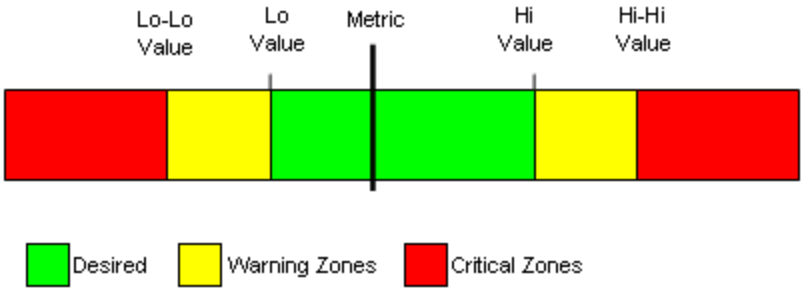
A combination of Targets and Limits is used to create different zones for the Performance Indicator.

Appropriate limits required for zoning is configured based on the target type associated with the PI. Although A PI can have any number of limits associated with it, only a few special limits are used for defining the zones.

Each PI has four fields that define the PI zoning:

- **Lo value**
  Value defining the starting of the Lower Warning zone
- **Lo-Lo Value**
  Value defining the starting of the Lower Critical zone
- **Hi Value**
  Value defining the starting of the Upper Warning zone
- **Hi-Hi Value**
  Value defining the starting of the Upper Critical zone

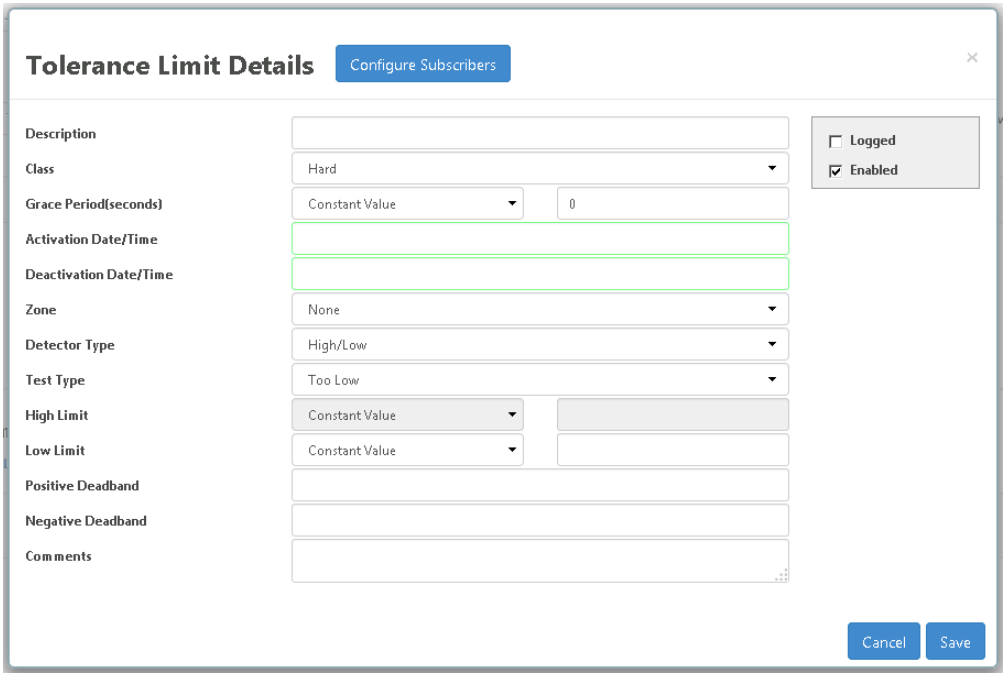
These values must not be confused with the ANS High and Low limits.



A combination of Target and Limits define these values depending on various scenarios. The four fields related to zoning act as the input to the KPI widget to create an appropriate visualization.

Creating a Tolerance Limit

Clicking on the **New Tolerance Limit** link launches the "Tolerance Limit Details" page.



Example: Tolerance Limit Details

Configurable Limits Options

Option	Description
Configure Subscribers	Click this to configure the list of users that are subscribed to a PI Limit. **See Also:** *Configuring Subscribers*
Description	The Limit description.
Classes	The Limit class. **See Also:** *Managing Limit Classes*
Grace Period	The Limit grace period in **seconds**. *Example:* 20
Activation Date/Time	The Limit activation date and time. *Required* *Example:* 2/27/2009 1:00:00
Deactivation Date/Time	The Limit de-activation date and time. *Optional* *Example:* 2/28/2009 1:00:00
Zone	The Limit zone parameter used to calculate the PI status. Depending on the Target type, the Limit zone options are as follows: • Lower Critical • Lower Warning

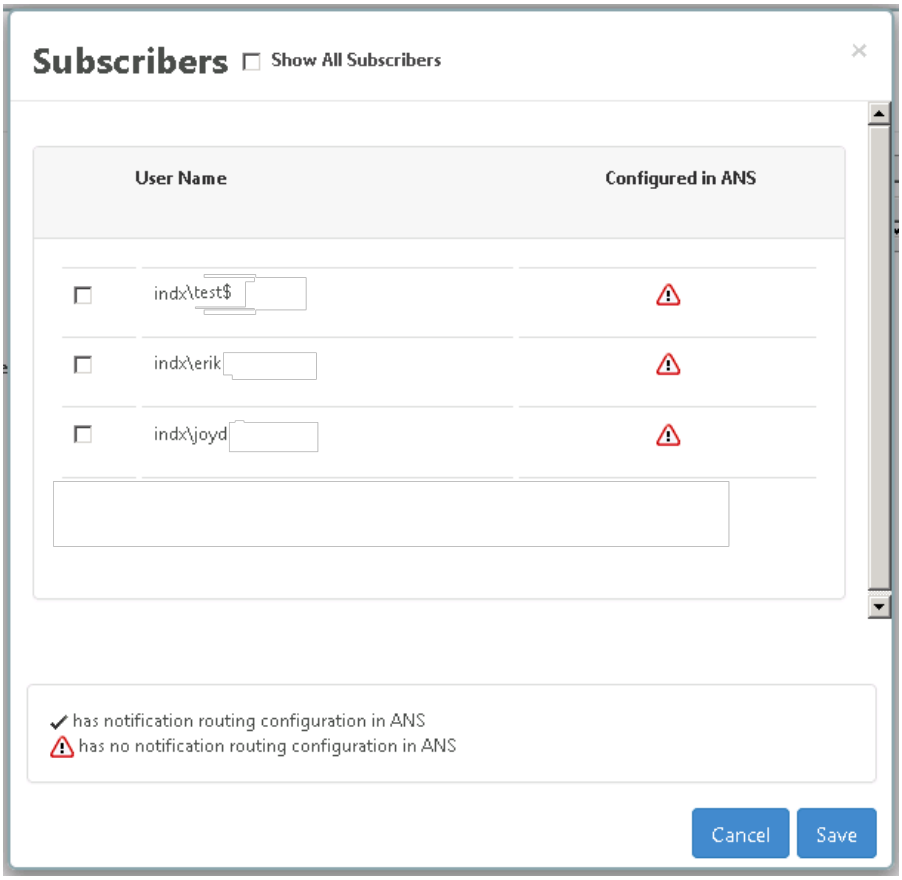
Option	Description
	• Upper Critical • Upper Warning • None
Detector Type	The alert detector type used for this Limit. **Note:** Only High/Low detection is currently supported.
Test Type	The alert detector test type used for this Limit. *Options:* • Too Low • Too High • Too High or Too Low
High Tolerance Limit	The high value of this Limit.
Low Tolerance Limit	The low value of this Limit.
Positive Deadband	The positive deadband of this Limit.
Negative Deadband	The negative deadband of this Limit.
Comments	The Limit comments.
Logged	Enable (check) this to indicate that the alert associated with this limit logs it's excursions.
Enabled	Enables the condition definition associated with this Limit.

Configuring Subscribers

The Subscribers pop-up contains the list of users that are subscribed to a Performance Indicator Limit. Since these limits are converted into alerts in ANS, this screen allows you to specify the list of users that will be subscribed to the given alert/limit.

To notify each subscriber about a limit/alert excursion, a notification configuration is necessary in XHQ ANS.

Clicking the **New Tolerance Limit** link launches the "Subscribers" page.



Configuring Subscribers

About Grouping for Zone Limits

With Target Management grouping, you can control the notification process for a group of zone limits for a given KPI.

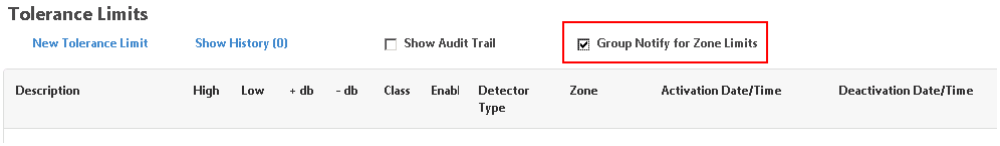
Use Case:

A user defines a group that consists of all four zoning limits (Low-Low, Low, Hi, Hi-Hi) associated with a KPI, monitoring a pump area. The user sets the grouping option so that a notification is sent only once when an alert referring to the pump becomes active.

The zone limits grouping in Target Management is similar to the "First Out" grouping type for ANS. Therefore, a notification is sent to the list of subscribers only once - when the **first** zone limit/alert in the group becomes active. Subsequent limits within the group that become active do not trigger a notification. Only when all the limits in the group return to normal can a new notification be sent.

For more information on ANS Grouping, refer to the topic, *Grouping Conditions*, located in the XHQ ANS User's Guide.

To enable grouping for zone limits, check the **Group Notify for Zone Limits** checkbox.



Things to Note

- Enabling group notification for zone limits creates a corresponding group in ANS.
- Limits that do not have a zone defined (for example, Safety limits) are not included in the group.
- Each KPI can only have one ANS group associated with its zone limits.

The Import and Export Utility

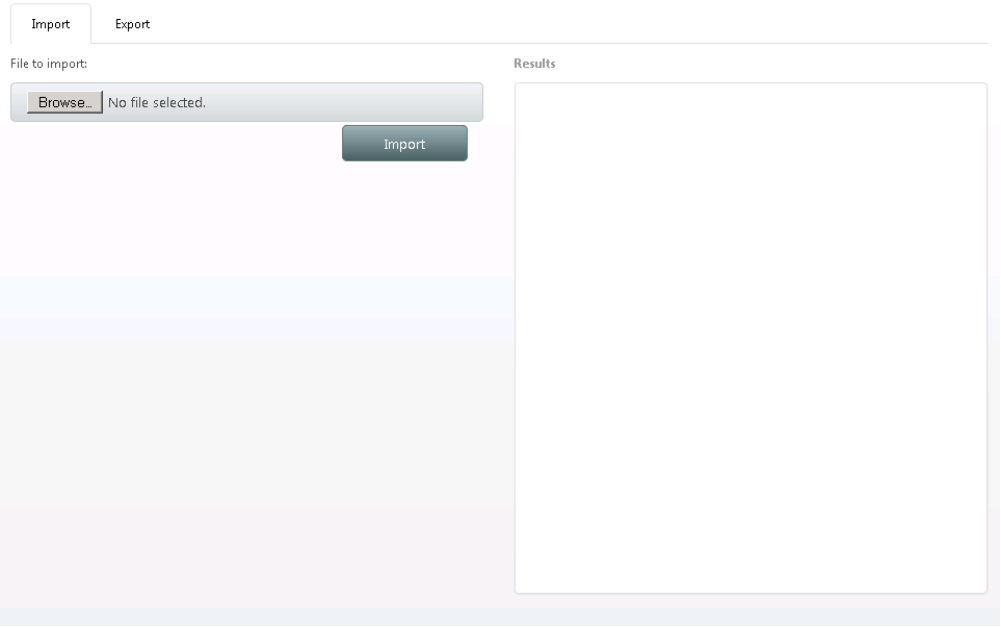
To access the import-export utility

1. From the XHQ Platform Management homepage, go to the **Configuration section**.
2. Under **Target Management**, click **Import** or **Export**.
   The "Import Export Utility" appears.

Importing Performance Indicators

During an import, an XML file that specifies a Performance Indicator list is imported into the system. Browse for this XML file, which can reside on the local machine or on any reachable node in the LAN.

The results of the import are shown in the panel that occupies the entire right area of the import screen.



Import Tab

Exporting Performance Indicators

In an export, a list of Performance Indicator entities is exported into an XML file. These PI entities include their corresponding Target, Metric, and Limit elements. The exported XML file can be modified or validated (against the DTD file, which is provided to validate the structure of the XML file).

From the Export tab, there are two ways you can select PIs to be exported:

- You can **search** for specific PIs based on filter criteria you enter.

or

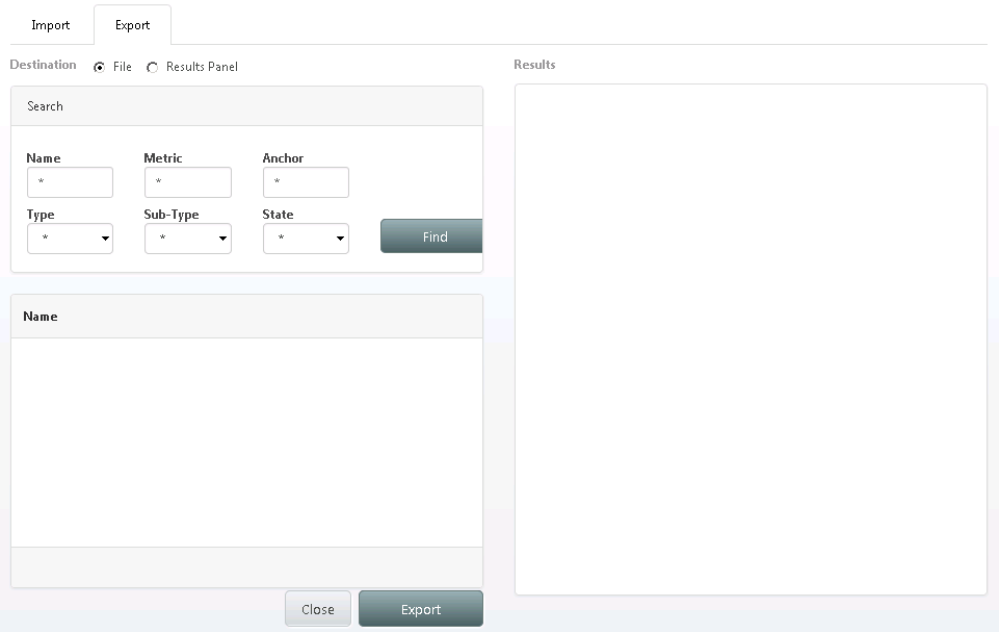
- You can **select** one or more PIs from a given set.

There are also two ways to receive the output XML. For the **Destination** option, if you select:

- **File**
  The output XML is saved as an .XML file at a location you specify.

or

- **Results Panel**
  The output XML is displayed in the "Results" box.



Export Tab

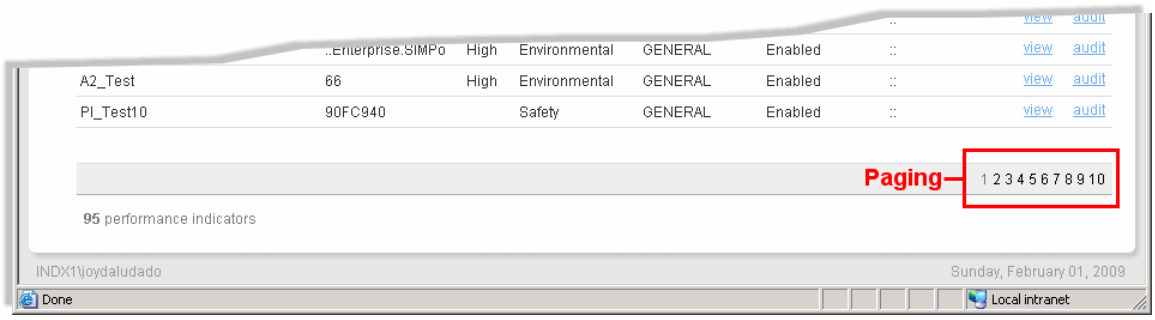
For more information, see the topic, *Example of an Import XML File Using Custom Tags*.

Features You Can Customize

Setting the PI Browser Paging Option

For the Performance Indicator Browser table, you can set the maximum number of rows to display on each page. The default value is 15 rows per page.

If the number of PIs exceed this default number, then the paging mechanism is enacted.



Paging Through the PI Browser

To edit the default paging value

1. Navigate to the **%XHQ_WEB_DATA%\repos\conf\web\tm** directory (which by default is <systemdrive>:\XHQ\data\repos\conf\web\tm), and open the **Config.json** file.

   If not present, you will need to **create both** the **tm** folder and the Config.json file.

2. Find the following line:

```
{
    "NumberOfPIToShowPerPage": "15"
}
```

3. Change the value from 15, which is the default, to the desired number of rows per page.
4. **Save** the file.

5 | eLogs Overview and Set-up

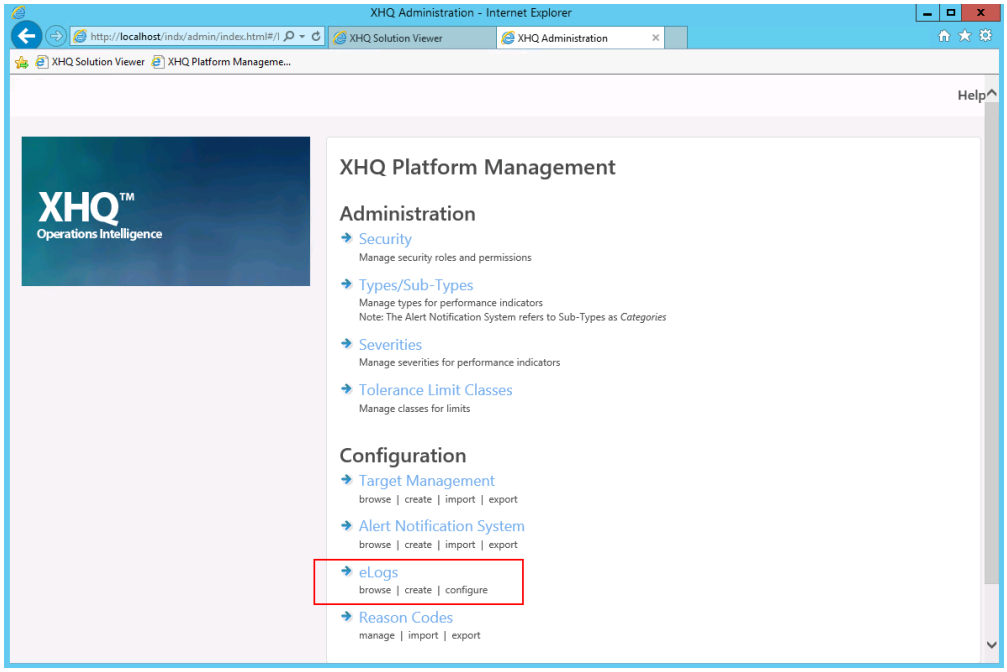
About eLogs

eLogs are web-based applications that allow for operator logging and shift report generation.

There are two ways to access eLogs:

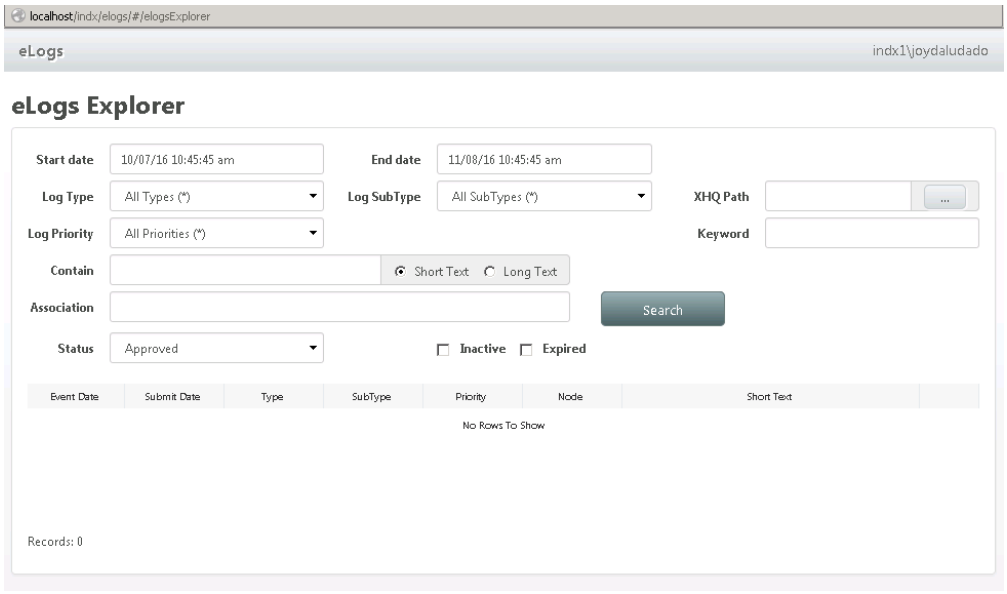
- From a browser, enter the eLogs main page **URL** **`http://<server_name>/indx/elogs/index.html`**

  Example: `http://localhost/indx/elogs/index.html`
- From the XHQ Performance Management homepage, under **Configuration** > **eLogs**

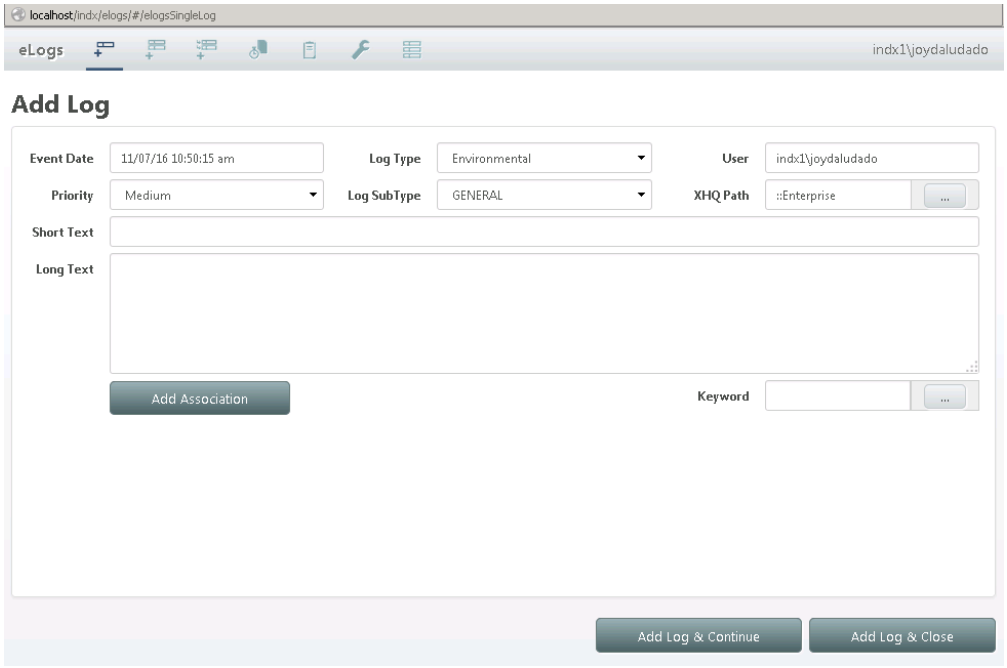


From the XHQ Platform Management site, you have three options:

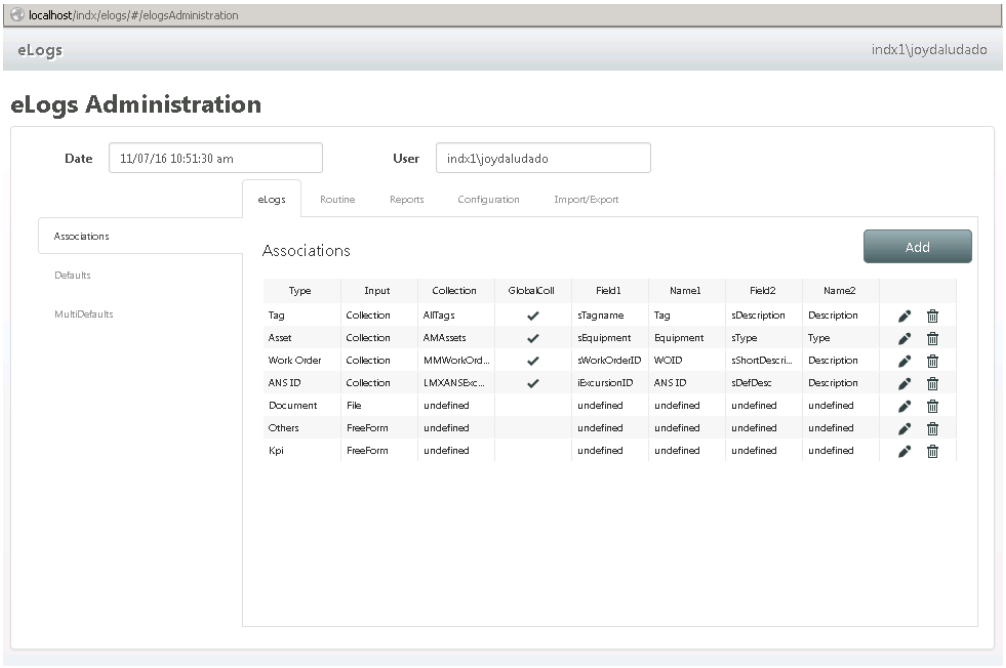
- To **browse** eLogs using the **Elog Explorer**



- To **create** eLogs through the **Elog Main** page

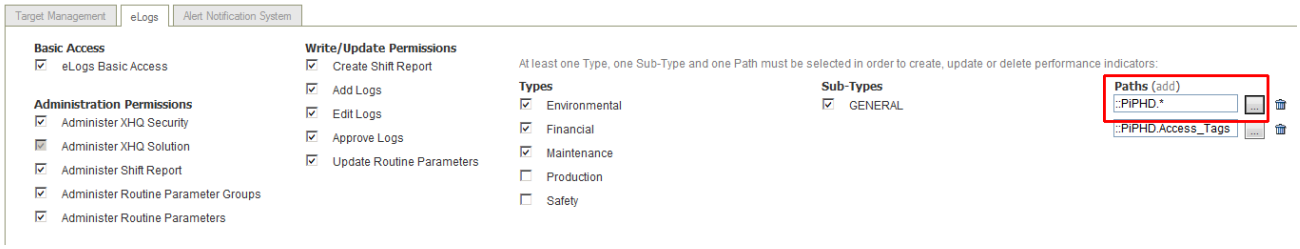


- To **configure** eLogs using **Elog Admin**

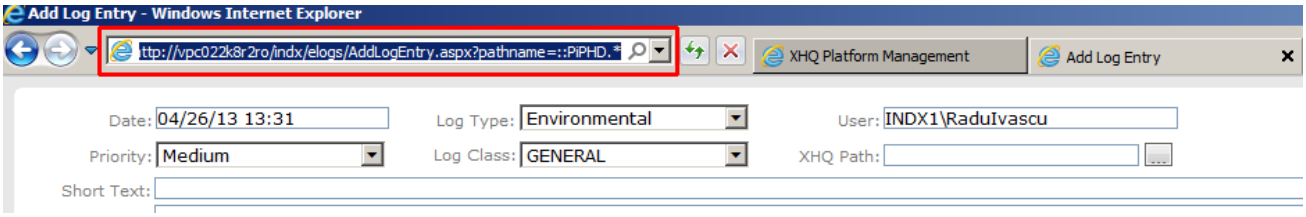


Using eLog Wildcards

A wildcard (*) can be used from the eLog application,



or the eLog URL path,



Important Things to Note

- A wildcard can be added **to the end** of the XHQ path to map multiple node level privileges to the XHQ path.

  For example, `::Enterprise.KPI_Group.*`.

  The wildcard in the middle of the XHQ path is not supported.

- The wildcard accesses the final node referenced in the XHQ path, as well as all the children of that final node.

In the example, `::Enterprise.KPI_Group.*`, the wildcard has access to node `KPI_Group` and all its child nodes.

Again, only the **final** node is accessible. For instance, in the example given, `Enterprise` is not accessible.

- To change the default behavior, such that only the children of the final node are accessible but not the final node itself, edit the **`Config.json`** file and set the application configuration flag, **`IncludeLastNodeInWildcard`**, value to **No**.

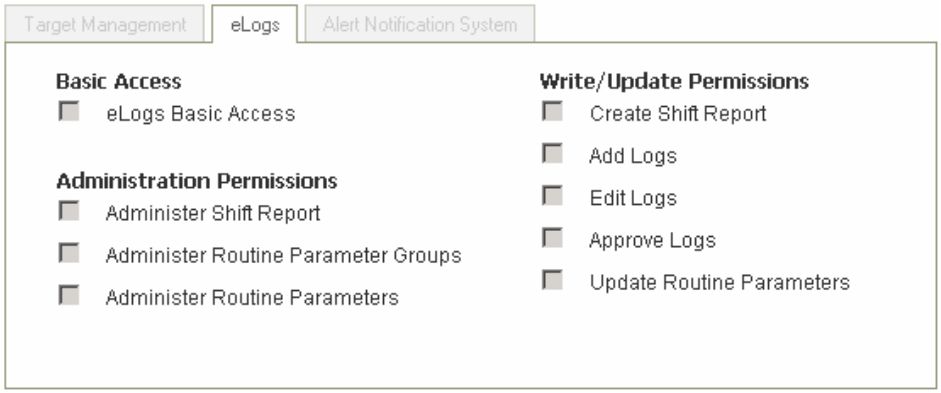
eLogs Security

In order to successfully access, create, or configure eLogs, the following tasks must be performed.

To set basic access

1. From the homepage, under **Administration**, click **Security**.
   The "Security" page appears.
2. In the Roles table, **select a role**.
   Clicking on a role enables the Access and Permissions options in the tabs below the Roles table.

   Example: Solution Users
3. Click the **eLogs tab**.



4. Enable (check) **eLogs Basic Access**.
5. Click **Save Changes**.
6. **Repeat** this process for each role that requires access to eLogs.

If eLogs Basic Access is not enabled, then the following error message appears when you try to access eLogs:

```
User does not have rights to perform this action.
User needs at least Basic Access.
```

To set permissions

1. In the eLogs tab, under **Administration Permissions**, set any of the following:

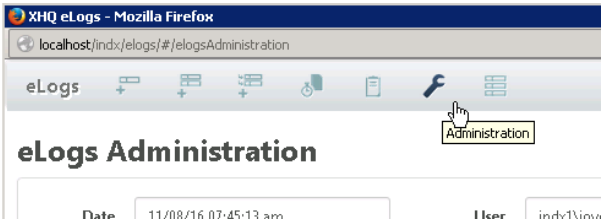
Option	Enable (check) this option if you want to . . .
Administer XHQ Solution	Allow the XHQ role to have access to the eLogs Administrative Tools pages. Enable the Administrative Tools button  , located in the toolbar of the Elog Main page. Allow the XHQ role to add/edit/delete: eLogs -> Associations eLogs -> Defaults Config -> Generic Users
Administer Shift Report	Allow the XHQ role to add/edit/delete the Shift Report Configuration.
Administer Routine Parameter Groups	Allow the XHQ role to add/edit/delete the Routine Parameter Groups.
Administer Routine Parameters	Allow the XHQ role to add/edit/delete: Routine -> Units Routine -> Conditions Routine -> Condition Types Routine -> Conditions List Routine -> Parameters Routine -> Parameter Types

2. Under **Write/Update Permissions**, set any of the following:

Option	Enable (check) this option if you want to . . .
Create Shift Report	Allow the XHQ role to create and/or edit a current shift report.
Add Logs	Allow the XHQ role to add logs for the given combination of Types, Sub-types, and Paths.
Edit Logs	Allow the XHQ role to edit logs for the given combination of Types, Sub-types, and Paths.
Approve Logs	Allow the XHQ role to approve logs for the given combination of Types, Sub-types, and Paths, **only** if the "Need Approval" setting has been configured in the configuration file.
Update Routine Parameters	Allow the XHQ role to update the values for the routine parameter.

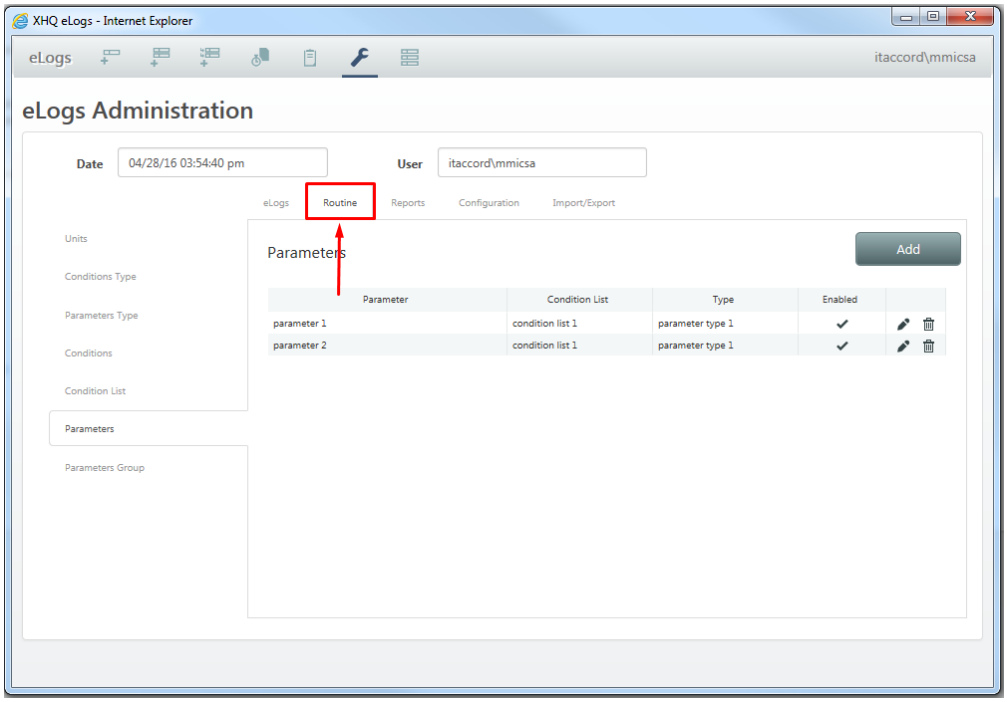
To configure security in routine parameters

1. From the homepage, under **Configuration**, click the **Create link for eLogs**.
   The "Elog Main" page appears.
2. From the toolbar, click the **Administrative Tools icon**.

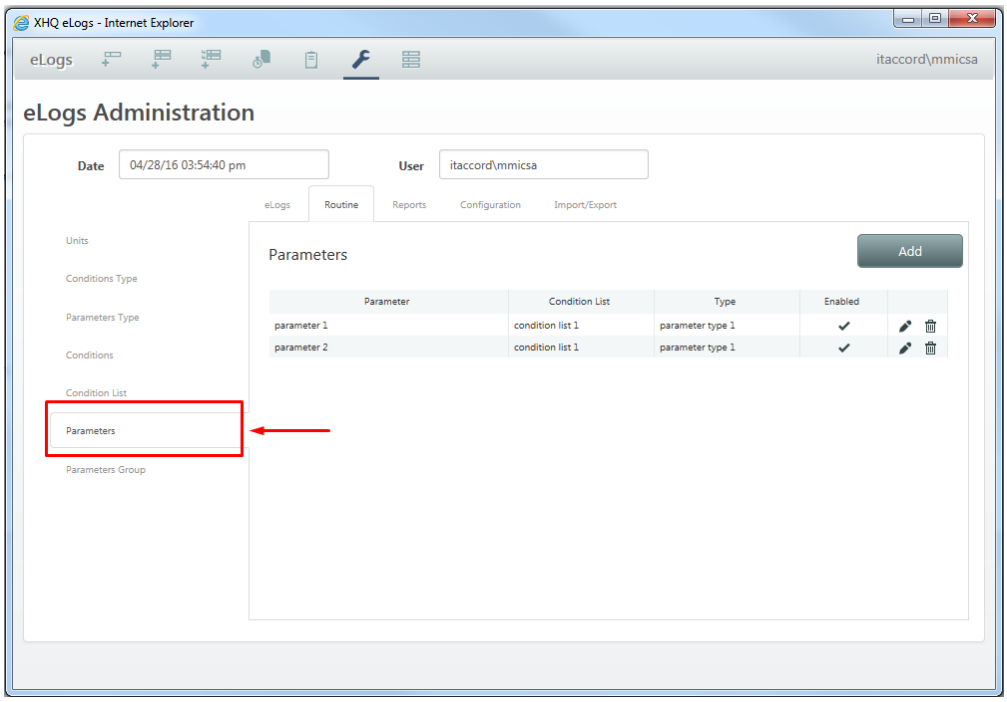


The "Administrative Tools" page appears.

3. Click the **Routine tab**.

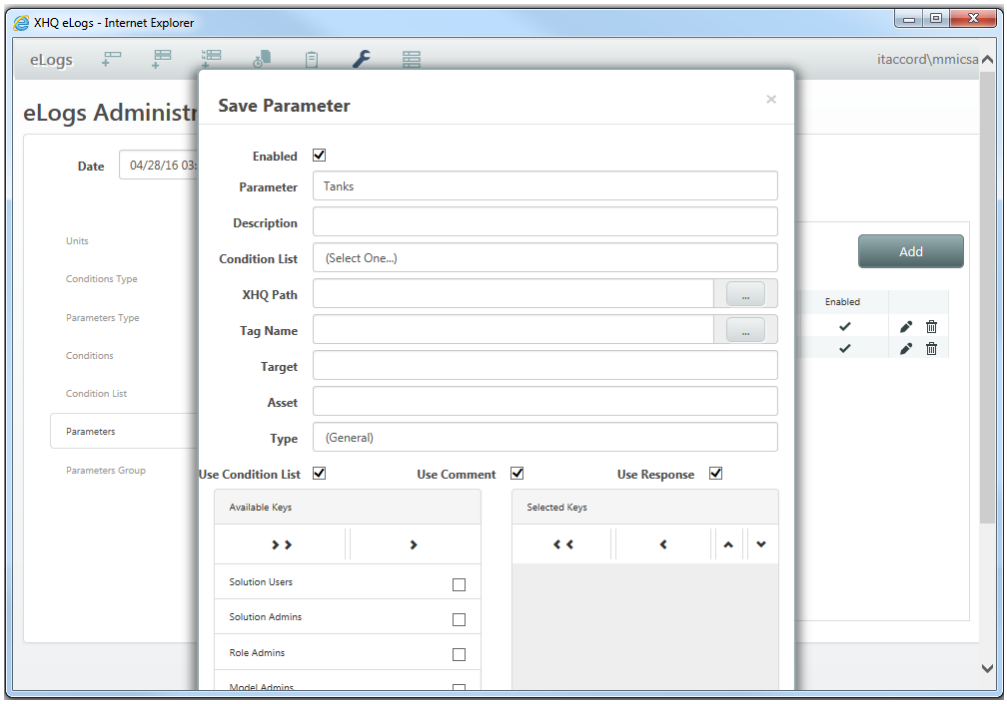


4. Then, click **Parameters**.



5. Click **Add**.

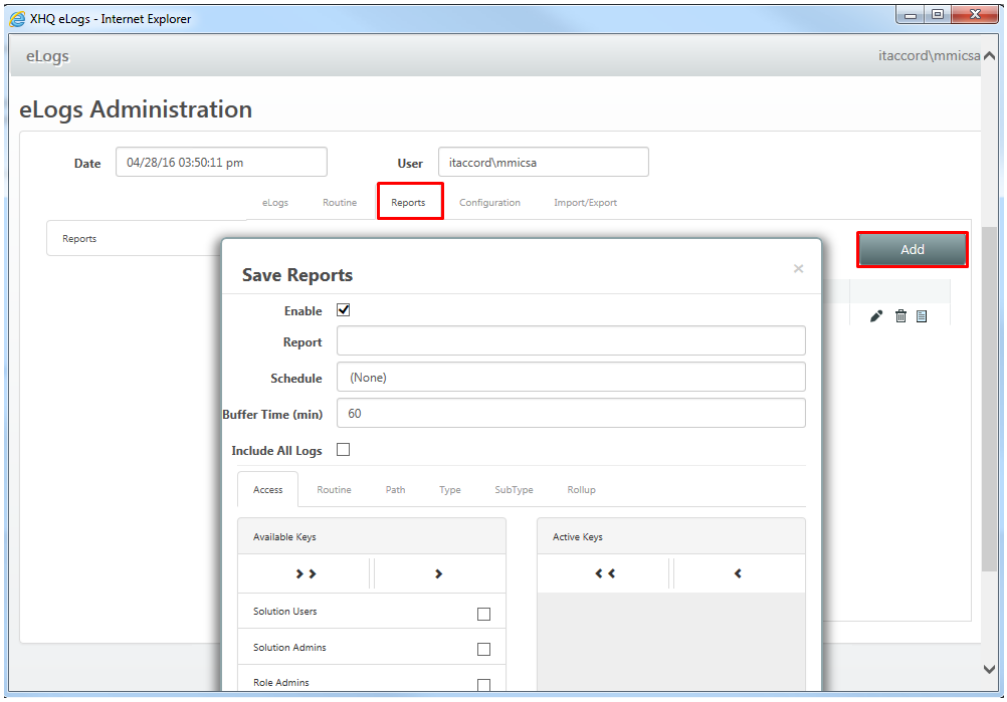
   The following set of configurable options appear within the table.



6. **Configure** the Routine Parameter.
7. Select (**check**) the role(s) that will have access to the Routine Parameter, and click the **right arrow**. The users under the role(s) you selected will have access to the given Routine Parameter.
8. Click **Save**.

To configure security in a shift report definition

1. Open the **Shift Report** definition page by selecting the **Reports tab** and then clicking the **Add button**. The following set of configurable options appear.



2. **Configure** the Shift Report.
3. Select (**check**) the role(s) that will have access to the Shift Report, and click the **right arrow**. The users under the role(s) you selected will have access to the given Shift Report.
4. Click **Save**.

Editing the `Config.json` File

Setting eLogs Configuration Parameters

You can define the following parameters in the `Config.json` file to suit your particular needs.

Accessing the `Config.json` file

First, you must go to `%XHQ_WEB_DATA%\repos\conf\web\examples` directory. Locate the `eLogs` folder and copy it to the `%XHQ_WEB_DATA%\repos\conf\web` directory.

As a result, the `Config.json` file will be located in the `%XHQ_WEB_DATA%\repos\conf\web\eLogs` directory (which by default is `<systemdrive>:\XHQ\data\repos\conf\web\eLogs`).

Configuration Parameters

Parameter	Description
`xhqServerName`	Name of the XHQ Server to which you want to connect. *Default:* localhost
`xhqeLogsPath`	The path to the component in the solution hierarchy, where the collections for eLogs are configured. By default, Global collections are used. If a Member collection is required, then this parameter needs to be placed in the path in the solution architecture. **Note:** This parameter is related to the Association window. *Default:* Top.eLogs (which is from the PM base repos)
`NeedApproval`	This enables the Approval option in eLogs. If set to **No** (which is the default), all logs are approved by default. If set to **Yes**, all logs are created with a "pending for approval" status and they are not visible in the shift report. In this latter case, the administrator, or the shift manager, needs to approve the logs in order to make the logs visible to everyone. *Default:* No
`DefaultLogType`	The default log Type. **Note:** The value for this parameter needs to match a Type that is already configured in the system. *Default:* Planning
`DefaultLogSubType`	The default log Sub-type. **Note:** The value for this parameter needs to match a Sub-type that is already configured in the system. *Default:* General
`DefaultLogPriority`	The default log priority. **Note:** The value for this parameter needs to match a Priority that is already configured in the system. *Default:* Medium

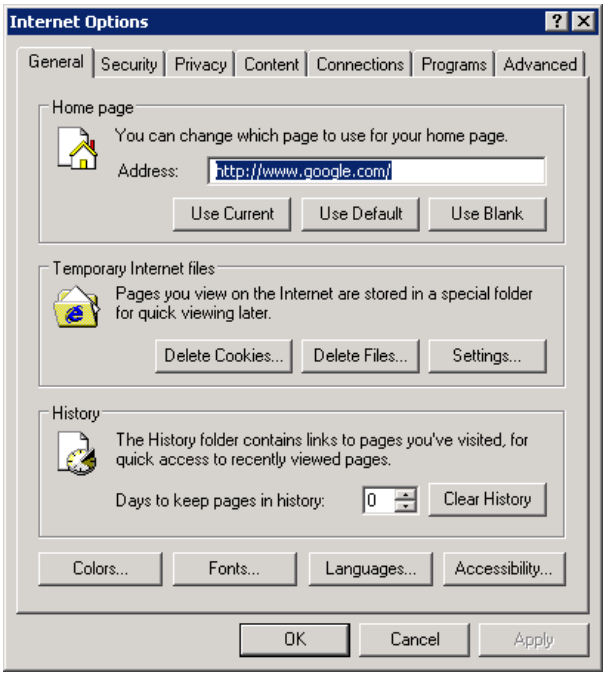
Parameter	Description
DefaultLogNodePath	The default log node Path. By default, no value is given for this parameter. Therefore, the parameter is not present in the Config.json file and the Path text box is empty. **Note:** The value for this parameter needs to match a Path in the Solution Hierarchy. *Default:* <empty>
RoutineNewPeriodHours	The period (in hours) in which the Routine parameter indicates (through a message) how old the latest entry is. If the latest entry is greater than this value, then no message appears. *Default:* 12
RoutineNewPeriodFormat	The format of the message. In the default example below, the pound sign (#) is replaced with the aging time of the Routine Parameter. For example, a routine that is 1 hour and 30 minutes old displays in the new column as !(01:30)H. In this case, the pound sign was replaced with "01:30". *Default:* !(#)H
CopyShortTextLogToEmptyLongTextLog	If set to **Yes** (which is the default), then the Short Text is copied onto the Long Text box. If **No**, then the string value for the EmptyLongTextLog parameter is copied onto the Long Text box. *Default:* Yes
EmptyLongTextLog	If CopyShortTextLogToEmptyLongTextLog is set to **No**, then the string value of this property is used. *Default:* ---
RoutineReviewTimeout(Secs)	The number of seconds the review screen displays, awaiting for a user response. *Example:* Two users (UserA and UserB) are editing the same Routine Parameter at the same time. UserB saves their changes first. When UserA tries to save their changes, the review screen displays. UserA has 120 seconds (the default) to decide whether to cancel their changes or override the changes previously saved by UserB. *Default:* 120
HideTools	This parameter enables the administrator to hide (disable) one or more tool icons in the eLog Main toolbar. Options: • **SE** For Single Entry Form • **ME** For Multiple Entry Form • **RO** For Routine Logs Entry

Parameter	Description
	• **RE** For Shift Report • **EX** For eLogs Explorer *Default:* <empty> **Note:** Because the default value is empty, the parameter is not present in the `Config.json` file.
ResetValuePerShift	For the Shift Report, this option blanks routine values for new shifts, but keeps previous values during the shift. Note, when this option is set to "Yes" it erases routine Conditions (in this case, reverts to '(Select One...)'), Values, and Comments and Responses for new shifts. *Default:* No
ExcludeNotListed	If this option is set to "Yes", then "Not Listed" is excluded from the Routine parameter drop-down list. *Default:* No
ExcludeNotActive	If this option is set to "Yes", then "Not Active" is excluded from the Routine parameter drop-down list. *Default:* No
UseRoutineParameterDescriptionForName	If this option is set to "Yes", then the description of the parameter is used for the Routine's parameter column. *Default:* No

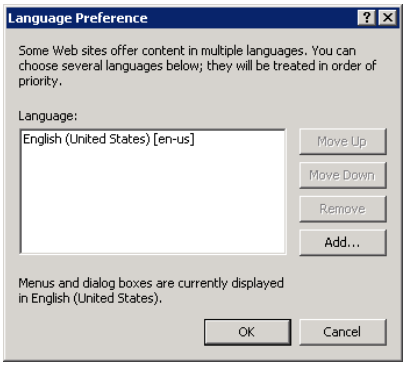
Localizing eLogs

To set default browser language

1. From **Internet Explorer**, in the **Tools menu**, click **Internet Options**.
   The "Internet Options" dialog box appears.



2. In the **General tab**, click **Languages**.
   The "Language Preference" dialog box appears.



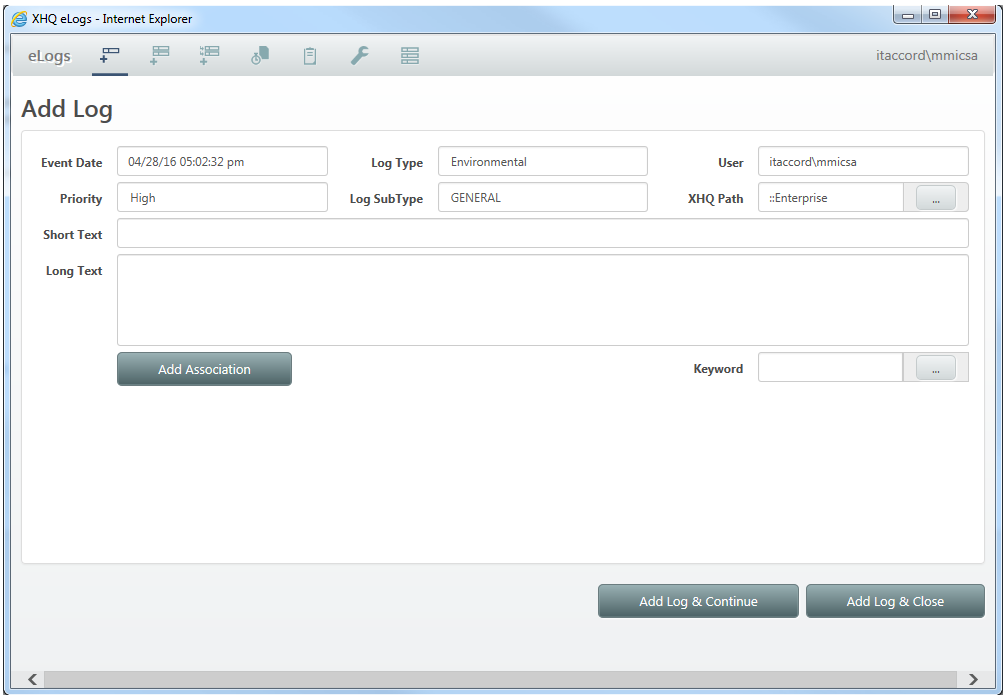
From the "Language Preference" dialog, you can add a supported language or set the priority order for the list of languages.

The language at the top of this list is the default language for the browser. However, if the top-most language is not found in the localization files, then English (United States) [en-us] is used.

6 | Working with eLogs

Exploring the Interface of eLog Main

From the XHQ Performance Management homepage, under eLogs, click create and the eLog Main window appears. The eLog Main homepage consists of two main sections: the Menu Bar and the Content Area.



eLog Main Homepage

Menu Commands

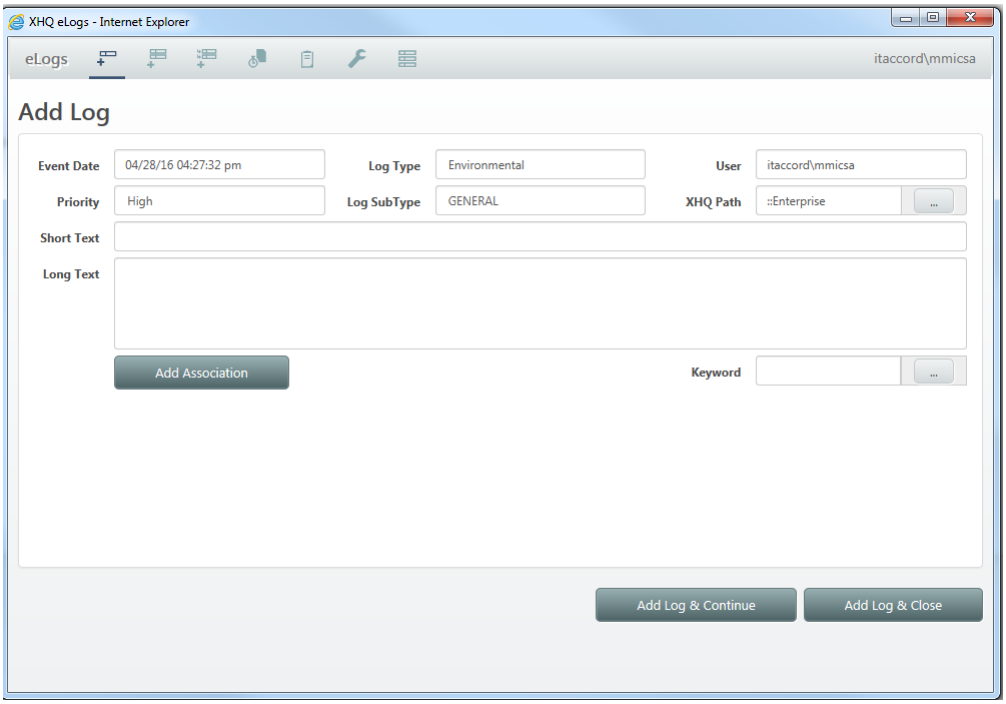
Icon	Description
	Single Log Create a single log entry and add Associations and Keywords to the log.
	Multiple Logs Enter multiple logs at the same time, for logs that share the same Type.
	Path-based Multiple Logs Enter multiple logs at the same time. Uses the path and event date.
	Routine Parameters Store values in the routine parameters to be used in the shift report or for simple recording of values that are not available in any back-end data source.

Icon	Description
	Shift Report Select the logs from the shift to be included in the shift report.
	eLog Administration **See Also**: For topics related to eLog administration, go to the section, *For the eLog Administrator*.
	eLog Explorer Search and edit comments to existing logs.

About the Single Log Page

From the Single Log page, you can enter a single log entry and add *associations* and *keywords* to the log. An **Association** is any supplementary information that is attached to the log. Associations are configured using the Administration page. A **Keyword** is text that can be used for the sorting, filtering, or grouping of logs. For more information on keywords, see the table below.

eLogs verify user rights for the Type, the Subtype, and the XHQ Path. If you edit the log page but do not have the proper permissions, an error occurs.



Add Log dialog box

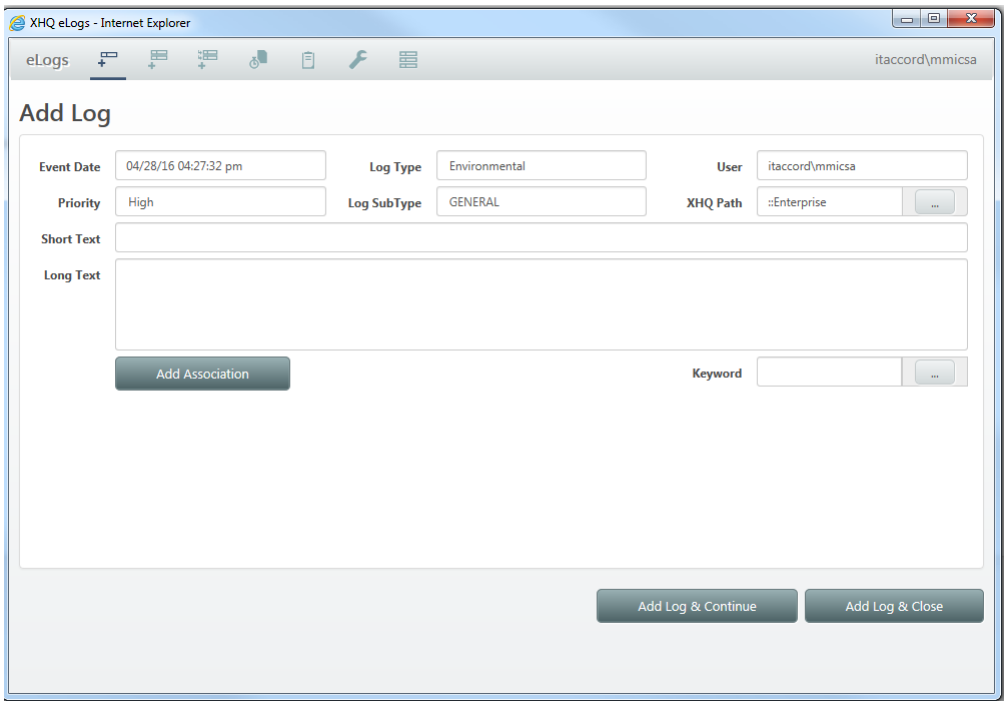
Field	Description
Event Date	The actual Date/Time the log is entered. The form allows for the Event Date to be passed from a URL. The URL name for the Event Date is **`EventDate`**.

Field	Description
	The EventDate value can either be a data/time in Long value or a String value.
Log Type	The type specific to the log.
User	The UserId of the user entering the log. If the user is a "generic user," enter a name or unique ID.
Priority	The priority specific to the log.
Log SubType	The subtype specific to the log.
XHQ Path	The path in the XHQ information model, which can be the physical location or organizational location. You can enter the XHQ Path directly onto the box, or you can click the Browse button to search for a given path.
Short Text	The subject of the log.
Long Text	*OPTIONAL* Enter a description of the event and/or issues. Limited to 1024 characters.
Keyword	Enter a *keyword*. Click the browse button to see a list of keywords not previously saved to the log. Note, only while the log is being created/edited may you add/remove new keywords.

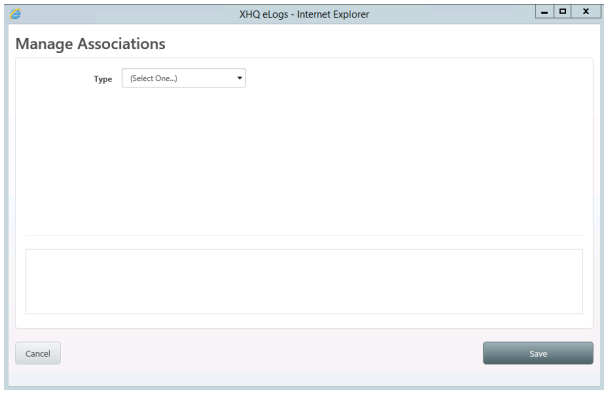
Button	Description
Add Association	Opens the "Association" page.
Add Log	Adds the log and keeps the current dialog open so that you can enter subsequent log entries.
Add Log & Close	Adds the log and closes the window.

To add a log association

1. From the **Single Log** page, click **Add Association**.



The "Manage Associations" page appears.



2. Select a **Type**.
3. Add search criteria and click **Find**.
   This populates the table below with criteria.
4. **Select** (check) criteria items.
5. Click **Add**.
6. OPTIONAL
   Repeat steps 2 to 5 for other types of data.
7. Click **Save**.
   This returns you to the Single Log page. The Associations added appear at the bottom of the page.

To add a keyword

There are two ways to add a keyword.

- Enter the keyword(s). Use a semi-colon to separate multiple keywords.
- *Or*, from the Single Log page, click the folder icon next to the Keyword field.
  A drop-down list appears.

Then, select an existing keyword.

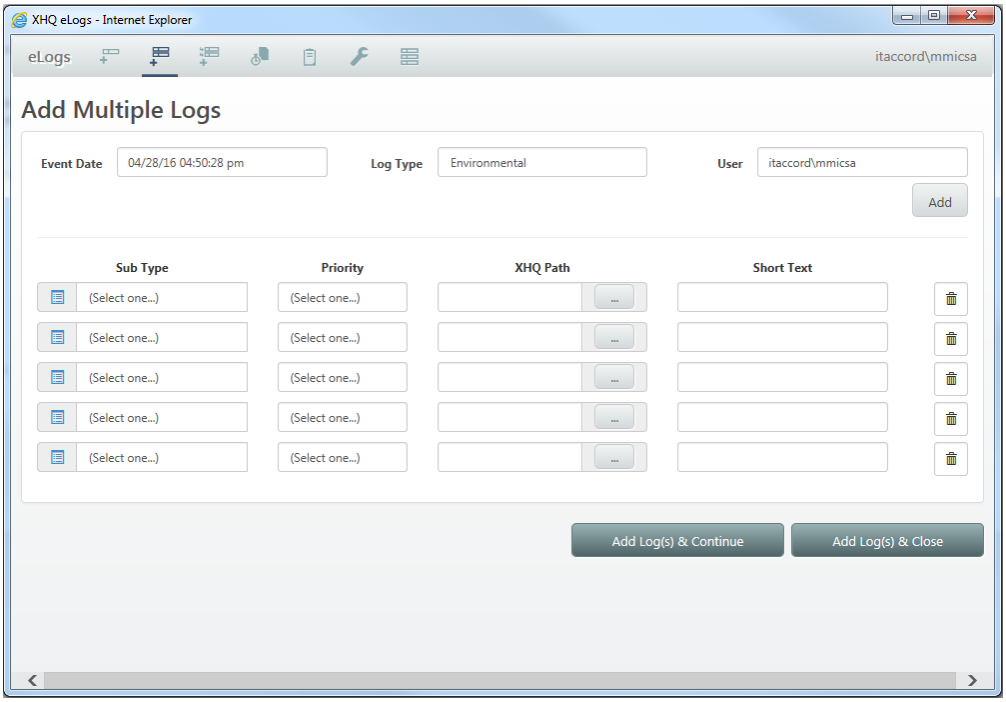
Things to Note

- Only while the log is being created/edited may you add/remove new keywords.
- Click the browse button to see a list of keywords not previously saved to the log.

About the Multiple Logs Page

From the Multiple Logs page, you can simultaneously enter multiple log entries with the same Type.

eLogs verify user rights for the Type, the Subtype, and the XHQ Path. If you edit the log page but do not have the proper permissions, an error occurs.



Add Multiple Logs dialog box

As you can see from the image above, the Multiple Log page does not allow for the addition of long text, associations, or keywords.

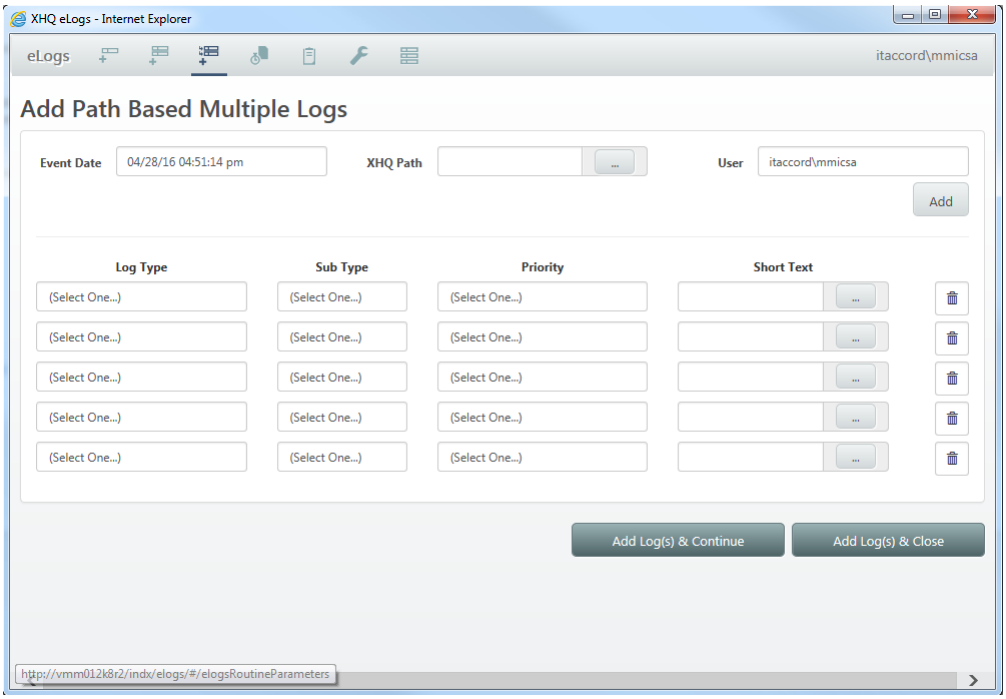
Field	Description
Event Date	The actual Date/Time the log is entered. The form allows for the Event Date to be passed from a URL. The URL name for the Event Date is **`EventDate`**. The EventDate value can either be a data/time in Long value or a String value.
Log Type	The type specific to the log.
User	The UserId of the user entering the log. If the user is a "generic user," enter a name or unique ID.
SubType	*Required.* The subtype specific to the log.
Priority	*Required.* The priority specific to the log.
XHQ Path	*Required.* The path in the XHQ information model, which can be the physical location or organizational location.

Field	Description
	You can enter the XHQ Path directly onto the box, or you can click the Browse button to search for a given path.
Short Text	The subject of the log.

Icon/Button	Description
	Default Icon Sets the Subtype, Priority, and XHQ Path based on the user defaults.
	Add Log Icon Adds a log entry.
	Delete Log Icon Deletes a log entry.

Multiple Path-based Logs

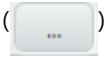
You can also simultaneously enter multiple **path-based** logs.



Things to Note

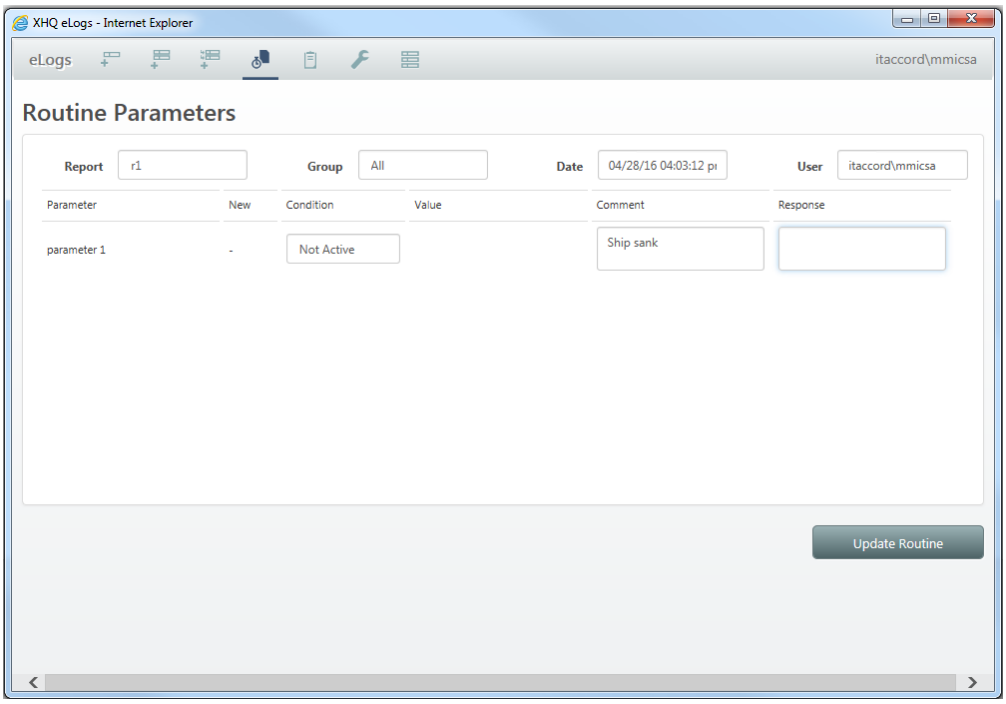
- The form allows for the Path and Event Date to be passed from a URL.
- The URL name for the Path is **`PathName`**.
  To make the Path field READONLY, set the URL parameter, **`ReadOnlyPath`**, with a value of "Yes". When this is

done, the icon for loading multi-default is hidden. If a template is found that is based on the path and user, then that template is loaded automatically.

- The URL name for the Event Date is **`EventDate`**.
  The EventDate value can either be a data/time in Long value or a String value.
- To use **Long Text**, click the browse button () at the end of the Short Text box.
- To load the **multi-default template**, click the multi-default icon ().

About the Routine Parameters Page

From this page, you can store values in the routine parameters that can be used in a shift report. This can also be used to simply record values that are not available in any of the backend data source.

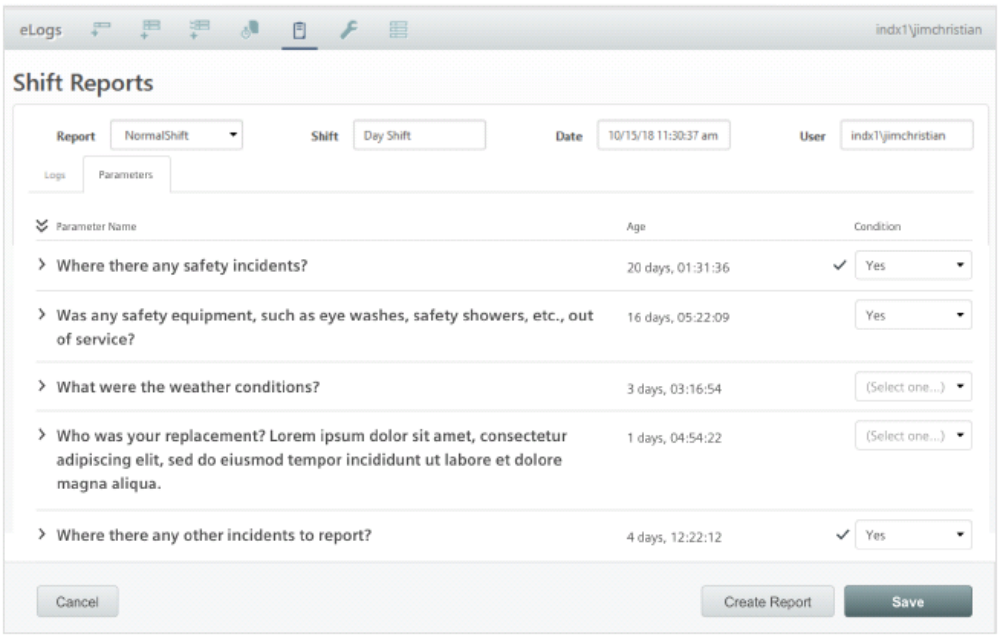


Field	Description
Report	A list of available reports where the routine parameter has been configured.
Group	A list of available groups for the routine parameter(s).
Date	The actual Date/Time the log is entered. This field is Read Only.
User	The UserId of the user entering the log. If the user is a "generic user," enter a name or unique ID.
Parameter	The name of the parameter. A Tooltip indicates who did the last update and when it was done.
New	Depending on the configuration, displays the "age" of the value in hours and minutes.
Condition	A list of available conditions for the parameter.
Value	Enter the parameter value.
Comment	Enter a description and/or relevant notes.

Button	Description
Update Routine	Updates the routine parameter with the new data entered.

About the Shift Report Page

From this page, you can select the shift logs to be included in the shift report. In addition, depending on the report configuration, you can also set the routine parameters associated to the shift report.



Field	Description
Report	A list of available reports. Once a report is selected, the logs are displayed and filtered based on the report configuration.
Shift	The current shift for the report selected.
Date	The actual Date/Time the log is entered. This field is Read Only.
User	The UserId of the user entering the log. If the user is a "generic user," enter a name or unique ID.

Buttons	Description
Copy from Previous	(In **Parameter tab**; enabled from **Parameter Details** configuration > Options > **Copyable** checkbox.) If enabled, clicking this button copies the parameter value/comment/response answers from the previous shift. This overwrites existing content.
Create Report *or* **Update Report**	If this is the first time the shift report is saved, the button displays **Create Report**. Else, it displays **Update Report**.
Save	Saves current changes.

In the **Logs tab**, logs are grouped by the associated XHQ Node.

If a routine parameter group is associated with the report, then the **Parameters tab** is available along with the Logs tab.

Things to note about Parameters (Parameters Tab)

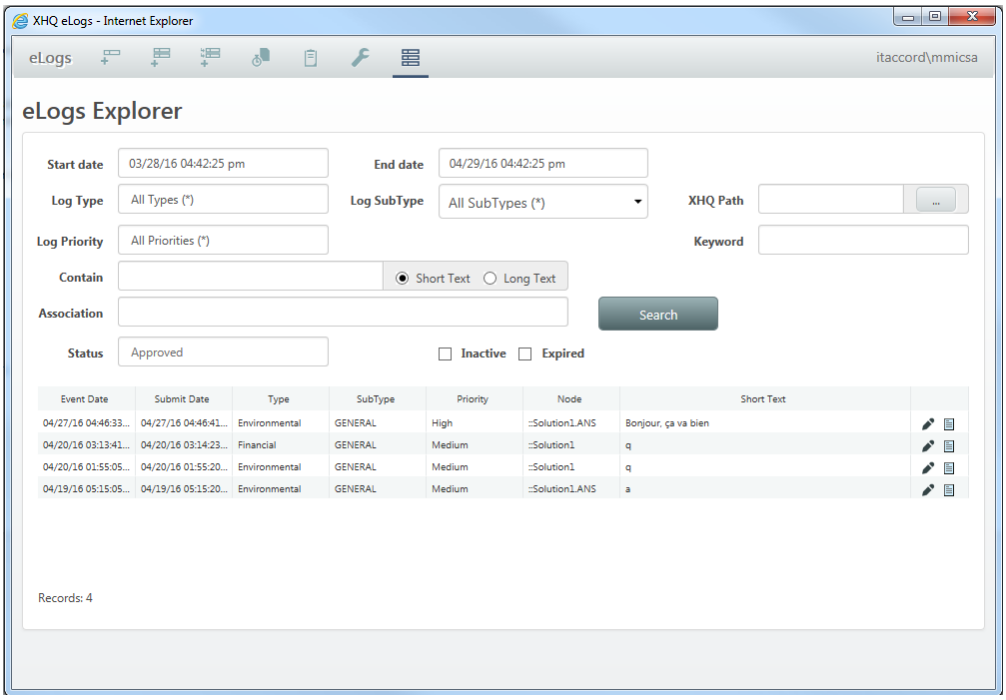
- By default, the Parameter Name, Age and Condition are displayed.
- Expand the Parameter (by clicking on the **>** icon) to display the Value, Comment, and Response.

In this area, you can use the **Tab key** to move forward, and **SHIFT+Tab** to move backwards. Use SHIFT+(arrow) to select text.

- Comments and responses are added as rich text. However, you are limited to 2000 characters (4000 bytes) when entering values for the eLogs shift reports, specifically in the parameter response and parameter comment fields. Once you have reached the limit, a yellow border appears around the field.
- With regards to rich text input, when you select text (for example, in the Response text box), a formatting toolbar appears above, allowing you to set text styles. You can use Windows keyboard shortcuts for bold (CTRL+B) and italic (CTRL+I).

About the eLog Explorer

This page allows you to set filter criteria and edit new comments in existing logs.



eLog Explorer

Setting Filter Criteria

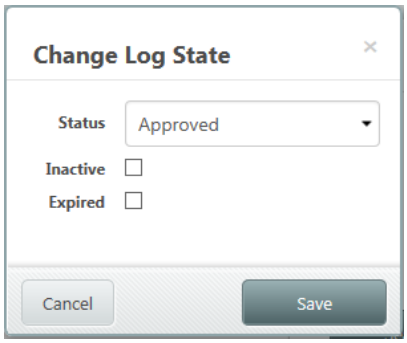
Enter any of the following filter criteria and then click **Search**.

Field	Description
Start	Executes the search starting from this Date/Time.
End	Executes the search ending at this Date/Time.
Log Type	The type specific to the log.
Log SubType	The subtype specific to the log.
XHQ Path	The path in the XHQ information model, which can be the physical location or organizational location. You can enter the XHQ Path directly onto the box, or you can click the Browse button to search for a given path.
Log Priority	The priority specific to the log.
Keyword	Enter a keyword.
Contains	Enter filter criteria. Select the field associated with the criteria: • Short Text • Long Text
Association	Enter an association.

Results of the search displays in the logs table.

For the Administrator

If approval is needed and the user has the proper administrative rights, then the following selections are made available.

Field/Icon	Description
Status	Current log status. The administrator can either approve or reject a log entry.
Inactive	If checked, then the log entry is inactive.
Expired	If checked, then the log entry is expired.
	Administrator Task Click to: ◦ Edit the log entry status; ◦ Mark it inactive; ◦ Mark it expired. This launches the following dialog: 

7 | For the eLog Administrator

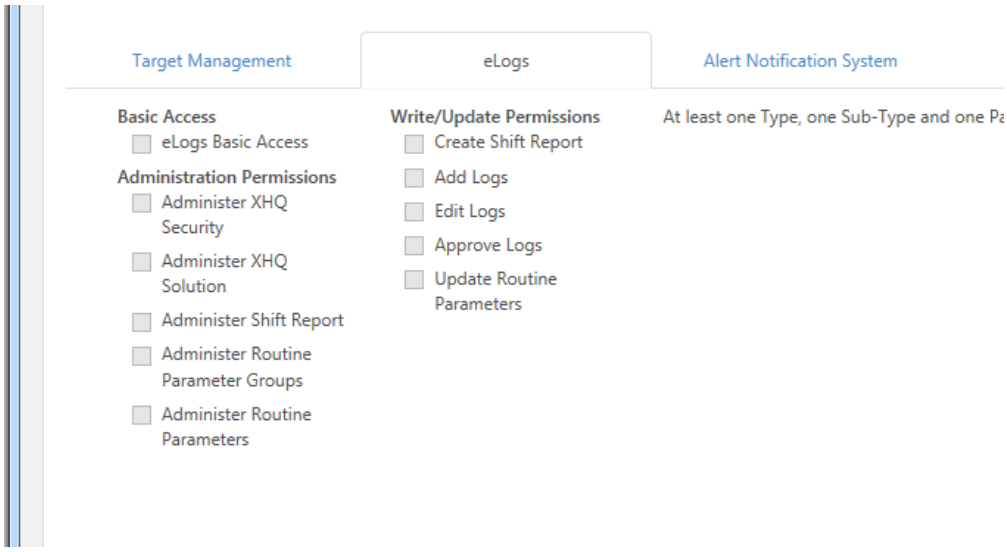
Use the following tasks to successfully access, create, and configure eLogs.

Basic Tasks

To set Admin access

1. From the homepage, under **Administration**, click **Security**.
   The "Security" page appears.
2. In the Roles table, **select a role**.
   Clicking on a role enables the Access and Permissions options in the tabs below the Roles table.

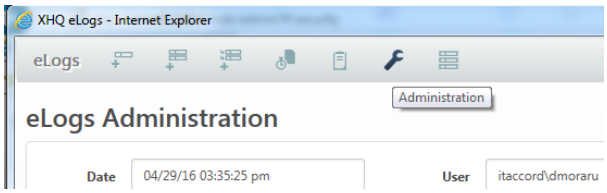
   Example: Solution Admins
3. Click the **eLogs tab**.



4. Enable (check) **eLogs Basic Access, Administer Shift Report, Administer Routine Parameter Groups, administer Routine Parameters**. (depending of the Security configuration one or more of this permissions must be checked, but **eLogs Basic Access** must be always checked)
5. Click **Save Changes**.

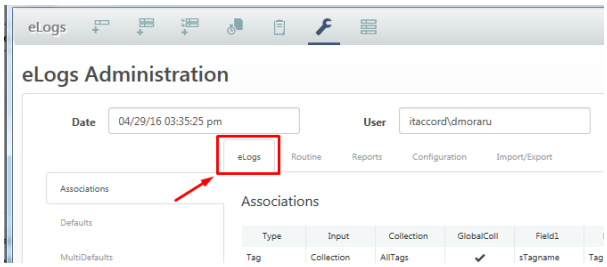
To access eLogs administrative tools

1. From the homepage, under **Configuration**, click the **Create link for eLogs**.
   The "Elog Main" page appears.
2. From the toolbar, click the **Administrative Tools icon**.

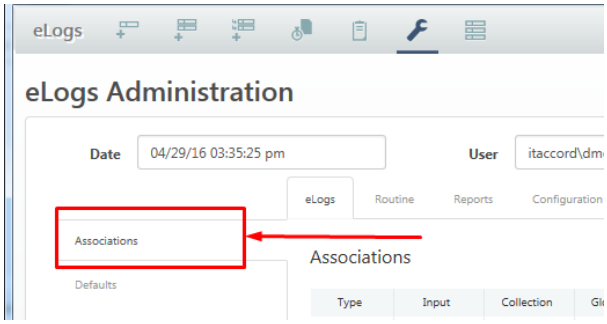


The "Administrative Tools" page appears.

By default the **elog tab** is selected.



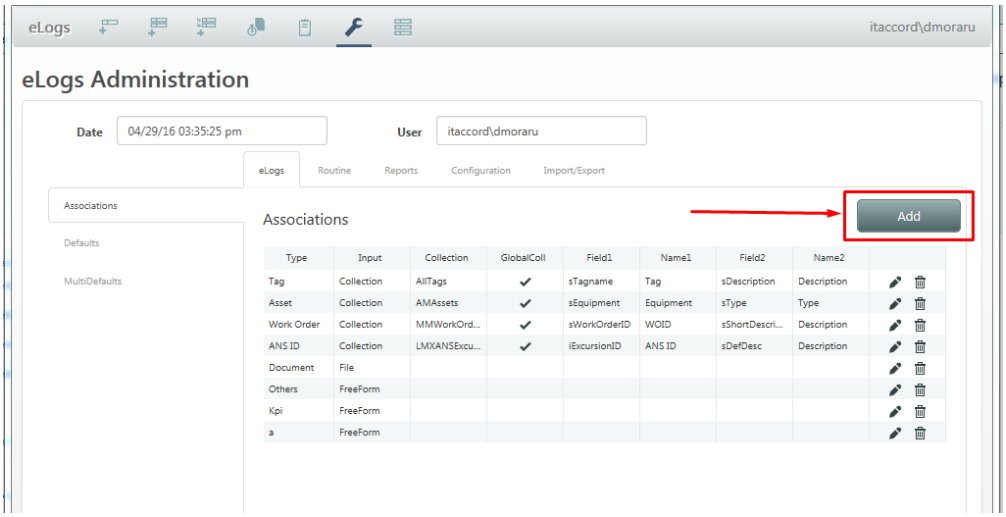
Also, the **Associations** page is selected.



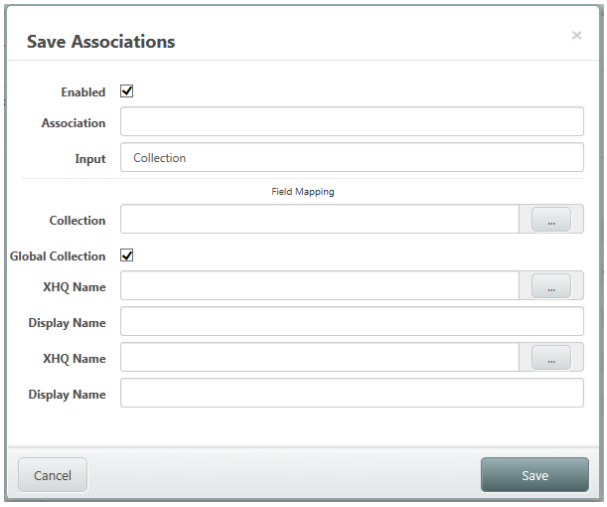
To configure eLogs: Associations

After a successful installation of the eLogs, there is a set of Associations already create as example to follow. These associations need to be configured properly according to the solution; the administrator can add or delete as many associations as he wants.

1. Click the **Add** icon.

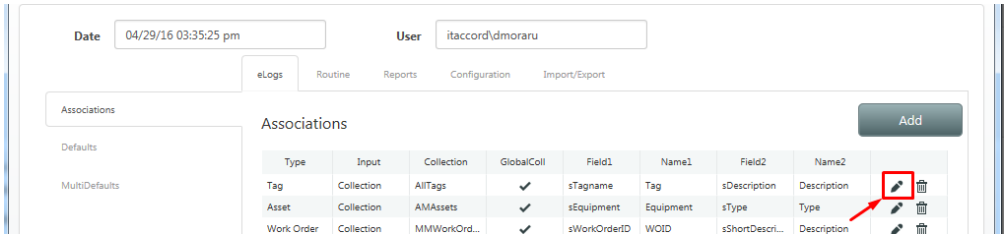


The Association detail window is display and it allows the administrator to add or edit the Association Type.

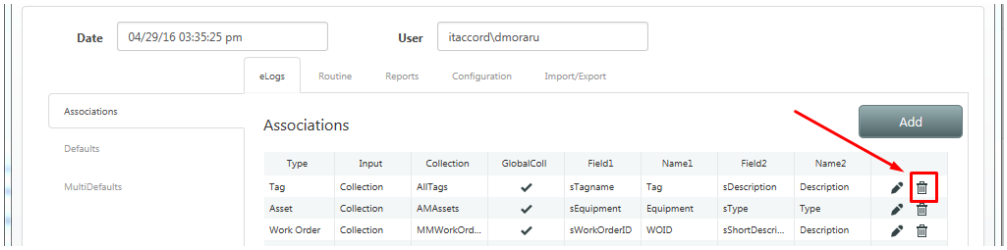


Field	Description
Enable	Check to Enable or clear to Disable the Association type. If disabled, this Association is not available to the end user.
Assoc	The association type name. This is the name displayed in the Association drop-down.
Input	This is the class of the Association. There are three classes available: • **Collection** The data to be used for the Association is coming from an XHQ collection. • **Document** The data is linked to a document. **Note:** The document must be in a common share drive or in a publically available place. • **FreeForm** The data is a free text form.
Collection	Enter the name of the global collection, or click in the icon to display the list of global collections and then select the collection. **Note:** This is only available if the Input is equal to Collection.
Global Collection	If the collection is a **Global Collection** keep this box **checked**. Else, if it is a **Member Collection**, then **uncheck**. The name of the Collection needs to include the full path to the collection.
From XHQ	This field indicates the name of the member in the XHQ collection to use. If the collection is a global collection, then the administrator can click the icon to see the list of member names for the collection provided.
For EndUser	Enter a name that is different from the XHQ member name. **Note:** Sometimes the member names are acronyms or names that do not provide any meaningful description of the field to the end user.
From XHQ	The name of the member in the XHQ collection to be used. If the collection is a global collection, then the administrator can click the icon to see the list of member names for the collection provided.
For EndUser	Enter a name that is different from the XHQ member name. **Note:** Sometimes the member names are acronyms or names that do not provide any meaningful description of the field to the end user.

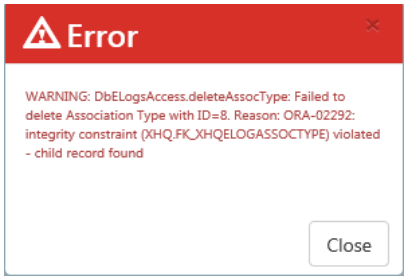
2. Then click **Save**.
3. To edit an Association click the **Edit icon**.



4. To delete an Association click the **Delete icon**.



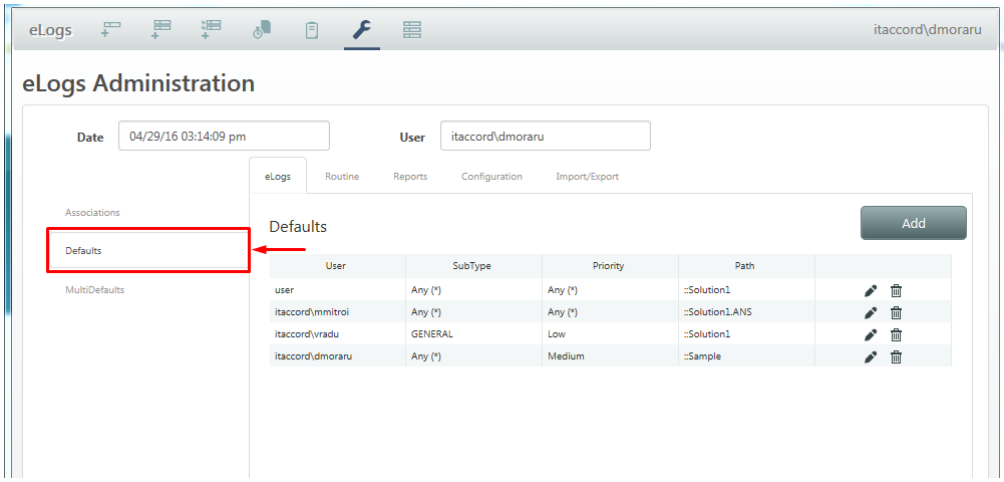
You cannot delete an Association once it is used by a log. If you try to delete such an association, an error message similar to the following appears.



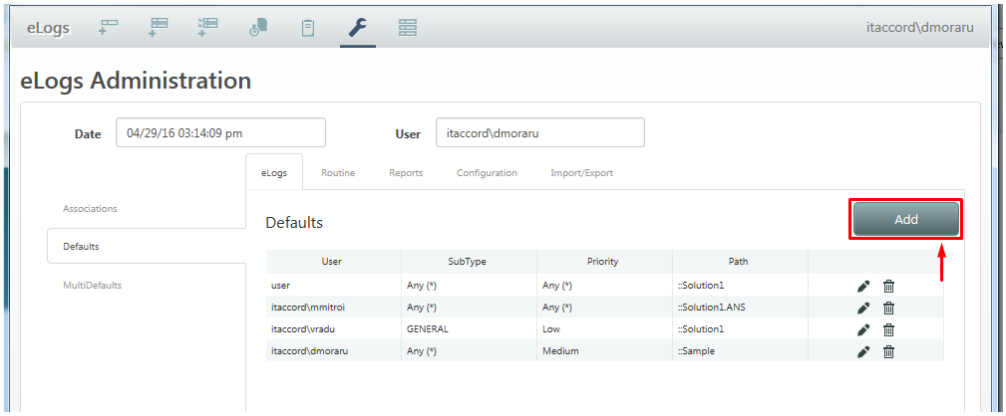
To configure eLogs: Defaults

eLog defaults allow the eLog application to apply default configuration per users, thereby improving user experience and pre-selecting .

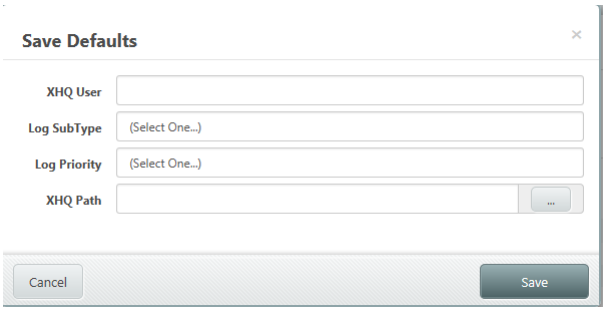
1. Click the **Defaults** page.



2. Click the **Add** icon.

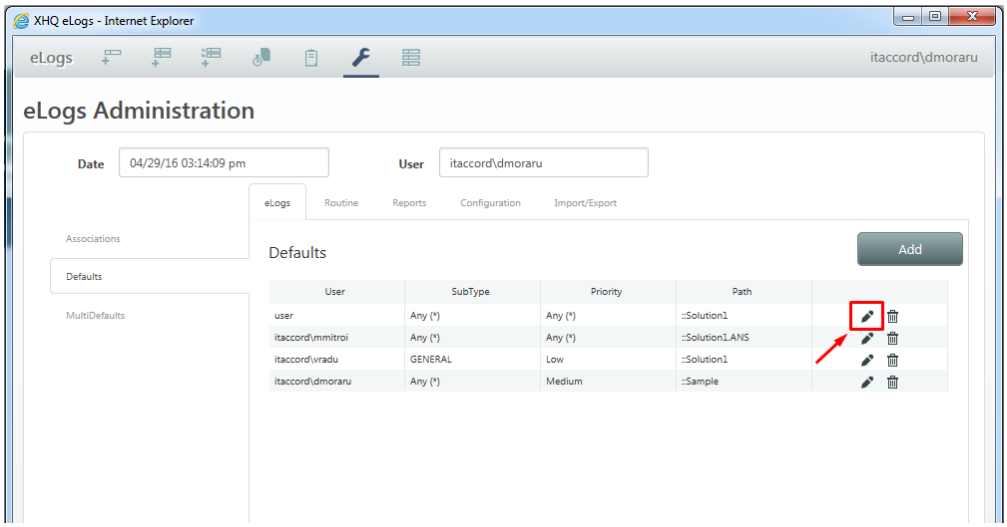


The "Default Detail" dialog appears.

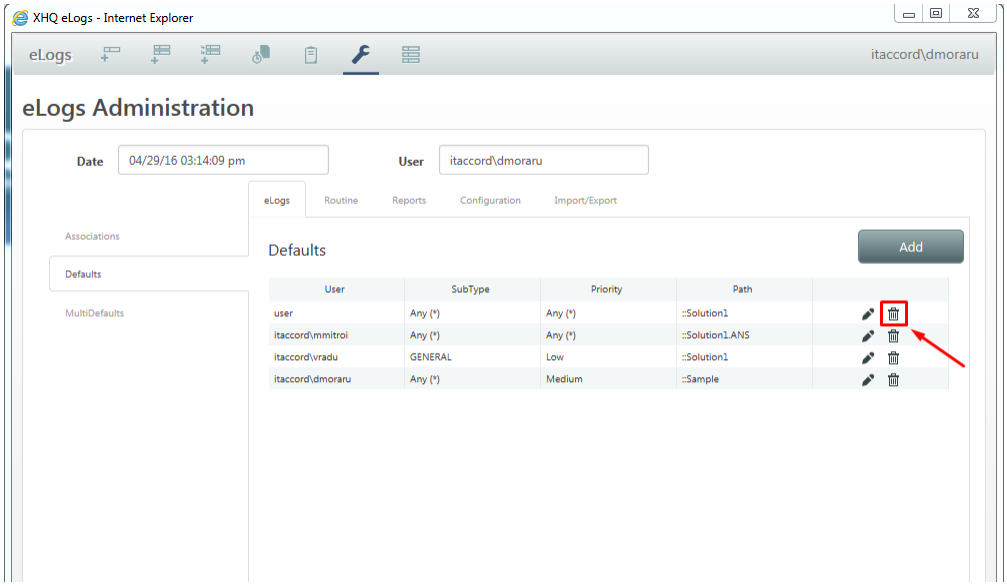


Field	Description
User	Enter the user ID, providing the domain and user ID. *Example:* `Indx1\homer`
Class	Select a class from the drop-down.
Priority	Select a priority from the drop-down .
Node	Enter the node path or click in the ... icon to launch the "Path Selector" dialog. **Note:** In TM and eLogs, the configured paths options are used to populate the Path Selector.

3. Click **Save**.
4. To edit a Default setting, click the **Edit icon**.

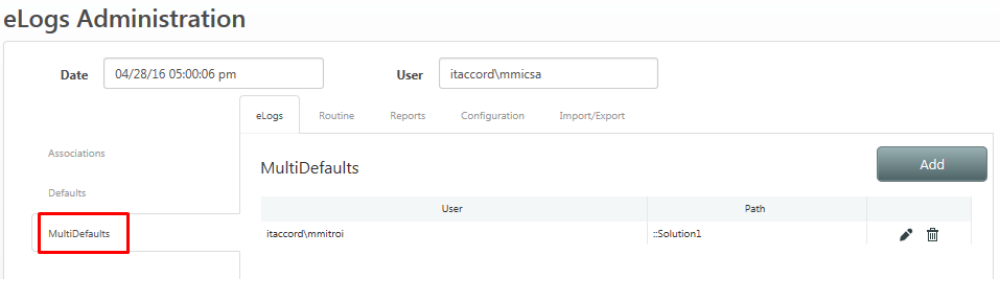


5. To delete a Default setting, click the **Delete icon**.

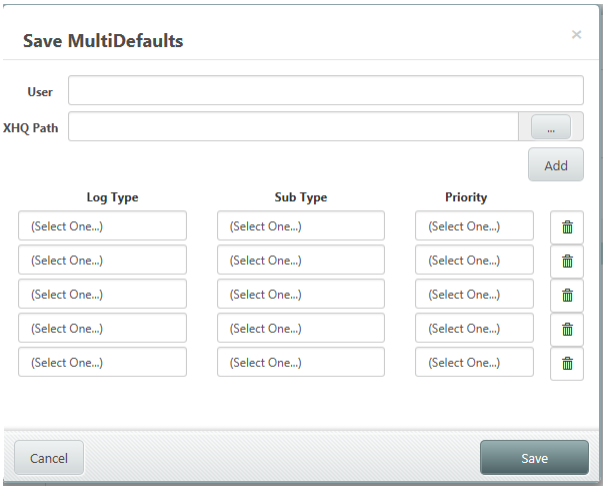


About Multiple Defaults

Whereas the "Defaults" tab allows you to configure a template for a single log entry, the "Multi Defaults" tab allows for multiple log entries.

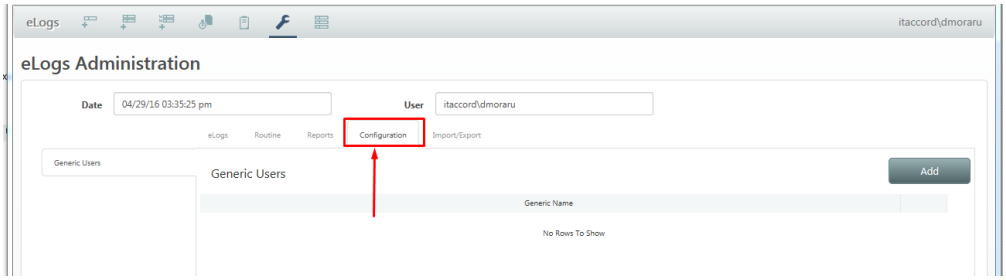


Click the add log icon ( ) to launch the Add Log page, which enables you to select the Type, SubType, and Priority for each log, based on a given *unique* User and *unique* Node.

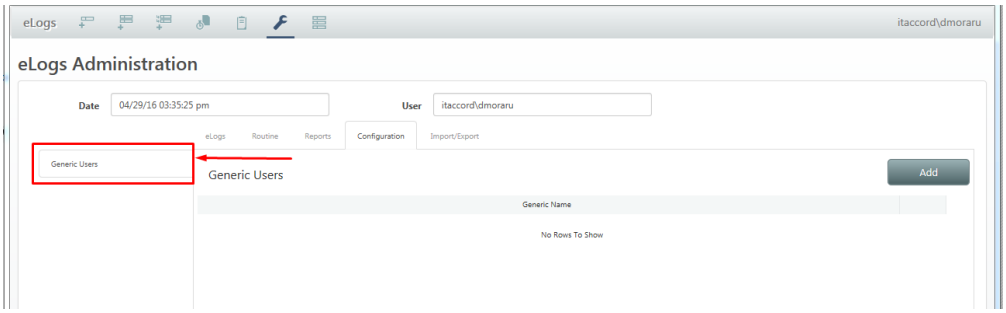


To configure generic users

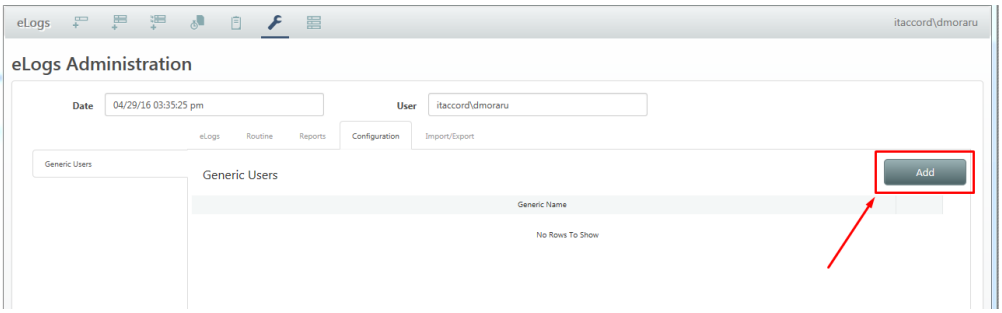
1. Click in **Config tab**.



By default, the **Generic Users** page is selected.



2. Click **Add**.

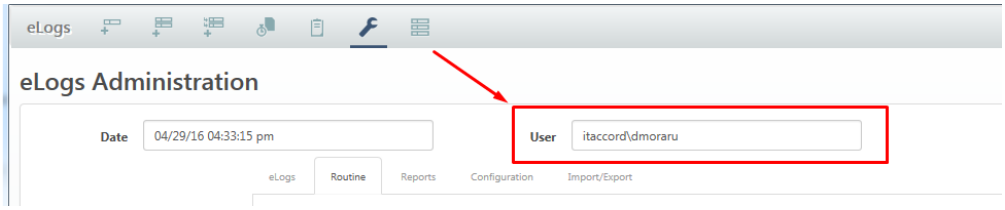


The "Add Generic User" dialog appears.

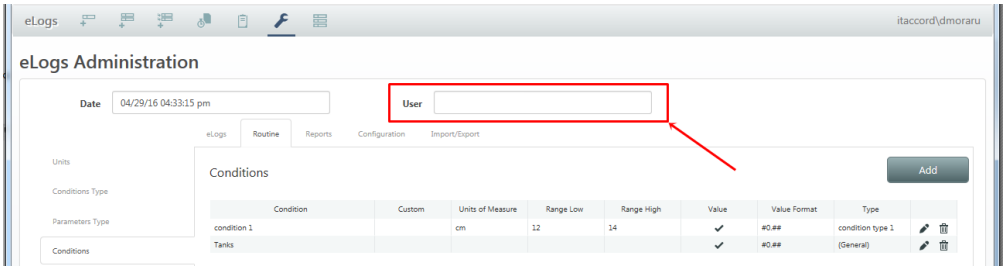
Field	Description
Generic ID	Enter the user ID. It must have the domain and user ID. *Example:* `Indx1\homer`

If the User ID of the user accessing eLogs matches the Generic ID, eLogs hides the User ID and instead will display a textbox where the user will have to enter his name/initial in order to identify himself. This option is used for Operators that share the same User ID.

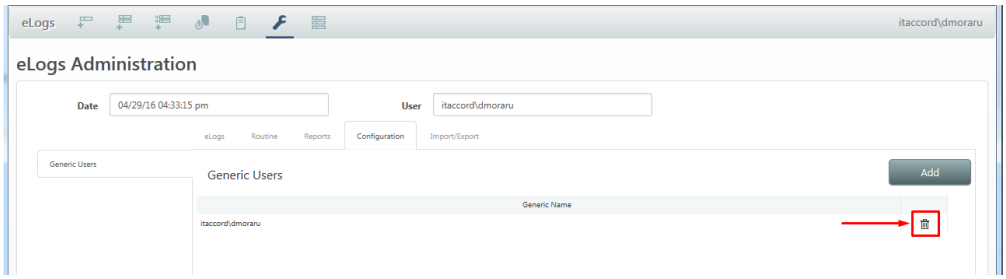
Not a generic User:



A generic User:



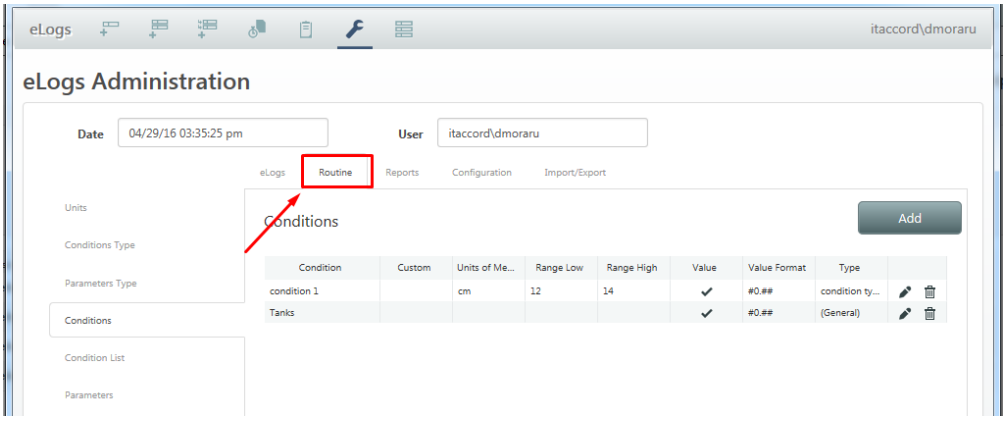
3. Click **Save**.
4. To delete a Generic User, click the **Delete icon**.



Routine Parameters

To configure Routine parameters

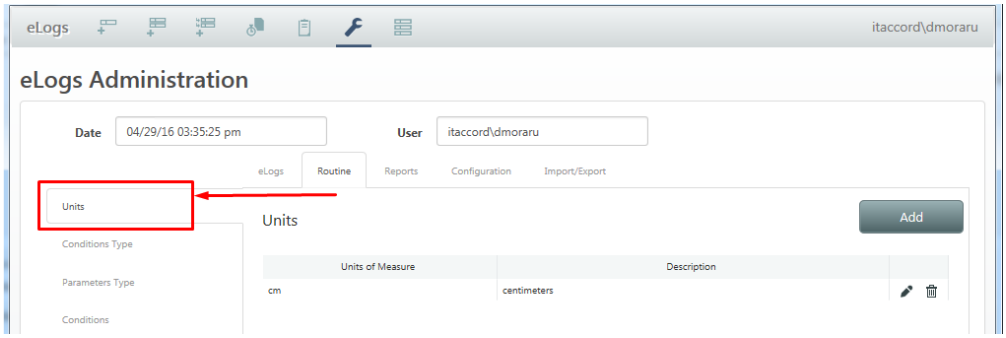
Click in **Routine tab**.



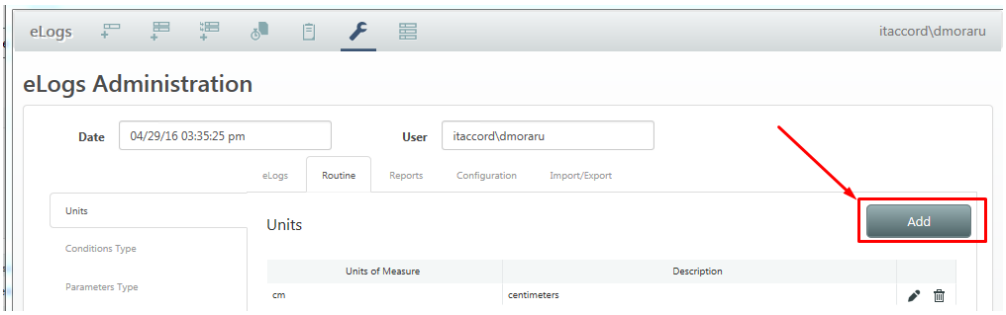
By default, the Conditions page is selected.

To configure Routine parameters: Units of Measure list

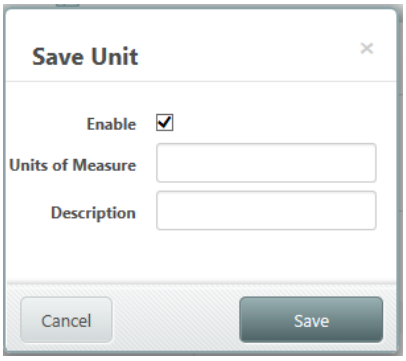
1. Click the **Units** page.



2. Click the **Add** icon.

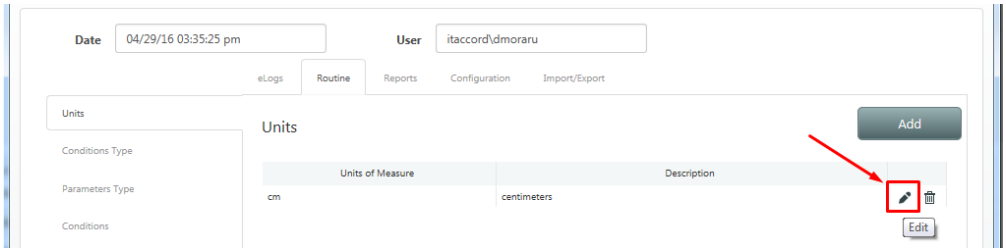


The "Unit Detail" dialog appears.

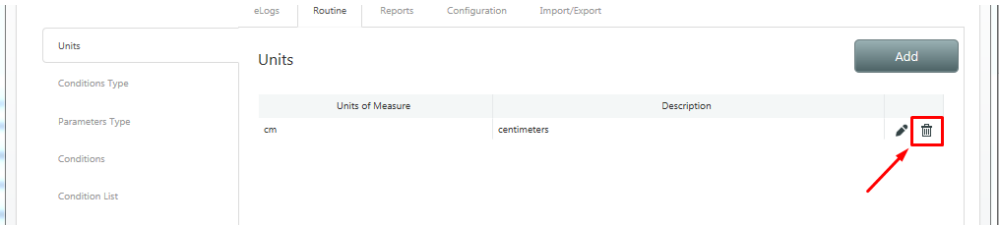


Field	Description
Enable	Check to Enable or clear to Disable the Unit of Measure. If the UOM is disabled, then this UOM is not available for selection in the "Condition Detail" dialog.
UOM	The Unit of Measure text or name. *Examples:* PSIA, Gallons, Meters, Miles, KM, RPM
Description	The description for the UOM. *Examples:* Pressure Atmospheric, Kilometres, Revolutions per Minute

3. Click **Save**.
4. To edit a UOM, click the **Edit icon**.



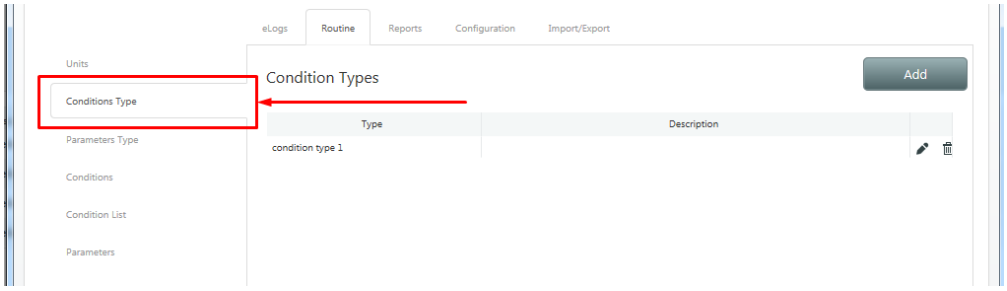
5. To delete a UOM, click the **Delete icon**.



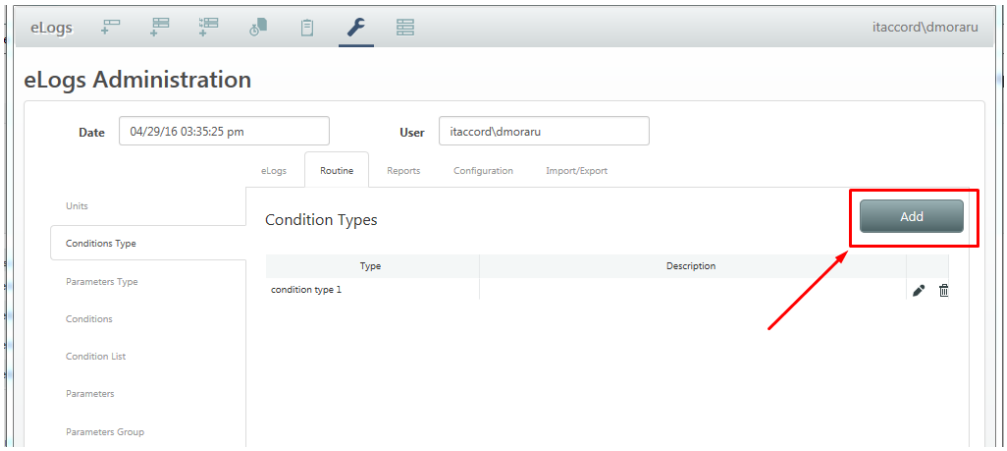
To configure Routine parameters: Condition Type

The *conditions types* are not required for the normal operation of eLogs. However, for large amounts of conditions, it provides a powerful way to filter the conditions when creating the conditions lists.

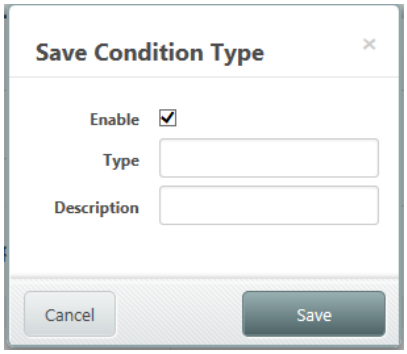
1. Click the **Cond. Type** page.



2. Click the **Add icon**.

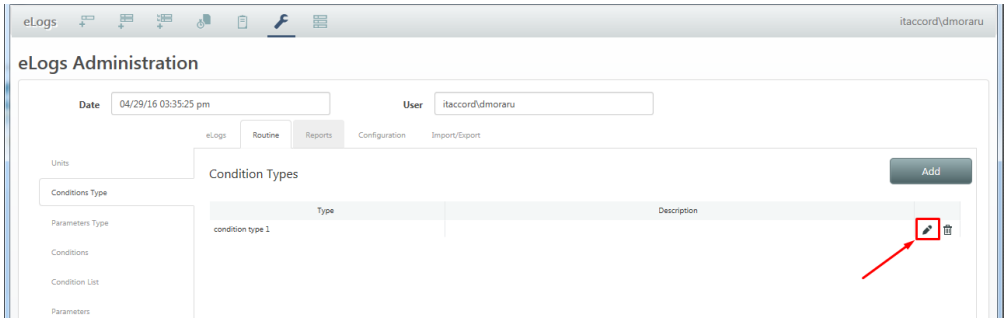


The "Condition Type" dialog appears.



Field	Description
Enable	Check to Enable or clear to Disable the Type. If the Type is disabled, then it is not available for selection in the Condition Detail dialog.
Type	The name of the Condition Type.
Description	The description for the Condition Type.

3. Click **Save**.
4. To edit a Condition Type, click the **Edit icon**.

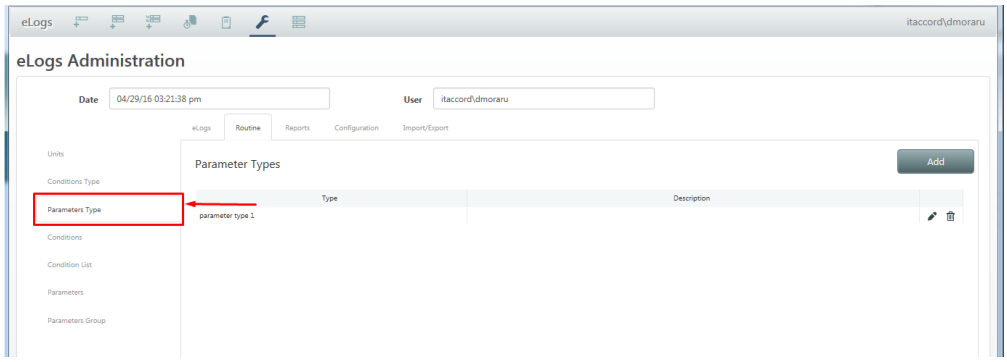


5. To delete a Condition Type, click the **Delete icon**.

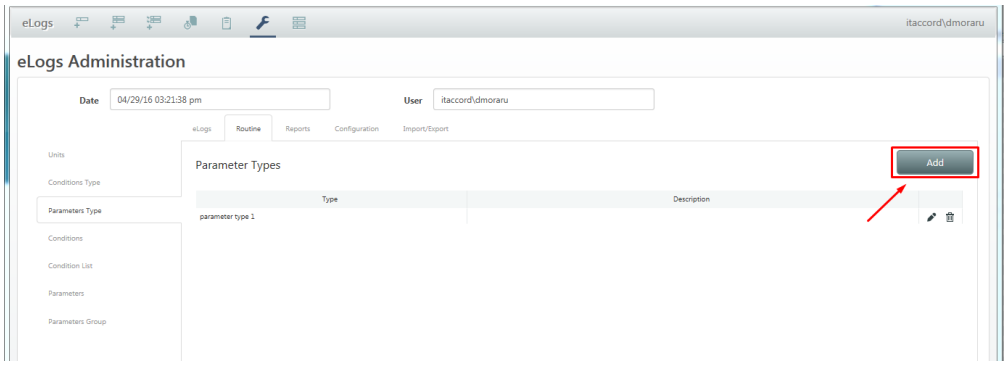
To configure Routine parameters: Parameter Type

The Parameter Types are not required for the normal operation of eLogs. However, for large amounts of parameters, it provides a powerful way to filter the parameters when creating the parameter group.

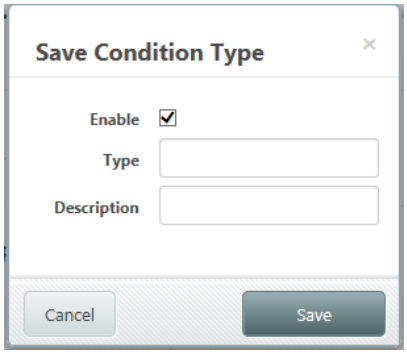
1. Click the **Param. Type** page.



2. Click the **Add icon**.

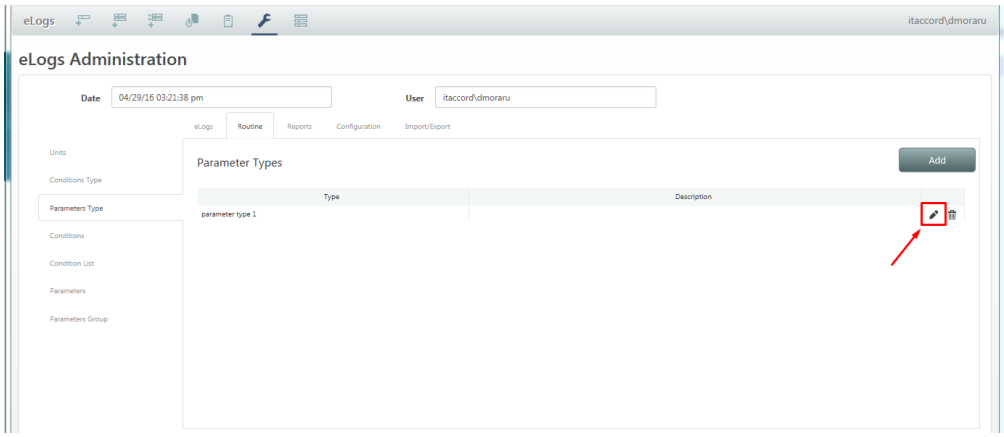


The "Parameter Type" dialog appears.



Field	Description
Enable	Check to Enable or clear to Disable the Type. If the Type is disabled, it is not available for selection in the "Parameter Detail" dialog.
Type	The name of the Parameter Type.
Description	The description for the Parameter Type.

3. Click **Save**.
4. To edit a parameter type, click the Edit icon.

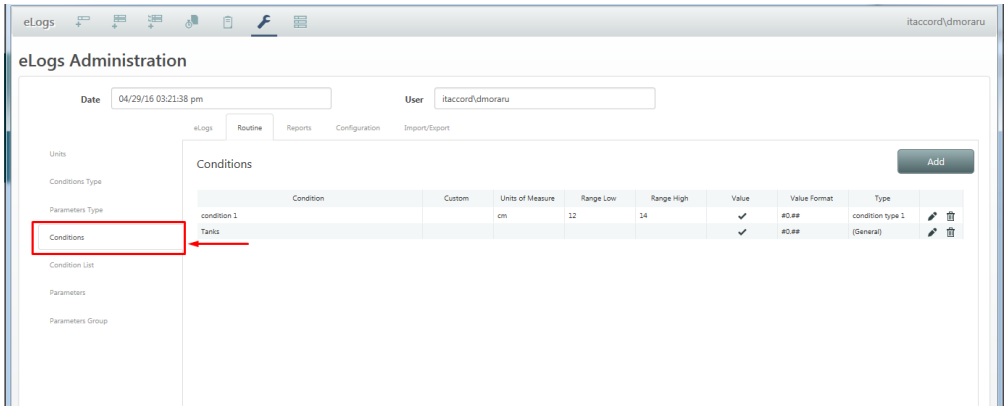


5. To delete a parameter type, click the **Delete icon**.

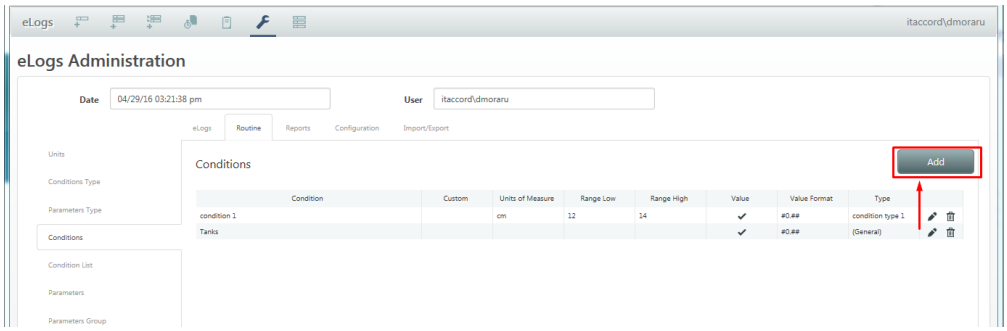
To configure Routine parameters: Condition

The Conditions are options available to the end user to select from the condition drop-down list. A Condition may or may not have a value associated with it.

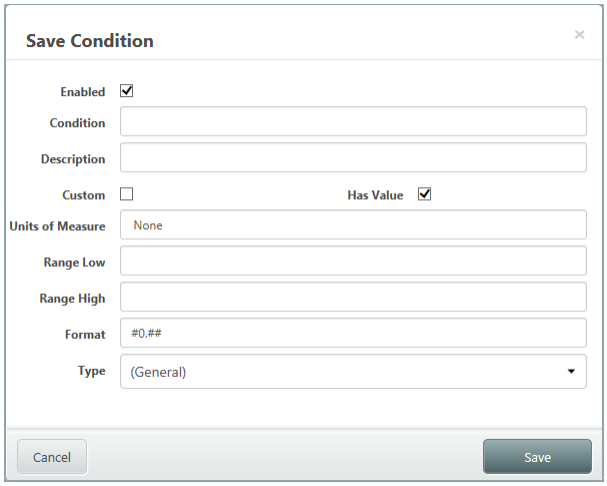
1. Click the **Conditions** page.



2. Click the **Add icon**.



The "Condition" dialog appears.



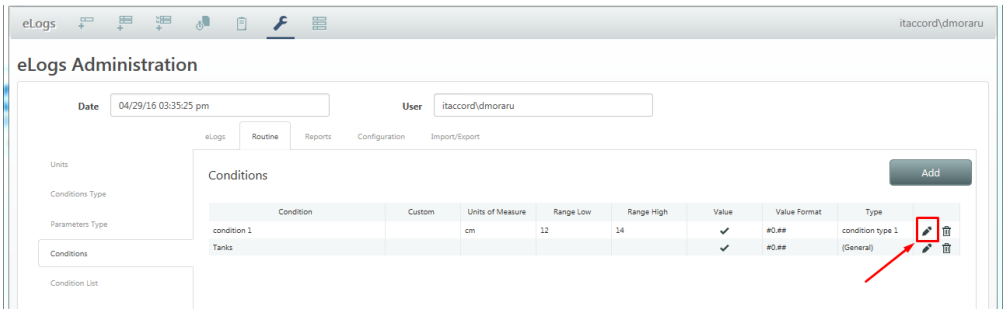
Field	Description
Enable	Check to Enable or clear to Disable the Condition. If the Condition is disabled, it is not available for selection in the "Condition List Detail" dialog box or to the end user.
Condition	The name of the Condition.
Description	The description for the Condition.
Custom	Check if the value to be entered is not numeric.
Has Value	Check if the condition has a value attached or related.
UOM	By default, this is None. However, if the Condition Value has Unit of Measure, then select the appropriate UOM from the drop-down. If the desired UOM is not available, then enter the UOM by adding a new UOM.
Range Low	The minimum value that can be entered.
Range High	The maximum value that can be entered
Format	Enter the format for the numeric values in the Routine Parameter screen. Consider the following examples.

Given value	Format	Displayed as
1000000	#,###,##0	1,000,000
1000000	#.###.##0	1.000.000
1000	#,##0	1,000
1000	#.##0	1.000
1000	####.00	1000.00
1000	####,00	1000,00
0.51	#.##	.51
0.51	#0.##	0.51
1.5367	#0.0##	1.537
1.5367	#.#	1.5

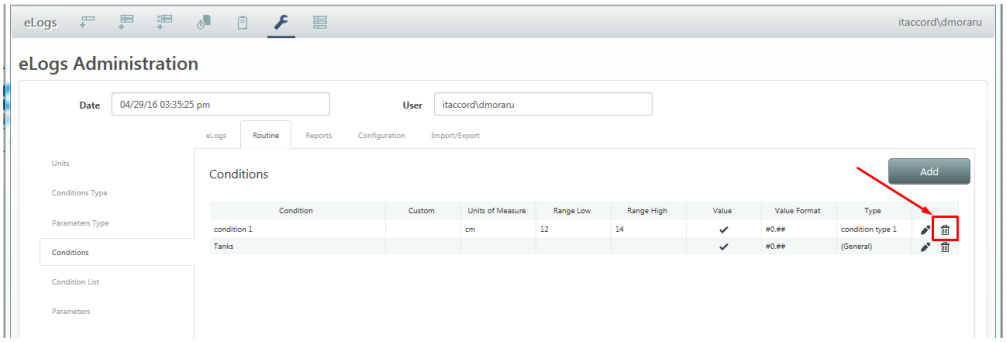
Note: This property applies for localization and also for significant digits.

Type	Select a Condition Type from the drop-down option.

3. Click **Save**.
4. To edit a Condition, click the **Edit icon**.



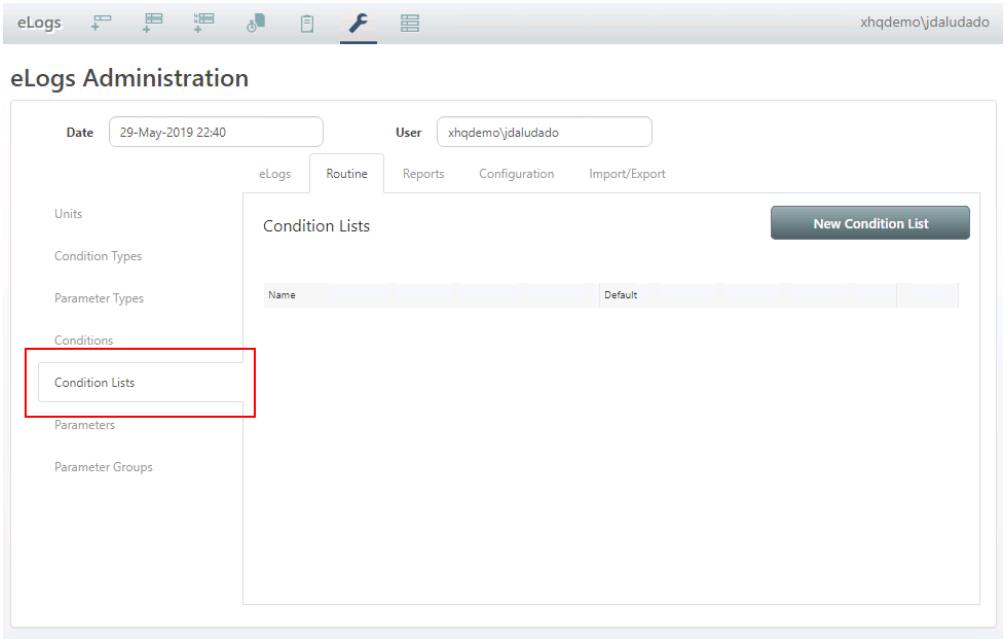
5. To delete a Condition, click the **Delete icon**.



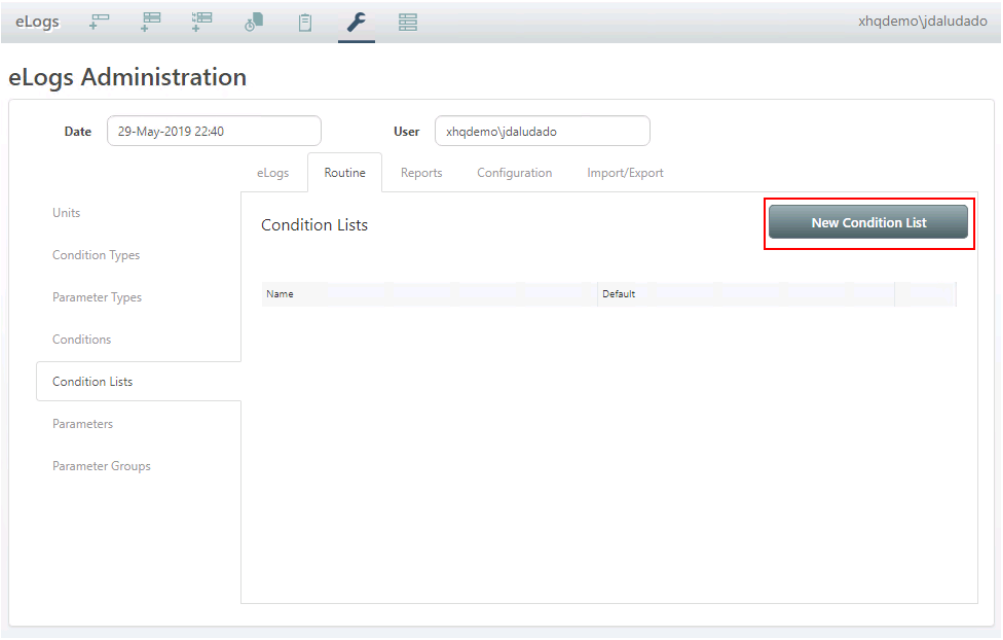
To configure Routine parameters: Condition List

The Conditions List groups the conditions in the drop-down that are available to the end user.

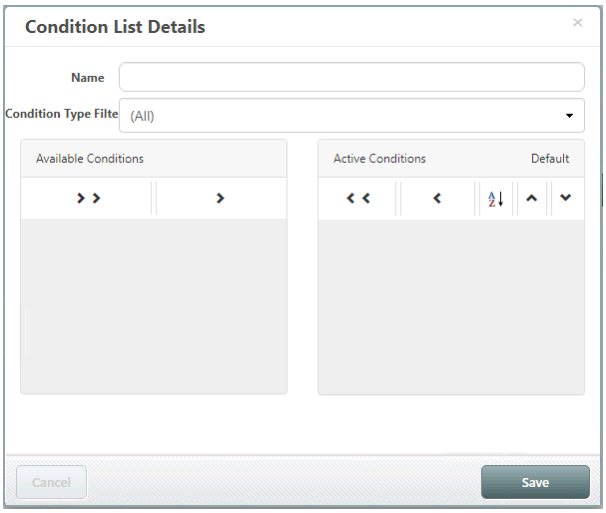
1. From the **Routine tab**, click **Condition Lists** on the left navigation panel.



2. Click the **New Condition List** button.



The "Condition List Details" dialog appears.



You can save shift reports in progress, without having to answer every question.
Refer to the topic, *To set a default condition*, for details.

Field	Description
Name	The name of the Condition List.
Condition Type Filter	Filters the visible conditions based on the condition type. **Important:** Do a **Select (All)** before saving the Condition List. The window throws an error if you do a Select (All), which is required to do a final verification before saving the conditions in to the list.
Available Conditions	The list of available conditions. To make active, select (to highlight) the condition row and click the right › arrow.
Active Condition	The selected conditions to be shown in this condition list. To remove a condition, check the row and click the left ‹ arrow. This moves the condition back to the list of available conditions. Use the up ˆ and down ˇ arrows in order to change the order of the conditions. If you want to arrange the conditions alphabetically, click the icon to sort the list accordingly.
Default	Select the default condition for the parameters. You can configure defaults for some, none, or all conditions. at runtime, new shift reports are created using the default conditions.

3. Click **Save**.

To set a default condition

Saving a Shift Report in Progress

You can save shift reports in progress, without having to answer every question. During configuration, you have the option of specifying a default condition for parameters in the "Condition List Details" dialog. You can configure defaults for some, none, or all conditions.

At runtime, new shift reports are created using these default conditions. Since a Shift Report cannot be saved until a condition has been selected for every parameter that requires a condition, this option allows users to quickly get to a state where a Shift Report can be saved.

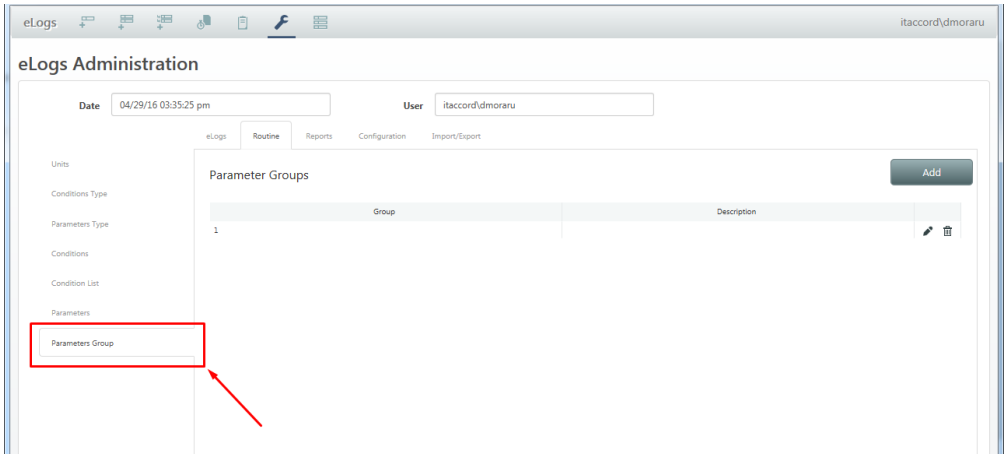
1. Open eLogs, and from the toolbar, click the **Administration icon**.
   The "eLogs Administration" page appears.
2. Click the **Routine tab**.
3. From the left panel, click **Condition Lists**.
4. **Select** a condition and click the **Edit icon**.
   The "Condition List Details" dialog appears. "Select One" is the current default.
5. From the list of **Active Conditions**, click the **radio button** next to the condition you want to set as the default.

6. Click **Save**.
   This returns you to "eLogs Administration" page. And from the Condition Lists table, you can determine the Default condition.

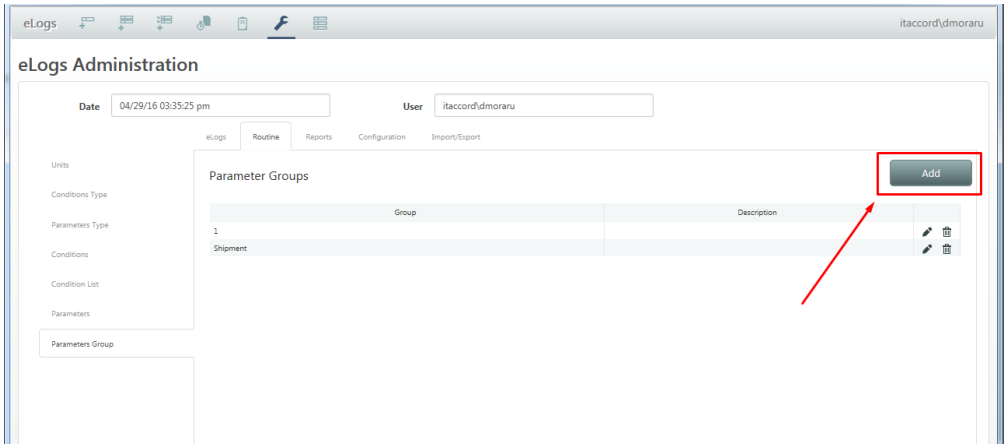
To configure Routine parameters: Parameters Group

The Parameters Group allows the grouping of parameters for use in shift reports, or simply for association. It provides an easy way to handle groups of parameters rather than dealing with a multitude of single parameters. This is especially helpful when the solution has hundreds of parameters.

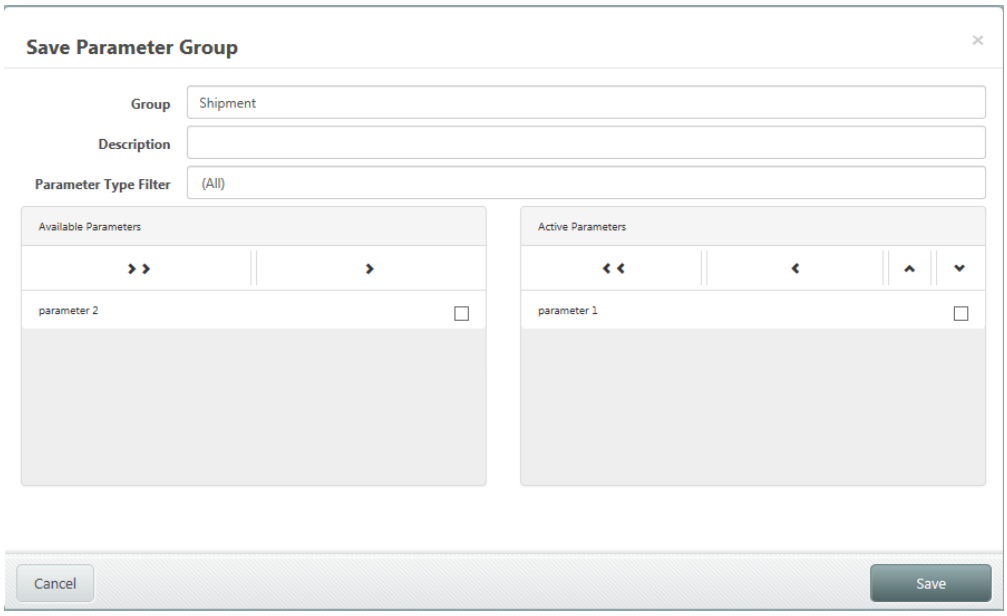
1. Click **Param. Grp.** page.



2. Click the **Add icon**.

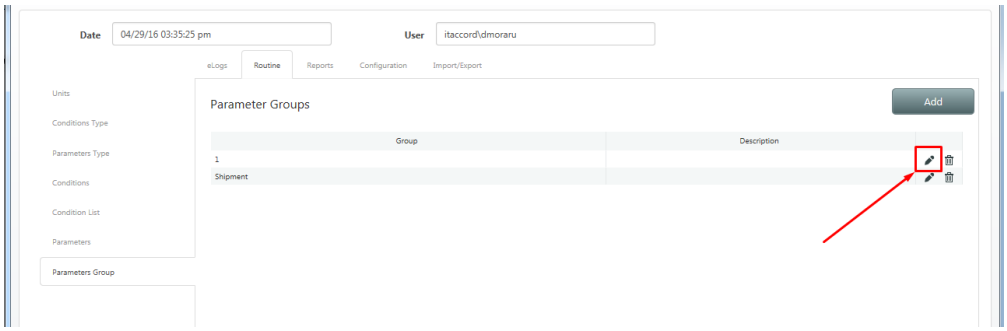


The "Parameters Group Details" dialog appears.

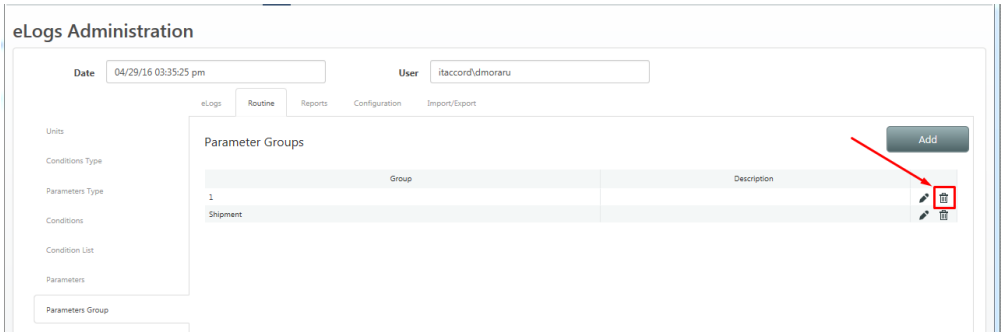


Field	Description
Group	The name of the group.
Description	The description of the parameters group.
Param. Type Filter	Filters the visible parameters based on the parameter type. **Important:** Do a **Select (All)** before saving the Parameters Group The window throws an error if you do select (All), which is required to do a final verification before saving the parameters group.
Available Parameters	The list of available parameters to be included in the parameters group. To make active, select (to highlight) the parameter row and click in the right › arrow.
Active Parameters	The selected parameters to be shown in parameters group. To remove a parameter, check the row and click the left ‹ arrow. This moves the parameter back to the list of available parameters. Use the up ˆ and down ˇ arrows in order to change the order of the parameters. If you want to arrange the parameters alphabetically, click the icon to sort the list accordingly.

3. Click **Save**.
4. To edit a Parameters Group, click the **Edit icon**.



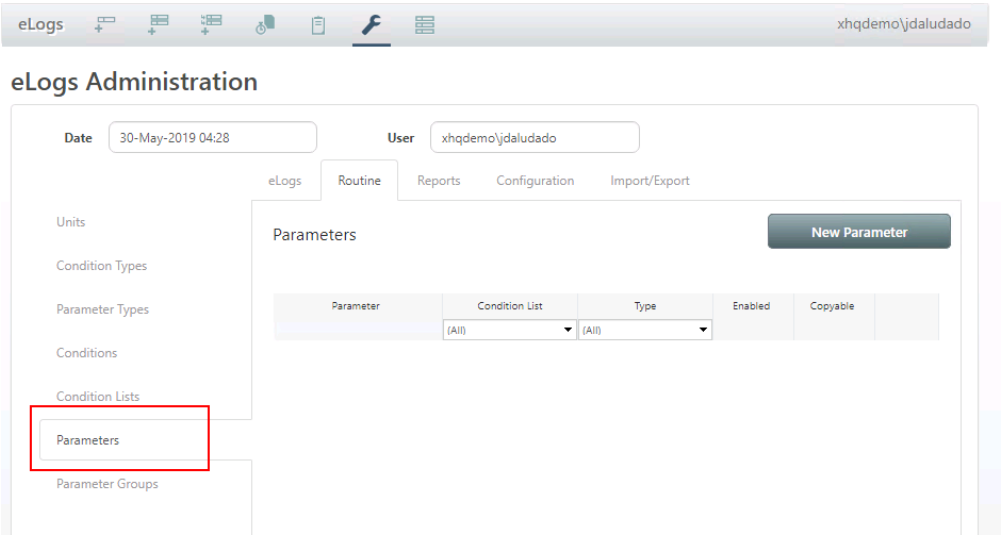
5. To delete a Parameters Group, click the **Delete icon**.



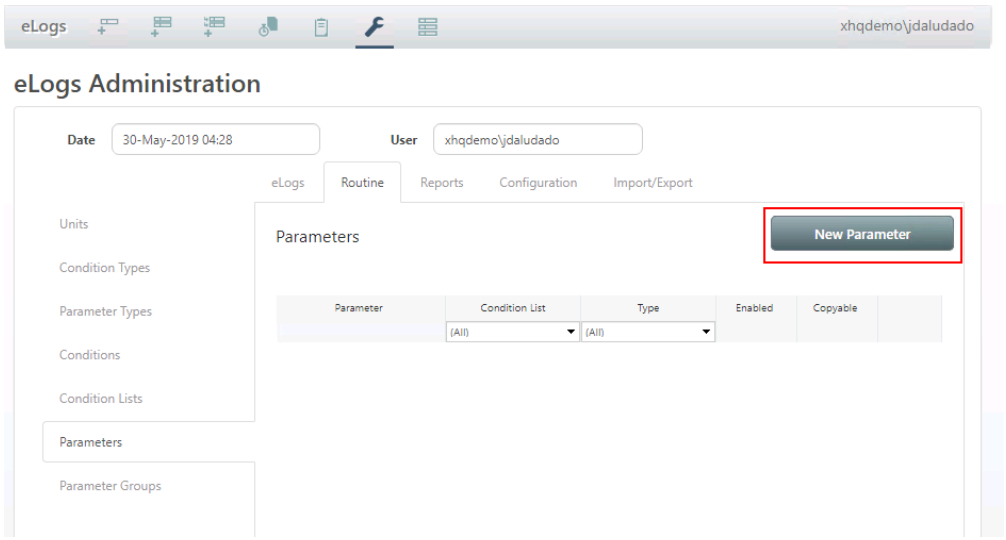
To configure Routine parameters: Parameters

The Parameters are the unique elements that hold the values, comments, and conditions to be entered.

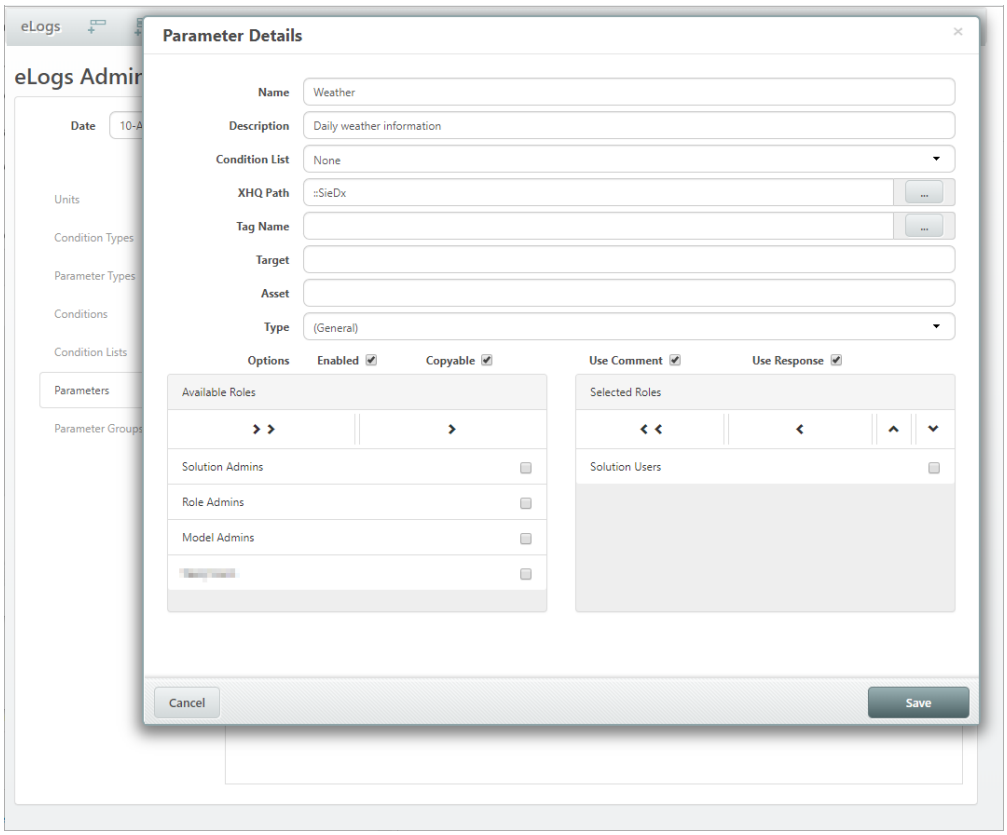
1. From the **Routine tab**, click **Parameters** on the left navigation panel.



2. Click the **New Parameter** button.



The "Parameters Details" dialog appears.



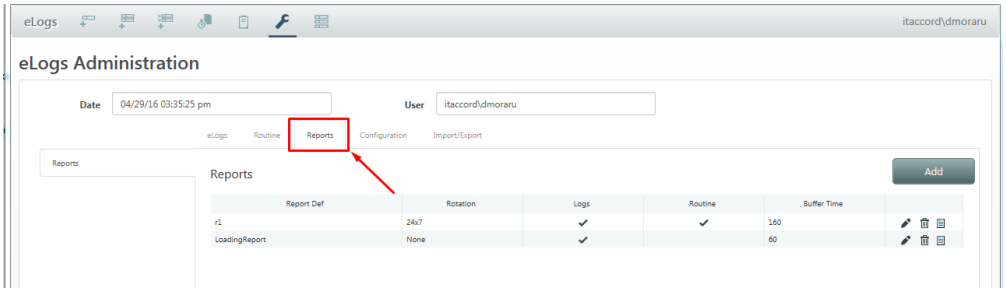
Field	Description
Name	The name of the parameter. *Examples:* Materials, Ship name, Crude Type, degree API, Tanks
Condition List	Select the conditions list associated or attached to this parameter, or select None from the drop-down list.
XHQ Path	The XHQ path associated with the routine parameter. **Note:** This field is not required, it is used for reference or filtering in XHQ collections.
Tag Name	The tag name associated with the routine parameter. Note: this fields is not required, it is use for reference or filtering in XHQ collections
Target	The target associated with the routine parameter. **Note:** This field is not required, it is used for reference or filtering in XHQ collections.
Asset	The asset associated with the routine parameter. **Note:** This field is not required, it is used for reference or filtering in XHQ collections.
Type	Select the parameter type.
Options	Check the box to enable the option. • **Enabled** Check to enable (or clear to disable) the parameter. If the parameter is disabled, it is not available for selection in the Parameter Group detail dialog or visible to the end user • **Copyable** Check to enable the user to copy a parameter answer from the previous shift. • **Use Comment** Check to display a comment box for each routine parameter. • **Use Response** Check to display a response box for each routine parameter.
Available Roles	The available roles to grant access to the routine parameter. Select (to highlight) the role check row and click the right › arrow to move the role to the Active Roles list.
Selected Roles	The selected roles that are granted access to the parameter To remove a role, check the row and click the left ‹ arrow. This moves the selected role back to the list of Available Roles.

3. Click **Save**.

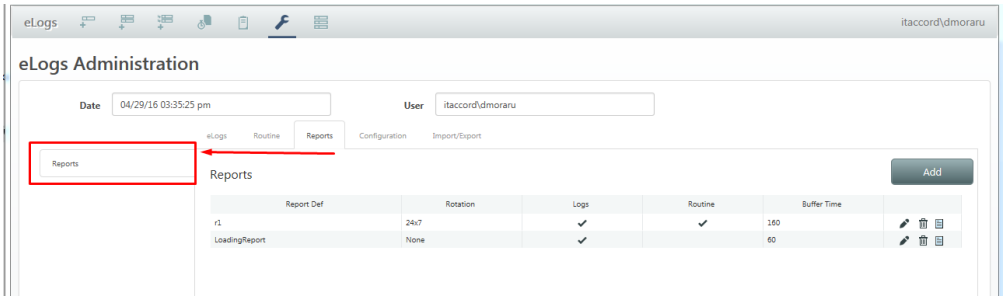
Reports

To configure shift Reports

Click the **Reports tab**.



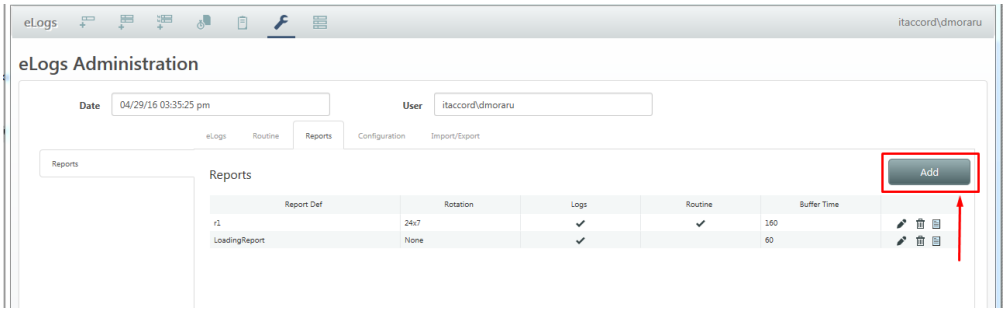
By default, the Reports page is selected.



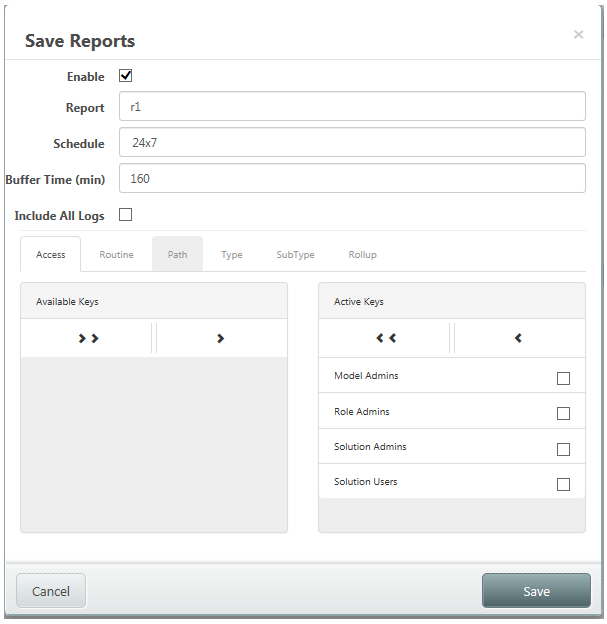
Since all reports have logs, the Logs column is always checked.

To configure shift Reports: Report

1. Click in **Add icon**



The "Report Details" dialog appears.



Field	Description
Enable	Check to Enable or clear to Disable the report. If the report is disabled, it is not available for selection or is not visible to the end user.
Report	The name of the report.
Schedule	Select the schedule that applies to the report. For more information on configuring the schedule, go to the topic, *Schedule Maintenance Tool*, located in the XHQ ANS User's Guide.
Buffer Time (Min)	The buffer time is the additional time to keep the shift report open, after the shift report has expired. This allows the shift manager some time to finish his report after the shift.
Include All Logs	Check to include all logs.

The bottom half of the "Report Details" dialog enables you to configure the **Access**, **Routine**, **Path**, **Type**, **SubType** and **Rollup**.

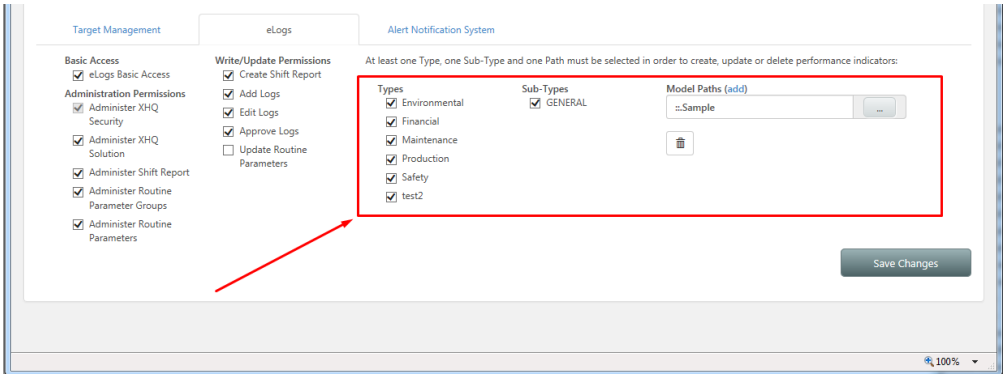
See the topic, *More About Report Details*, for more information.

Report Details: Logs

Field	Description
Available Roles	The available roles that have been granted access to the report. To activate, select the role and click the right › arrow.
Active Roles	The selected roles that have been granted access to the report. To remove a role, select the role and click the left ‹ arrow. This moves the role back to the list of Available Roles.

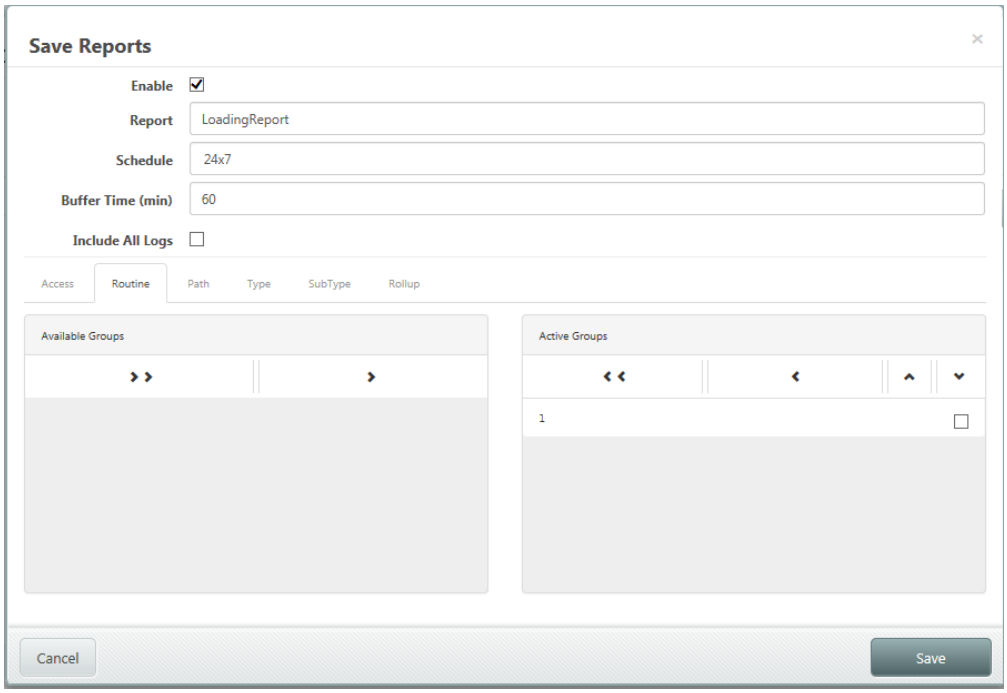
The logs in the shift report are filtered based on the combination of roles configurations. For example, if

only a single role is selected, then the logs are filtered based on the Type, Subtype, and XHQ Path configured in the Security screen of PM Administrations.



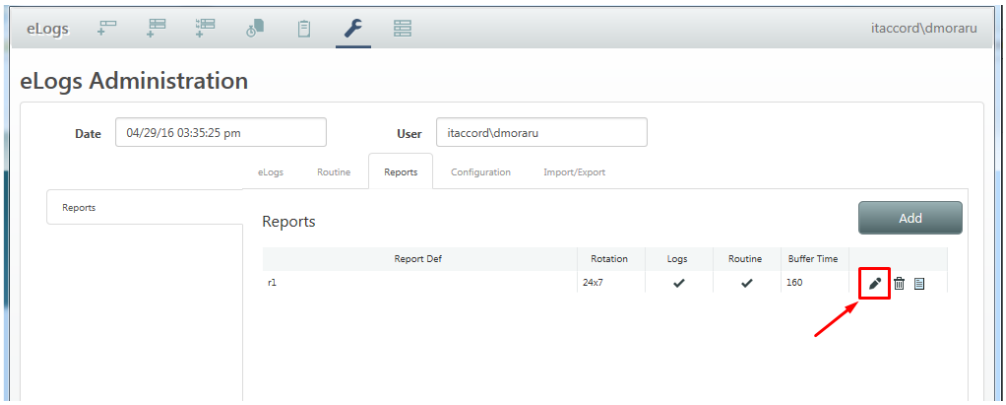
If the report has multiple roles selected, then the logs in the report are filtered based on the combinations of all the Types, Subtypes, and Paths selected.

2. Click the **Routine tab**.

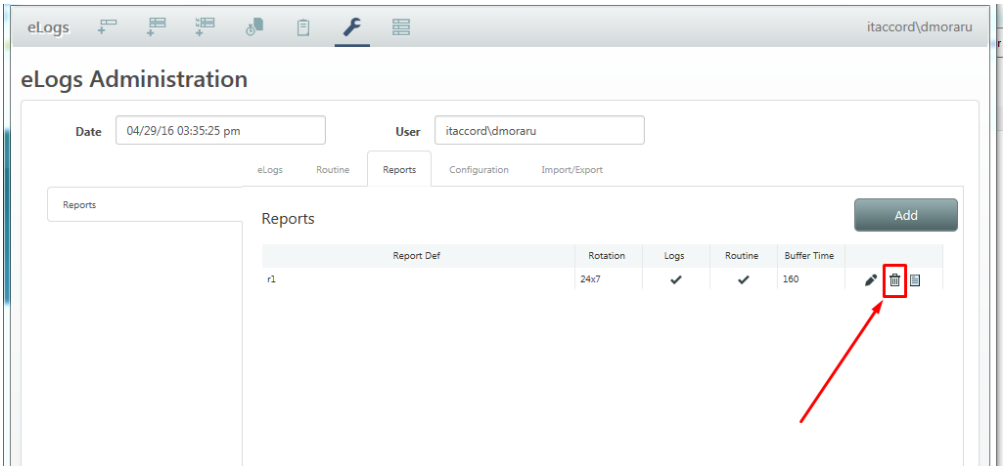


Field	Description
Available Groups	The available parameter groups that can be included in the report. To activate, select the group and click the right › arrow. This moves the group to the Active Groups list.
Active Groups	The selected parameter groups that can be included in the report. To remove a group, select it and click the left ‹ arrow. This moves the group to the Available Groups list.

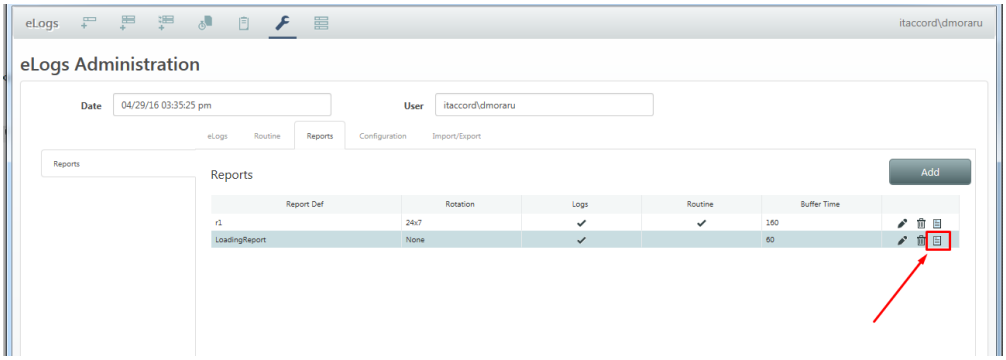
3. Click **Save**.
4. To edit a Report, click the **Edit icon**.



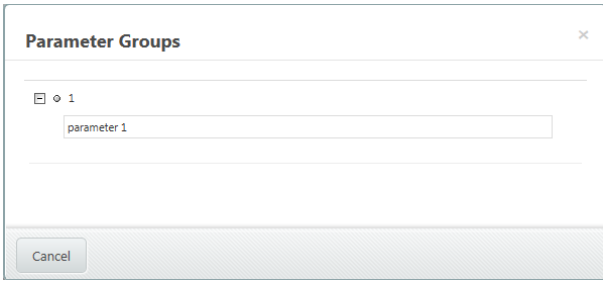
5. To delete a Report, click the **Delete icon**.



6. To see the Routine parameters associated with the Report, click the **Explorer icon**.



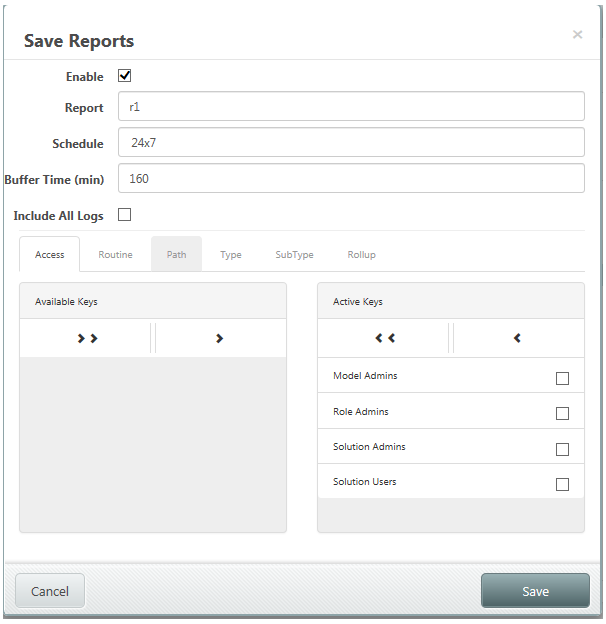
The "Report Explorer" dialog appears. This dialog allows you to explorer the parameter groups and parameters that are associated with the report.



More About Report Details

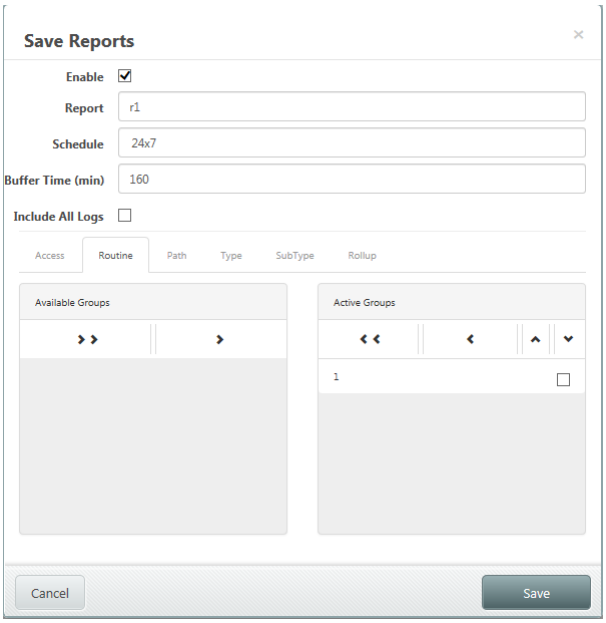
The Report Details page includes the following tabs for configuration.

From the **Access tab**, you can limit access to the report for selected roles. Only the users in the selected roles can modify the report.



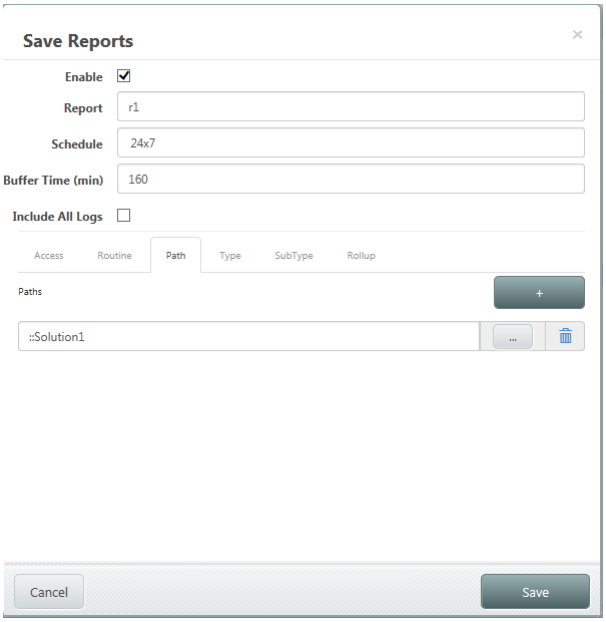
Report Details page: Access tab

The **Routine tab** enables you to configure which Routine Groups are used and/or are available in the report.



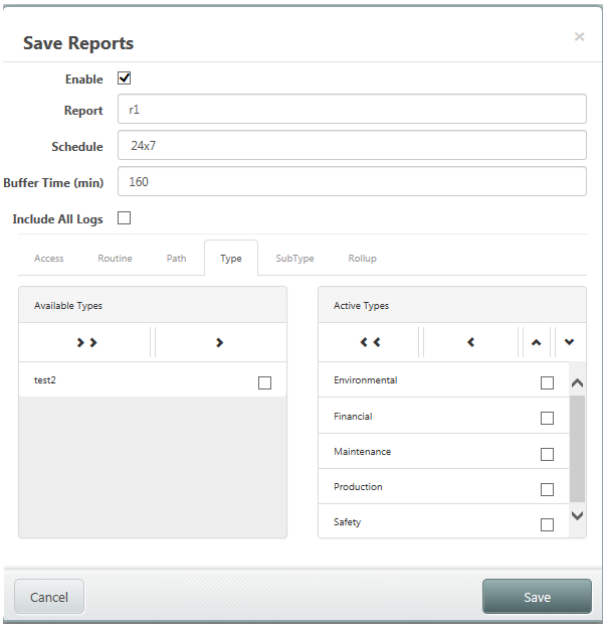
Report Details page: Routine tab

From the **Path tab**, you can constrain the logs displayed in the report according to the path you select.



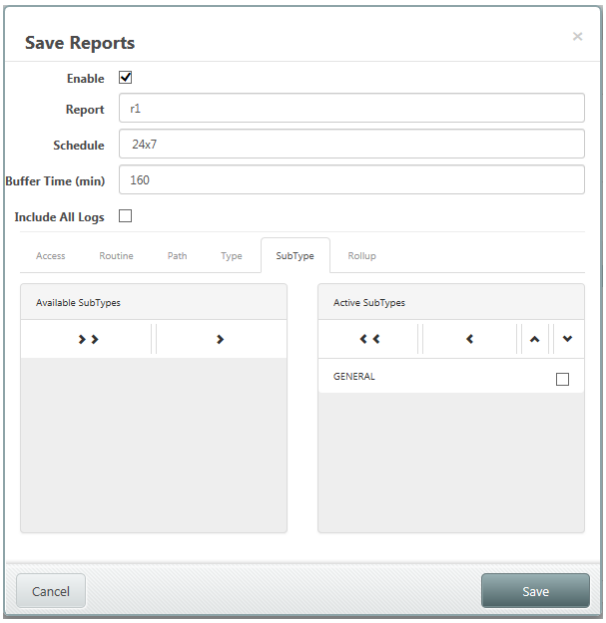
Report Details page: Path tab

From the **Type tab**, you can constrain the logs displayed in the report according to the type(s) you select.



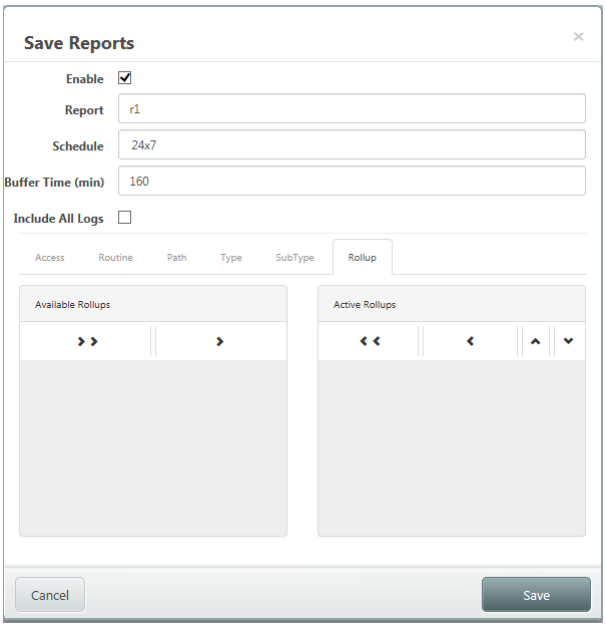
Report Details page: Type tab

From the **Subtype tab**, you can constrain the logs displayed in the report according to the subtype(s) you select.



Report Details page: SubType tab

Rollup shift logs from child reports are supported. From the **Rollup tab**, you can set more than one rollup report. When a sift report is created, all the shift logs in the rollup reports are displayed.



Report Details page: Rollup tab

Export/Import eLog Admin Configurations

The XHQ Application Server supports the import to and export from XML for eLogs.

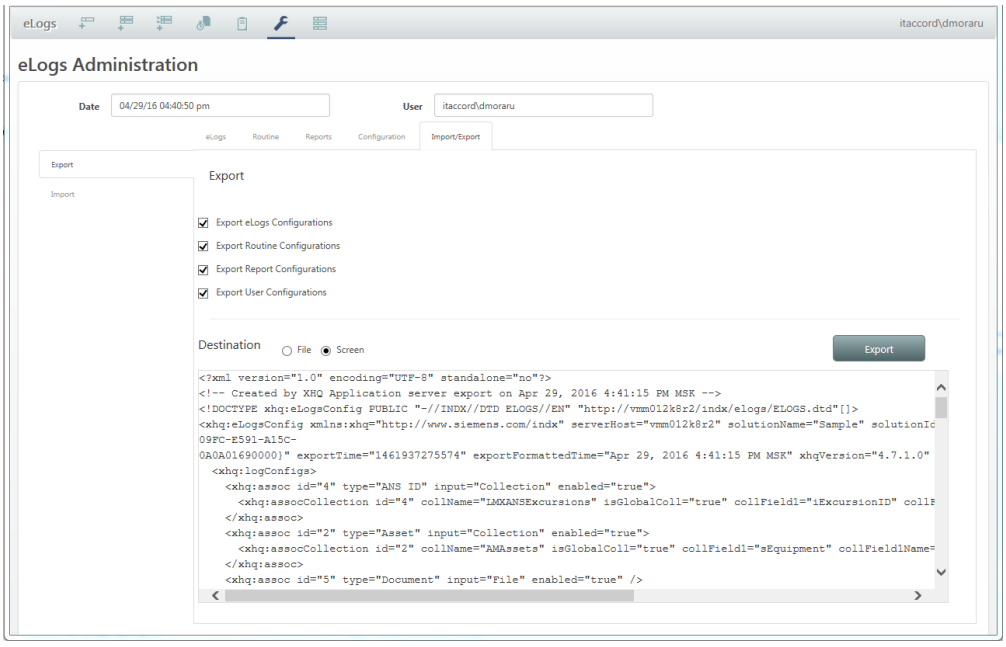
See Appendix D for the *DTD Validation Syntax* and the *Exported XML Example*.

Exporting the Configurations

To export the eLog configurations, you must be a **Solution Administrator** and have at least **one other eLogs permission checked** (for example, "eLogs Basic Access" permissions).

You can export to XML all or part of the following eLogs configuration groups:

- eLogs Configs
- Routine Configs
- Report Configs
- Generic User Configs



eLog Main Window: Export Screen

To export the eLog admin configurations

1. From the eLog Main window toolbar, click the **Administrative Tools icon**.
   The "Administrative Tools" page appears.
2. From the set of tabs running horizontally (below the user name), click the **Import/Export tab**.
   The "Import/Export" screen appears.
3. From the set of tabs running vertically to the left of the screen, click the **Export tab**.
   The "Export" screen appears.
4. **Check** the box(es) next to the configuration(s) you want to export.
5. For **Destination**, choose:
   - **File** to save the output XML to a location you specify.

   or
   - **Screen** to display the output XML in the text box at the bottom of the Import/Export screen.
6. Click **Export**.

See Appendix D for the *DTD Validation Syntax* and the *Exported XML Example*.

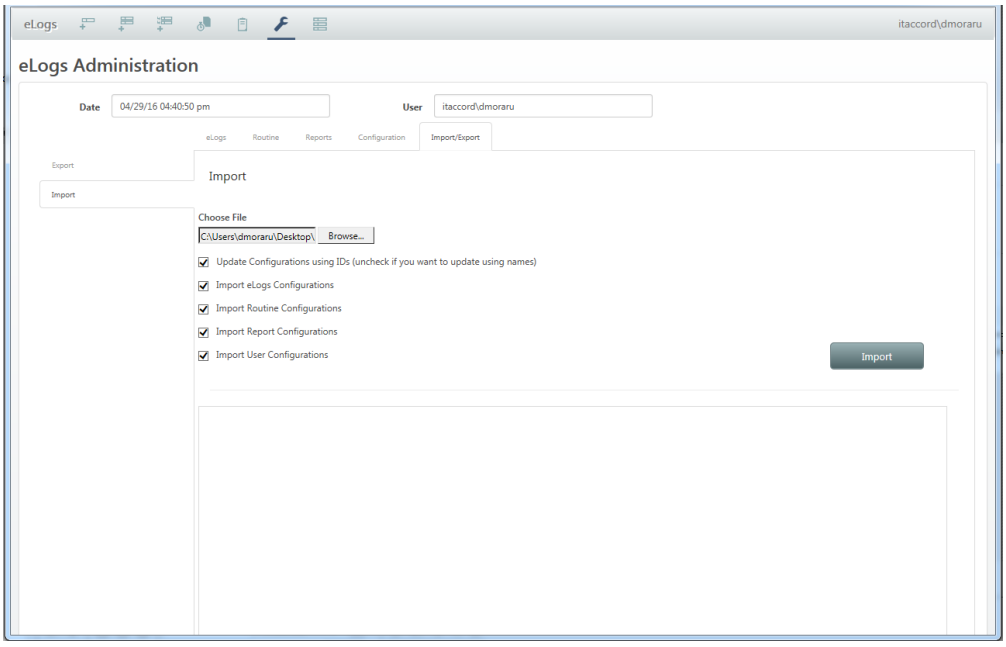
Importing the Configurations

Importing eLog configurations is more restrictive that exporting. To import, you must be/have **all** of the following:

- A Solution Administrator;
- In a role that has "eLogs Basic Access" permissions;
- All eLogs permissions checked, which the exception of the "Administer XHQ Security" permissions, which is not required for importing.

Once the export of the eLog Admin configuration(s) is complete, you can import from the XML any of the given configurations that were exported.

The eLog import/export functionality only applies to Admin configurations metadata. Currently, eLog realtime data cannot be exported or imported using the XML mechanism.



eLog Main Window: Import Screen

To import the eLog admin configurations

1. Open the **Administrative Tools** page and, from the set of tabs running horizontally (below the user name), click the **Import/Export tab**.
   The "Import/Export" screen appears.
2. From the set of tabs running vertically to the left of the screen, click the **Import tab**.
   The "Import" screen appears.
3. Click **Browse**, to locate the XML file to import.
   Return to the "Import" screen.
4. Do one of the following:

- If you are exporting/importing configurations from the **same machine**, then check **Update Configs Using IDs**. By default, this option is checked.

or

- If you are migrating configurations **between different machines**, then uncheck **Update Configs Using IDs**. In this case, names are used (instead of IDs) when updating.

5. **Check** the box(es) next to the configuration(s) you want to import.
6. Click **Import**.

8 | Lost Opportunity and Reason Management

Reason Management enhances the XHQ Alert Notification System (ANS) by giving its users the ability to analyze the effects of out-of-tolerance situations, or ***Excursions***. This is done by assigning the ***Reason(s)*** and identifying a numeric value corresponding to the cost of the ***Lost Opportunity*** (LO) that was caused by the Excursion. Default Reasons are assigned in XHQ ANS when an Alert is defined.

Refer to the Glossary of Terms for descriptions of the terms related to Reason Code Management. These terms are shown in ***bold italics*** the first time they appear in the general text of this section.

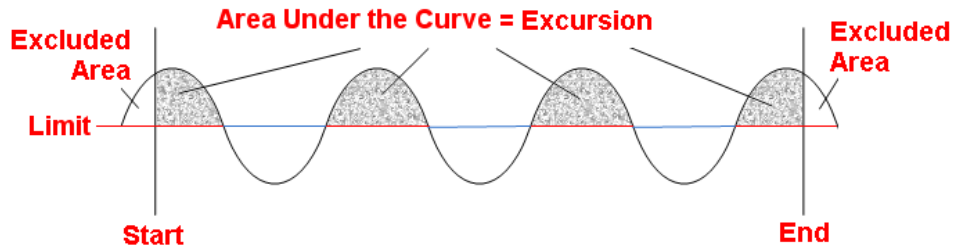
For more information on LO, go to the section, *Lost Opportunity Configuration*, located in the XHQ ANS User's Guide.

About Lost Opportunity

The Lost Opportunity (LO) extension module provides a mechanism to normalize the cost associated with a process deviation. LO is calculated for each deviation as well as defined intervals in the system. These LO values are then assigned Reason Codes, which are then used to aggregate the LO values across the XHQ hierarchy. Consequently, this enables you to analyze the best/worst actors in the process.

Configuring and saving LO, as well as importing or exporting LO configurations, **requires an LO License**.

To do this, a factor is used to scale the area under the deviation curve. Larger factors are applied for more important or more costly impact. The LO is calculated on defined intervals and aggregated up over periods.



F x AUC = LOC

Where:

F – Factor

AUC – Area Under the Curve (Excursion)

LOC – Lost Opportunity Cost

The LO data is then stored so that it is available for visualization and reporting. Once the LO configuration is saved using the XHQ ANS Condition Definition, a database store procedure calculates the LO time slices based on the Excursion duration and shift definitions for that particular LO configuration.

LO configurations can only be defined for HI/LO and Deviation detector types. For more information, go to the topic, *Lost Opportunity Configuration*, located in the XHQ ANS User's Guide.

This procedure is run by the XHQ Application Server at the same "scan period" that is set in the properties file.

You can configure the scan period using the XHQ Application Server properties file. The default period is 60 seconds. This is also the minimum supported scan period value.
For more information, see the topic, *Application Server*.

After each scan, the XHQ Application Server processes all new time slices that were created during the scanning period. Using the associated excursion data and the defined normalization factor, the corresponding area under the curve (AUC) and LO Cost are calculated and stored in the database.

The AUC is calculated by XHQ.

Configuring Lost Opportunity

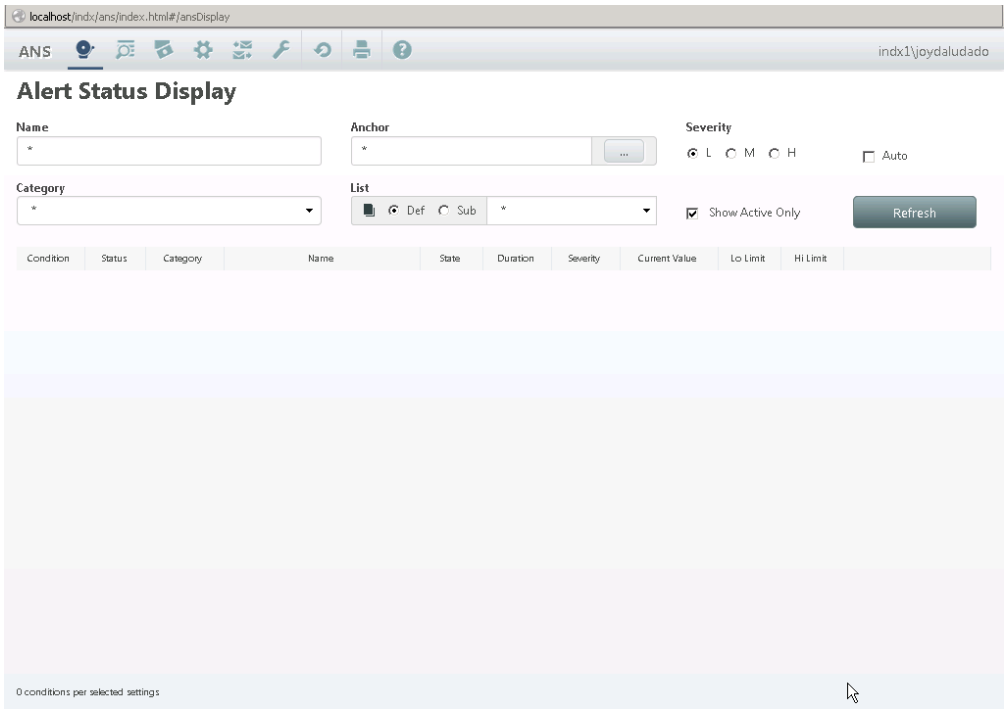
This topic shows you how to configure Lost Opportunity (LO) from the XHQ Platform Management site. You may also configure LO directly in XHQ ANS.

For more information, go to the topic, *Lost Opportunity Configuration*, located in the XHQ ANS User's Guide.

Note, LO configurations can only be defined for HI/LO and Deviation detector types.

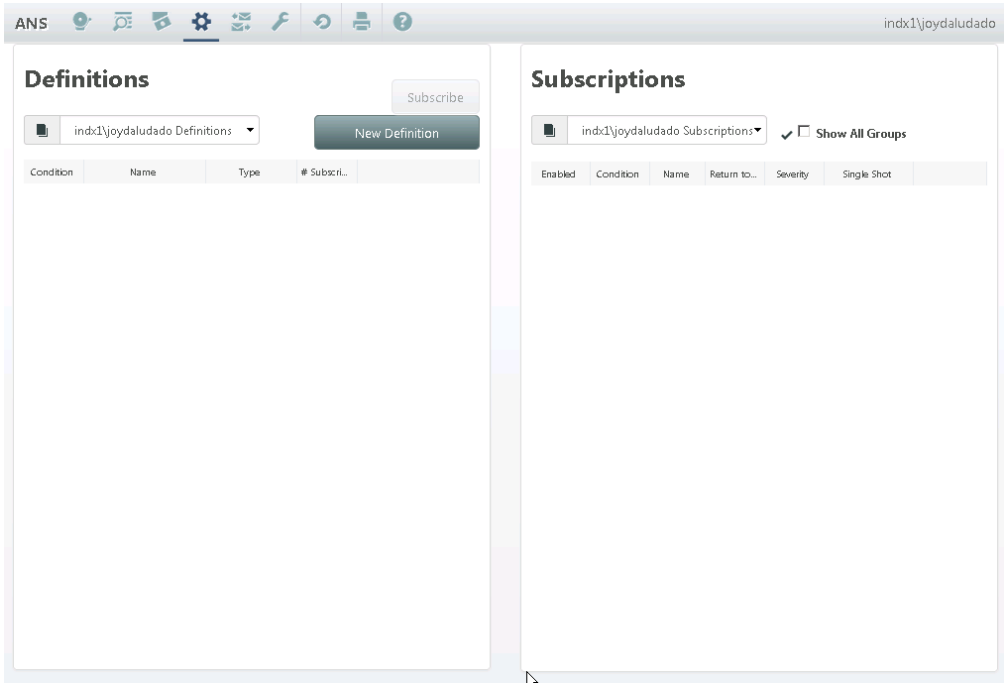
To configure Lost Opportunity

1. From the **XHQ Platform Management** homepage, under **Configuration** > **Alert Notification System**, click **browse**. The XHQ ANS main page appears.



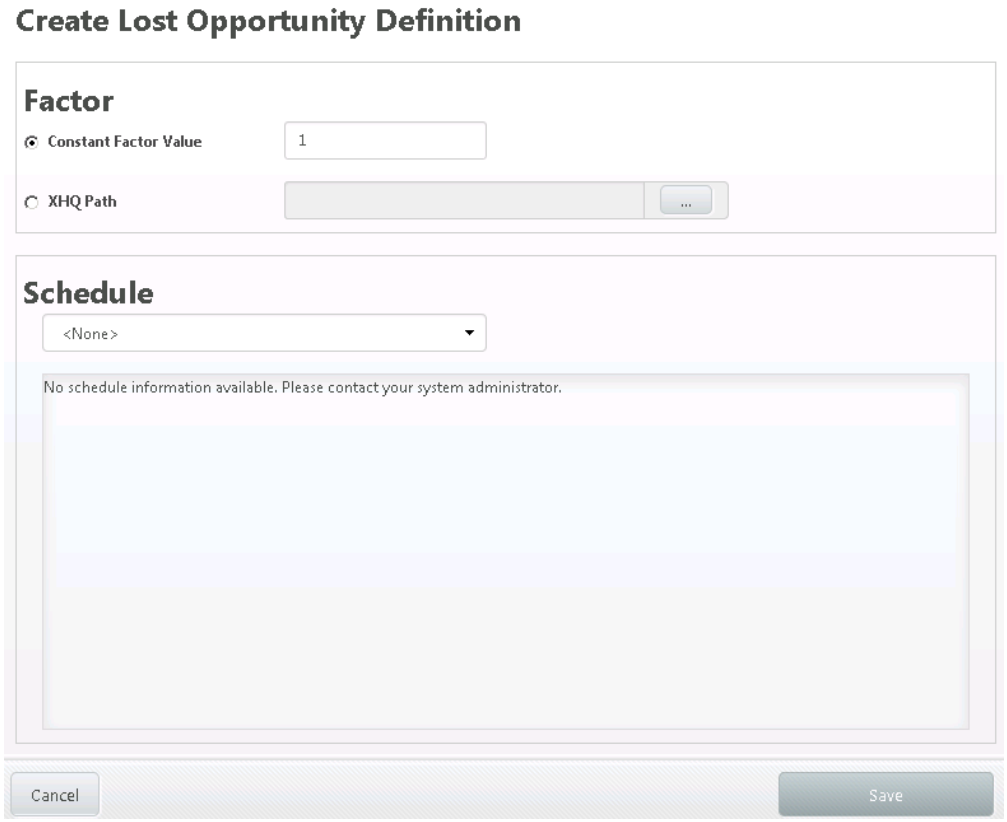
2. From the top navigation bar, click the **Configuration** icon.

The "Definitions - Subscriptions" page appears.



3. Click **New Definition**.
   The "Alert Definition" page appears.
4. Verify that the **Detector Status** box is **Enabled** (checked).

5. Enter a **Name**.
6. For **Miscellaneous**, check **Logged**.
7. Under the High/Low Detection Details section, for **Monitored Value**, enter the path to your variable.
8. Enter a **Hi Limit** and a **Lo Limit**.
9. Click **Save**.
   This returns you to the "Definitions - Subscriptions" page.
10. Under Definitions, locate the newly create definition and click the **Edit** icon.
    The "Alert Definition" page appears. Note the Lost Opportunity button is now enabled.
11. Click **Lost Opportunity**.
    The "Create Lost Opportunity Definition" page appears.



12. Select a **Schedule** and click **OK**.
    This returns you to the "Alert Definition" page.
13. Click **Save**.
    This returns you to the "Definitions - Subscriptions" page.
14. Next, go to the **repos** directory that is stored at the location specified by the environment variable, **`%XHQ_SERVER_REPOS%`** (which by default is `C:\XHQ\data\repos`).
15. Locate the **`app.properties`** file and, using a text editor, edit this file.
16. Scroll down to the lines:

    ```
    app.ans.tmsystem.username=tmsystem
    app.ans.losystem.username=losystem
    ```

17. Edit the values to include the **domain** and the **user name**, separated by double back slashes (\\).

The user name value is **case-sensitive**.

Example:

```
app.ans.tmsystem.username=acme\\joesmith
app.ans.losystem.username=acme\\joesmith
```

app.properties *

```
# The following properties section defines the names of system owned Performance Management components.
# Do NOT rename, modify, or delete these components in the Catalog.
# Do NOT modify these section entries and defaults unless expressly approved by XHQ Customer Support.
app.pi.class=XHQ_PM_Performance_Indicator
app.target.class=XHQ_PM_Target
app.target.rec.class=XHQ_PM_Target_Record
app.limit.class=XHQ_PM_Limit

# This following property defines the name of the tag component used by the Application Server.
# This tag component name must correspond to the tag component name used in the Solution, e.g. XTag.
# If they differ, modify this property to reflect the tag component name used in the Solution.
app.metric.class=XTag

# Target Management system user name used in the Alert Notification System.
# IMPORTANT! In order to be able to use Target Management in conjunction with ANS this property
# needs to be set to a valid user that can be authenticated by the Enterprise (Model) server.
app.ans.tmsystem.username=acme\\joesmith
app.ans.losystem.username=acme\\joesmith

# Default Performance Indicator group name used by the Application Server.
# Do NOT modify this section unless expressly approved by XHQ Customer Support.
app.pi.default.group=KPI_Group
```

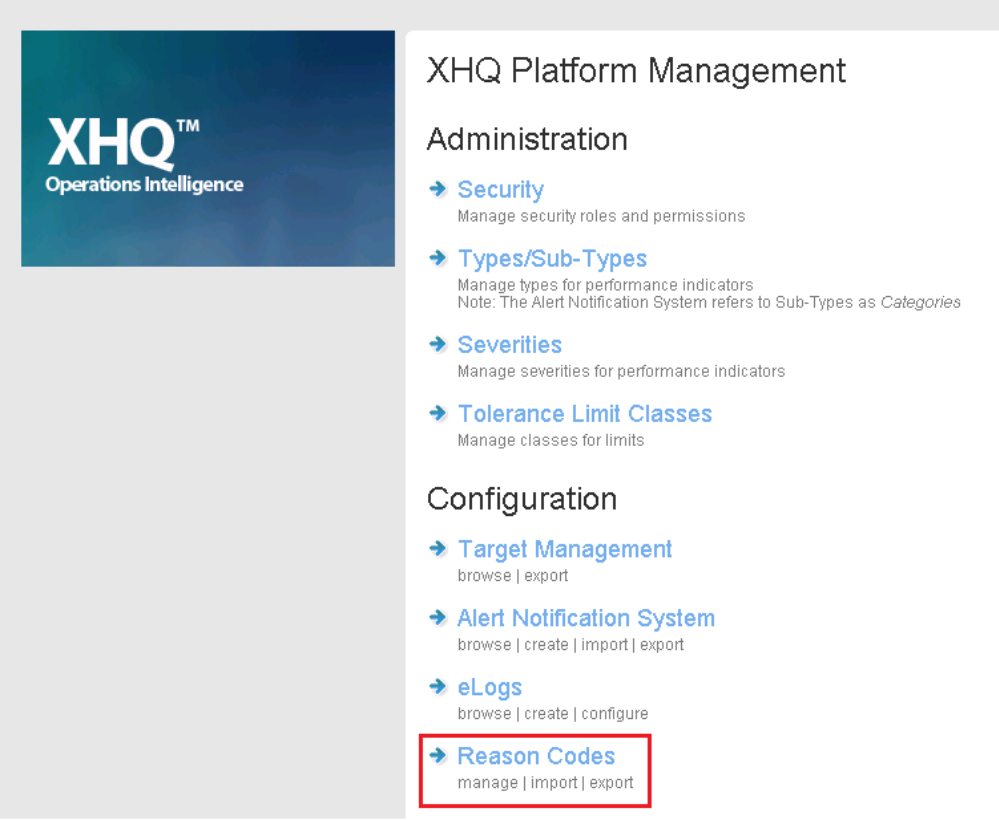
18. **Save** the file.

Managing and Configuring Reason Codes

The XHQ Platform Management web application enables you to:

- Create, update, and delete Reason Codes;
- Export Reason Codes in XML format;
- Import Reason Codes in XML format.

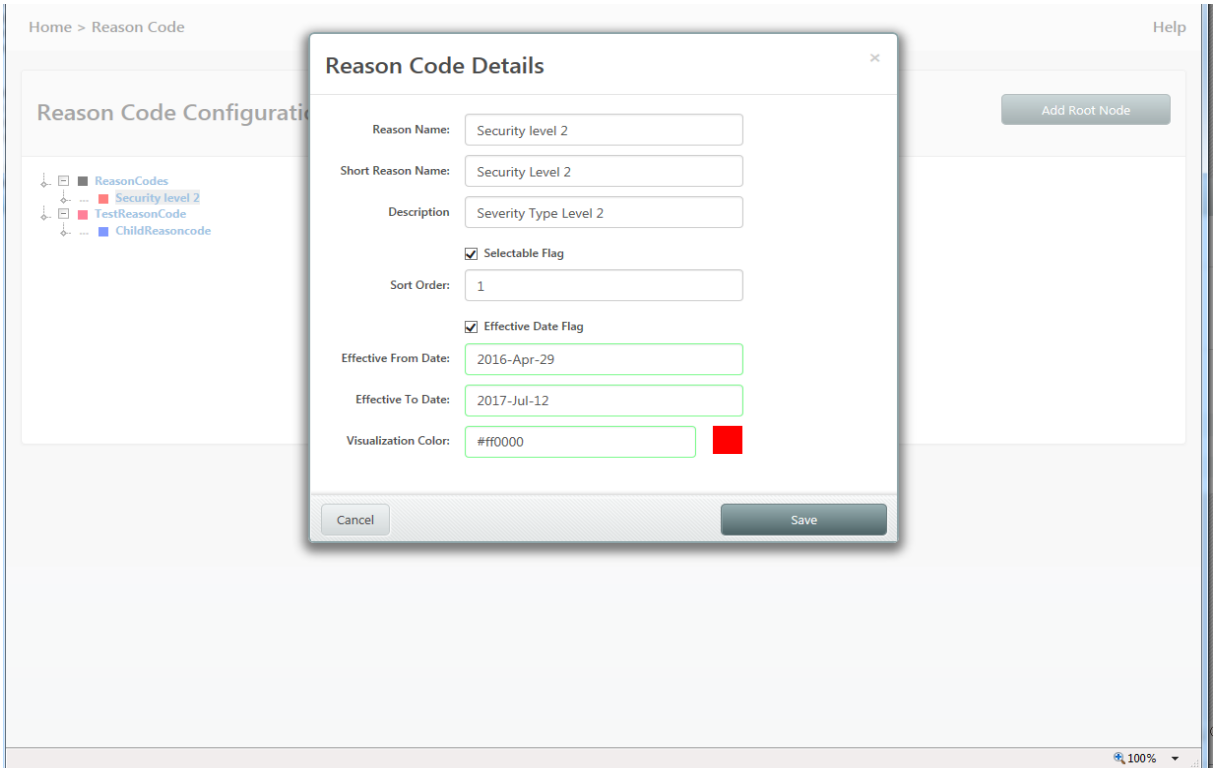
Information on bulk export or import of Reason Codes is also found in the topic, *Export and Import Reason Codes Tool*, located in the XHQ ANS User's Guide.



XHQ Platform Management: Reason Codes

To create a Reason Code

1. From the XHQ Performance Management homepage, under **Reason Codes**, click **Manage**.
   The "Reason Code Configuration" page appears.
2. Click **Add Root Node**.



The "Reason Code Details" dialog appears.

3. Edit the following:

Option	Description
Reason Name	The Reason Code node name.
Short Reason Name	An abbreviated name for the Reason Code. This is particularly useful for displaying Reason Code names that are very long.
Description	The Reason Code description.
Selectable Flag (checkbox)	Check if the Reason node can be selected by the user using the Reason Code Picker.
Sort Order	The order in which the nodes (that are on the same tree level) are rendered and represented in the tree interface.

Option	Description
Effective Date Flag (checkbox)	Check if the Reason Code is valid only for a certain time interval.
Effective From Date	The date from which the Reason Code is active/valid. This option is only enabled when the Effective Date Flag box is checked.
Effective To Date	The date until the Reason Code is active/valid. This option is only enabled when the Effective Date Flag box is checked.
Visualization Color	The color assigned to the Reason Code

4. To **add** a sibling node or a child node, right-click on the root node and, from the pop-up menu, click the suitable option.
5. Repeat step 4 as needed to create the Reason Code hierarchy.
6. Click **Update**.

To delete a Reason Code

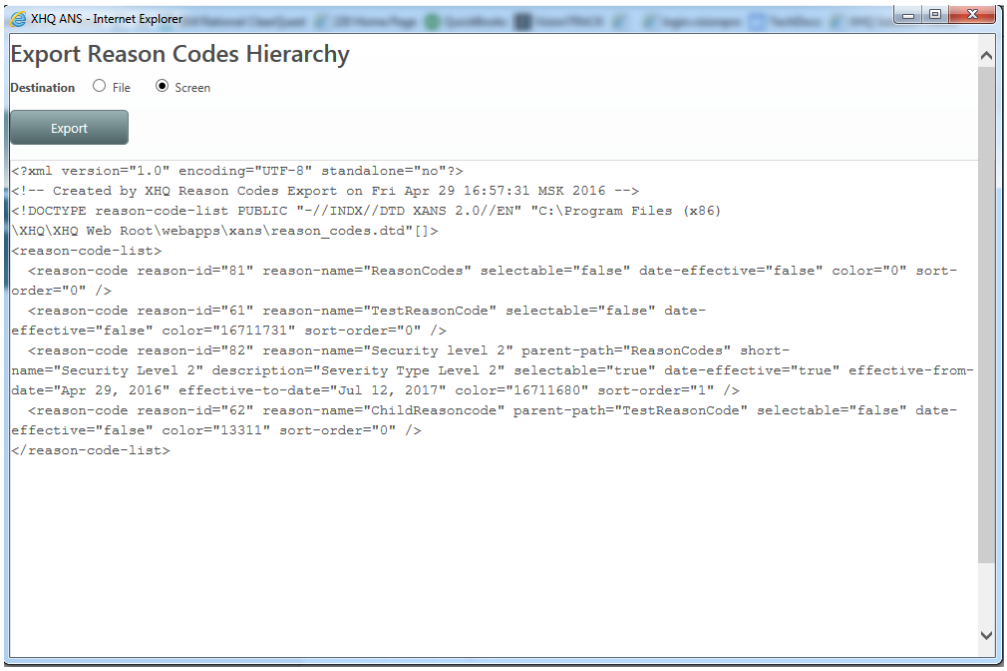
1. From the **Reason Code Configuration** page, **right-click** on a node.
2. From the pop-up menu, click **Delete Node**.
3. Click **Update**.

To export a Reason Code configuration

1. From the XHQ Performance Management homepage, under **Reason Codes**, click **Export**.
   The "Export Reason Codes Hierarchy" page appears.


Safari browser users, see the note at the *end of this procedure*.

2. For **Destination**, do either of the following:
   - Select **File** to save the output XML to a location you specify.
     - Select **Screen** to display the output XML.



3. Click **Export**.

The Reason Codes DTD Validator can be found in the Appendices.

Information on bulk export or import of Reason Codes is also found in the topic, *Export and Import Reason Codes Tools*, located in the XHQ ANS User's Guide.

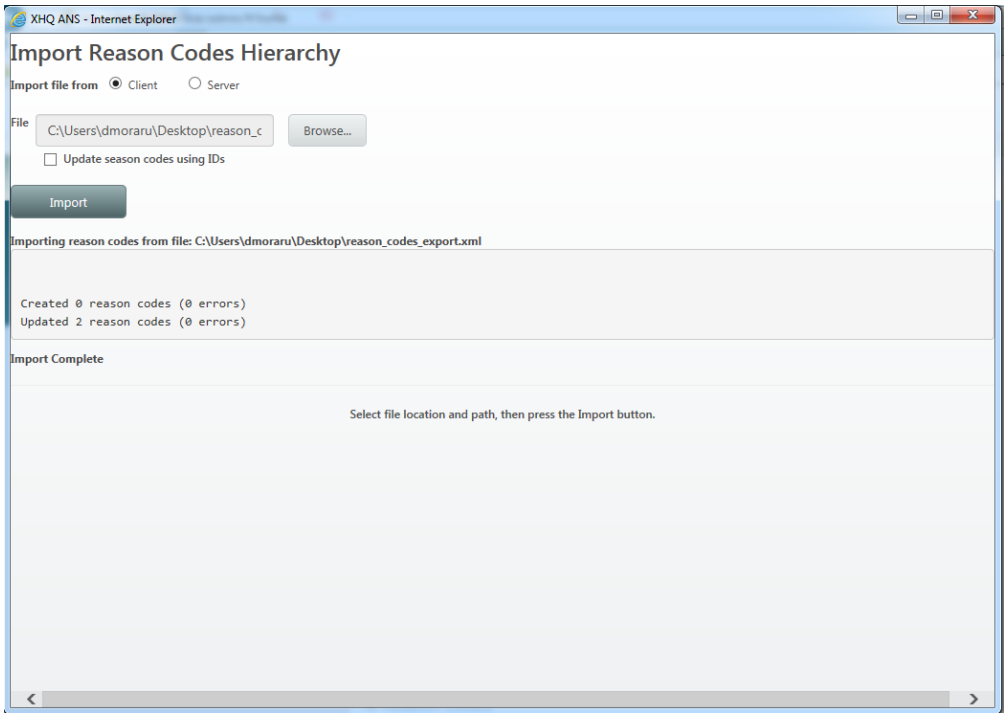
For Safari Users

Clicking **Export** displays the following message:

Click **OK** and a window opens with the XML file content. Click **Command+S** to save the file. Enter a file name (for example, `reason_codes_export.xml`).

To import a Reason Code configuration

1. From the XHQ Performance Management homepage, under **Reason Codes**, click **Import**.
   The "Import Reason Codes Hierarchy" page appears.
2. For **Import file from**, select the location of the exported XML file, either on the **Client** or **Server**.
3. For **File**, click **Browse** and locate the XML file.



4. OPTIONAL
   Check **Update reason codes using Ids** to update the Reason Codes based on their IDs (rather than their names).

   This only works to rename Reason Codes on the same machine through a bulk operation. If the option is unchecked (which is expected when porting from a different machine), then the Reason Code IDs from the XML are ignored, and actual names and parent paths are used to determine if an update is needed for a Reason Code record. By default, this checkbox is unchecked.

5. Click **Import**.

Using Database Views

There are three database views you can use to generate LO reports and build UI LO clients.

- `XHQ_LO_EXCRSN_SLICE_DTL_V`
- `XHQ_LO_EXCRSN_SLICE_DTL_VBS_V`
- `XHQ_LO_EXCRSN_SLICE_DTL_NR_V`

For more information on these and database views in general, see the topic, *Working with Database Views*.

Glossary of Terms

This section lists XHQ Performance Management definitions and descriptions of product-related terms and abbreviations used throughout this guide.

Term/Abbreviation	Definition
XHQ ANS	See *Alert Notification System*.
XHQ Alert Notification System	The XHQ Alert Notification System (XHQ ANS) is a web-based application for managing and configuring alert definitions and notification routing.
XHQ Performance Management	Integrated product offering that includes Target Management, eLogs and ANS applications.
Condition Definition	The parameters that define the elements and boundaries for monitoring out of tolerance conditions within XHQ ANS.
Deadband	This is a band around a limit to prevent flutter, which is associated with violating and returning across a limit.
eLogs	Web-based application that allows for operator logging and shift report generation.
Event	The actual occurrence of the action (Excursion), within the defined parameters.
Event Definition	Defines the parameters for the location, default reasons, and action (Condition Definition) that form the basis for an event. Also is the method of tying the normalization factor to the condition definition.
Excursion (or Deviation)	The occurrence of an out-of-tolerance condition within XHQ ANS. The terms *Excursion* and *Deviation* may be used interchangeably.
Limit	A Limit is a value that you avoid crossing. Limits reside in ANS and can be associated with notifications and alerts.
Limit Class	See *Tolerance Limit Class*.
Lost Opportunity	The numerical quantifier associated with the loss of business or productivity during a given event.
Metric	Metrics are time-series measurements of process or non-process values. For Performance Management, it could be any measurement done by sensors or humans, or any tag obtained from historians or relational sources. A metric can also be a calculated value or the result of an expression.
Normalization Factor	The factor by which data is scaled, such that the data from different sources can be compared. In this case, the factor is used to compute Lost Opportunity Cost (LO Cost).
Path	A Path is an XHQ area node in the Solution tree. It can be an XHQ absolute path (for example, `::Enterprise.Area1`).
Performance Indicator	A metric that is associated with zero or one Target and can have zero or some (one or more) Limits. It has two states: Enabled and Disabled, and its

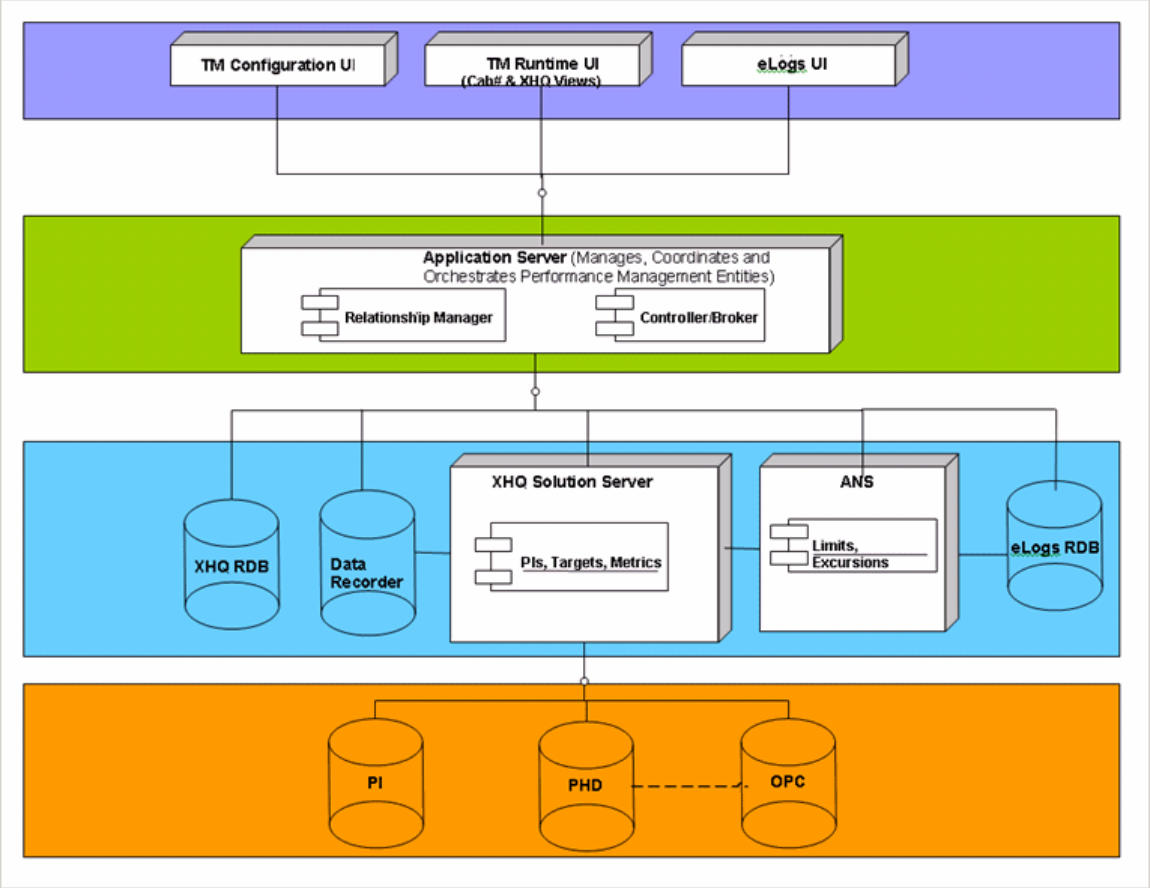
Term/Abbreviation	Definition
	status is represented by three zones: Desired, Warning, and Critical.
PI	See *Performance Indicator*.
PM	See *XHQ Performance Management*.
Reason Code	The explanation of why a given event, or group of events, took place.
Reason Hierarchy	The hierarchy, or reason tree, where the meaning of a reason is dependent on its relationship to its ancestors.
Severity	It indicates the priority level of Performance Indicators or operation logs. It can have values like "High," "Medium," or "Low". It can also have user-defined values.
Sub-type	Similar to a Type. Used for sub-classifications. It is user-defined and can have values like "Emissions" or "Greenhouse Gases."
Target	A Target is the value that you want to achieve. There are five types: Maximize, Minimize, Range, and Target.
Target Management	Web-based application responsible for management and definition of Performance Indicators and associated operational or business targets.
Tolerance	This is the permissible deviation from the nominal. With regards to Performance Management, it is the high or low value associated with a Target. In other words, it is a Limit that indicates you are no longer on Target.
Tolerance Limit Class	This class provides a means to classify the Performance Indicator's Limits. It can have values like "Hard," "Medium," or "Soft."
Type	A Type is a user-defined grouping for the purpose of providing different perspectives and classifications. Type is an attribute of Performance Indicators as well as operation logs (in eLogs). Because it is user-defined, it can have values like "Environmental," "Safety," or "Production."
XHQ Platform Management	XHQ Platform Management is the homepage to the XHQ Performance Management client web application. This homepage enables you to manage the different aspects of XHQ Platform Management as permitted by your given role and authorization level.
Zoning	A visual indicator of the PI status. The status types are Desired, Warning, and Critical. **Note:** The Warning status is also referred to as the Visual Warning status.

Appendices

Section Contents

A - Application Server

The XHQ Application Server represents the controller (broker) tier in the Performance Management enterprise application. It manages the XHQ Performance Management entities (Performance Indicators, Metrics, Targets, and Limits) and performs complex calculations for the Performance Indicator's attributes (such as status, zoning, and so forth).



XHQ Performance Management Enterprise

How the Application Server Works

The Application Server uses an Oracle relational database to persist the relationship between the XHQ Performance Management entities, as well as their audit trail. In addition, the XHQ Database Historian is used to store the values for the targets, their corresponding attributes (target value, hi and low values, positive and negative tolerance), and the metrics so that the user can trend them.

The tables for this schema are grouped in a sub-schema of the XHQ Relational Database installed with the XHQ Alert Notification System (XHQ ANS).

When a new Performance Indicator is created, the Application Server performs the following steps:

1. A new object/instance is created on the XHQ Solution Server from a component of type "Performance Indicator". This object is rootless and may or may not be part of a group.

2. A new object/instance is created on the XHQ Solution Server from a component of type "Target". This object is a child component of the Performance Indicator object.
3. Using an XML-based mechanism similar to XHQ importing, the primitive members of the Performance Indicator and Target objects previously created on the XHQ Solution Server are configured using server-side expressions.
4. For each limit associated with the new Performance Indicator, a new alert is created on the XHQ ANS Server.

   Alerts are created in XHQ ANS under a special XHQ Performance Management account that owns them.

5. The relationship between the XHQ Performance Management entities, as well as a new audit record for the Target and each of the new limits, is persisted in the Application Server database.

To use XHQ Performance Management, you must enable the XHQ Application Server.

For information on how to start the XHQ Application Server, go to the topic, *About xhqboot.properties*, located in the XHQ Administrator's Guide.

If any of the above actions fail, the Application Server cancels the transaction involving the creation of the Performance Indicator object and rolls back the XHQ Solution Server, XHQ ANS, and the database to previous states.

In the case of a Performance Indicator update or edit operation, only steps 3 through 5 apply since the Performance Indicator and Target objects already exist in the XHQ Solution Server.

Importing and Exporting

During an import (bulk load), an XML file that specifies a Performance Indicator list is imported into the Application Server. A DTD file is provided to validate the structure of the XML file.

In an export, a list of Performance Indicator entities is exported into an XML file. This operation implies creating new PIs or updating existing PIs. These PI entities include their corresponding Target, Metric, and Limit entities. And, they identified by their unique IDs. The exported XML file can be modified or validated (against the DTD file).

For examples of the imported/exported XML file, see the topic, *Example of an Import XML File Using Custom Tags*.

Using the Client API

The API (Application Programming Interface) discussed in this section provide access to the Application Server functionality for any type of client application. There are two "flavors" of the Application Server Client API:

- A **Java Client API** (`xhqpmapi.jar`)
  This is best suited for web-based or desktop Java clients of the Application Server.
- A **.NET Client API** (`Indx.Xhq.Client.Pm.dll`)
  This is best suited for web-based or desktop .NET clients of the Application Server. This is used by the XHQ Performance Management .NET web-based configuration client and runtime client.

In terms of functionality, both of these Client APIs are identical.

For details on each Client API method, see the topic, *Performance Management Client API*, located in the XHQ SDK Reference Guide.

Supported Methods

The following methods are available in the Client API.

For details on each method, see the topic, *Performance Management Client API*, located in the XHQ SDK Reference Guide.

Method	Description
`createPerformanceIndicator( )`	Creates a new Performance Indicator.
`updatePerformanceIndicator( )`	Updates an existing Performance Indicator.
`deletePerformanceIndicator( )`	Deletes an existing Performance Indicator.
`getPerformanceIndicator( )`	Retrieves a complete Performance Indicator.
`getPerformanceIndicatorList( )`	Retrieves a filtered Performance Indicator list.
`getPiCount( )`	Retrieves the count for all PIs for a certain user.
`getPiNames( )`	Retrieves all the PI names.
`getPiMetrics( )`	Retrieves all the PI metrics.
`getAppCodesList( )`	Retrieves a list of codes of a certain type (for example, PI Types, PI Priorities).
`getCode( )`	Retrieves the complete code information.
`setAppCodeAccess( )`	Sets the codes access for all available applications (such as ANS and Target Management).
`setCode( )`	Creates a new code or updates an existing one.
`getTarget( )`	Retrieves a Performance Indicator target.
`updateTarget( )`	Updates an existing target.
`getTargetAuditTrail( )`	Retrieves a complete target history for a PI.
`getLimitsAuditTrail( )`	Retrieves a complete history for all the limits of a certain PI .
`getComponentMembers( )`	Retrieves a list of all child component and primitive member names for a certain XHQ parent component.
`getTagAliases( )`	Retrieves a list of all tags name, description and units in XHQ.
`importPerformanceIndicators( )`	Imports from XML format a list of PIs in the App server.
`exportPerformanceIndicators( )`	Exports into XML format a list of PIs from the App server, identified by their ID.

In addition, the Application Server Client API provides the following methods for security and administration.

Method	Description
`authenticatUser( )`	Authenticates the user based on his/her OS username and returns back detailed user information like user Id and user permissions.

Method	Description
`getUserList( )`	Gets the list of all users for a certain application. For example, all Target Management users.
`getOwnerPiList( )`	Gets the list of all PIs that a certain user owns.
`changePiOwner( )`	Transfers the ownership of the PI list to another user.
`getRoleList( )`	Gets the list of all XHQ-defined Roles.
`getPermissionList( )`	Gets the list of all XHQ-defined Permissions for a certain type of application (such as Target Management, eLogs, or ANS).
`getRoleCategories( )`	Gets the list of PI types or sub-types for a certain XHQ-defined Role.
`getRolePaths( )`	Gets the list of writable nodes for a certain XHQ-defined Role.
`getRolePermissions( )`	Gets the list of permissions for a certain XHQ-defined Role.
`updateRolePermissions( )`	Updates the list of permissions for a certain XHQ-defined Role.
`updateRoleCategories( )`	Updates the list of PI types or sub-types for a certain XHQ-defined Role.
`updateRolePaths( )`	Updates the list of writable nodes/paths for a certain XHQ-defined Role.

The Application Server Properties File

The **`app.properties`** is the properties file for the Application Server and is located at the root of the XHQ repos (which is typically located in the **`\XHQ\data\repos`** directory).

WARNING
If this file is missing or if an entry is omitted, the Application Server will not start.

The default **`app.properties`** file contains the following:

```
# The following properties section defines the names of system owned Performance
Management components.
# Do NOT rename, modify, or delete these components in the XHQ Workbench.
# Do NOT modify these section entries and defaults unless expressly approved by XHQ
Customer Support.
app.pi.class=XHQ_PM_Performance_Indicator
app.target.class=XHQ_PM_Target
app.target.rec.class=XHQ_PM_Target_Record
app.limit.class=XHQ_PM_Limit

# This following property defines the name of the tag component used by the Application
Server.
# This tag component name must correspond to the tag component name used in the Solution,
e.g. XTag.
# If they differ, modify this property to reflect the tag component name used in the
Solution.
app.metric.class=XTag

# Target Management system user name used in the Alert Notification System.
```

```
# IMPORTANT! In order to be able to use Target Management in conjunction with ANS this
property
# needs to be set to a valid user that can be authenticated by the Enterprise (Model)
server.
app.ans.tmsystem.username=tmsystem

# Default Performance Indicator group name used by the Application Server.
# Do NOT modify this section unless expressly approved by XHQ Customer Support.
app.pi.default.group=KPI_Group

# Lost Opportunity system user name used in the Alert Notification System.
# IMPORTANT! In order to be able to use Lost Opportunity in conjunction with ANS this
property
# needs to be set to a valid user that can be authenticated by the Enterprise (Model)
server.
app.ans.losystem.username=losystem

#net.indx.util.syslog.sysloglevel=2
#net.indx.util.syslog.maxlogsizemb=10
```

You must modify the **`app.metric.class=XTag`** property, as needed, to reflect the Tag component that is in the repos catalog.

About the Lost Opportunity Extension Module

The **Lost Opportunity** (LO)extension module provides a mechanism to normalize process deviations by associating an opportunity cost with the deviation. LO is calculated for each deviation as well as defined intervals in the system. These LO values are then assigned reason codes/comments, which are then used to aggregate the LO values across the XHQ hierarchy. Consequently, this enables you to analyze the best/worst actors in the process.

The Application Server properties associated with the LO module are as follows.

Property	Description
`app.ans.losystem.username`	***Required*** This is the username used by ANS to access the LO extension module. It must be a valid AD (Active Directory) user. *Example:* app.ans.losystem.username=corp\\acme1 The user name value is **case-sensitive**.
`app.lo.scanperiod`	***Optional*** This is the time period, in **seconds**, after which the Application Server scans the database for new LO slices and calculates the corresponding LO cost. The **default value** is 60 (seconds), which is the minimum supported value. **Note:** Although the default app.properties file does not list the `app.log.scanperiod` property, the default value of 60 seconds is still assumed. *Example:* app.lo.scanperiod=3600

For more information on **Lost Opportunity**, see the topic, *About Lost Opportunity*.

B - Performance Management XML

Validation DTD for Imported XML File

```
<?xml version="1.0" encoding="UTF-8"?>

<!ELEMENT xhq:appServerConfig (xhq:pi*)>
<!ATTLIST xhq:appServerConfig
   xmlns:xhq CDATA #IMPLIED
   serverHost CDATA #IMPLIED
   solutionName CDATA #IMPLIED
   solutionId CDATA #IMPLIED
   serverVersion CDATA #IMPLIED
   serverBuild CDATA #IMPLIED
>

<!ELEMENT xhq:pi (xhq:metric?,xhq:target?,xhq:limits?)>
<!ATTLIST xhq:pi
   name CDATA #REQUIRED
   description CDATA #IMPLIED
   enabled (true|false) #REQUIRED
   type CDATA #REQUIRED
   subType CDATA #REQUIRED
   severity CDATA #REQUIRED
   path CDATA #REQUIRED
   shared (true|false) "true"
   status CDATA #IMPLIED
   owner CDATA #IMPLIED
   createdBy CDATA #IMPLIED
   modifiedBy CDATA #IMPLIED
   ownerDate CDATA #IMPLIED
   creationDate CDATA #IMPLIED
   modificationDate CDATA #IMPLIED
>

<!ELEMENT xhq:metric EMPTY>
<!ATTLIST xhq:metric
   alias CDATA #IMPLIED
   path CDATA #IMPLIED
   expression CDATA #IMPLIED
   value CDATA #IMPLIED
   description CDATA #IMPLIED
   units CDATA #IMPLIED
   isExpression (true|false) #REQUIRED
   schedulerEnabled (true|false) #IMPLIED
   schedulerBaseTime CDATA #IMPLIED
   schedulerPeriod CDATA #IMPLIED
>

<!ELEMENT xhq:target (xhq:targetRecords?,xhq:expressionSchedulerRecords?)>
<!ATTLIST xhq:target
   type (RANGE|MAXIMIZE|MINIMIZE|QUALITATIVE|TARGET) #REQUIRED
   targetValueType (CONSTANT|TAG|EXPRESSION) #IMPLIED
   highTargetType (CONSTANT|TAG|EXPRESSION) #IMPLIED
   lowTargetType (CONSTANT|TAG|EXPRESSION) #IMPLIED
   positiveToleranceType (CONSTANT|TAG|EXPRESSION) #IMPLIED
   negativeToleranceType (CONSTANT|TAG|EXPRESSION) #IMPLIED
```

```
   owner CDATA #IMPLIED
   createdBy CDATA #IMPLIED
   modifiedBy CDATA #IMPLIED
   ownerDate CDATA #IMPLIED
   creationDate CDATA #IMPLIED
   modificationDate CDATA #IMPLIED
>

<!ELEMENT xhq:targetRecords (xhq:targetRecord+) >

<!ELEMENT xhq:targetRecord EMPTY>
<!ATTLIST xhq:targetRecord
   description CDATA #REQUIRED
   targetValue CDATA #IMPLIED
   highTarget CDATA #IMPLIED
   lowTarget CDATA #IMPLIED
   positiveTolerance CDATA #IMPLIED
   negativeTolerance CDATA #IMPLIED
   comments CDATA #IMPLIED
   activationDate CDATA #REQUIRED
   deactivationDate CDATA #IMPLIED
>

<!ELEMENT xhq:expressionSchedulerRecords (xhq:schedulerRecord+) >

<!ELEMENT xhq:schedulerRecord EMPTY>
<!ATTLIST xhq:schedulerRecord
   schedulerType (TARGET_VALUE|HIGH_TARGET|LOW_TARGET|POSITIVE_TOLERANCE|NEGATIVE_
TOLERANCE) #REQUIRED
   schedulerEnabled (true|false) #REQUIRED
   schedulerBaseTime CDATA #IMPLIED
   schedulerPeriod CDATA #IMPLIED
>

<!ELEMENT xhq:limits (xhq:limit+) >

<!ELEMENT xhq:limit (xhq:limitSubscribers?)>
<!ATTLIST xhq:limit
   id CDATA #IMPLIED
   name CDATA #IMPLIED
   description CDATA #IMPLIED
   activationDate CDATA #REQUIRED
   deactivationDate CDATA #IMPLIED
   comments CDATA #IMPLIED
   zoneType (NO_LIMIT|LO_LO_LIMIT|LO_LIMIT|HI_LIMIT|HI_HI_LIMIT) #REQUIRED
   listId CDATA #IMPLIED
   definitionList CDATA #IMPLIED
   anchor CDATA #IMPLIED
   view CDATA #IMPLIED
   subscribedBy CDATA #IMPLIED
   category CDATA #REQUIRED
   limitClass CDATA #REQUIRED
   sequenceId CDATA #IMPLIED
   enabled (true|false) #REQUIRED
   shared (true|false) #IMPLIED
   gracePeriodReference (true|false) #IMPLIED
   gracePeriod CDATA #IMPLIED
   section CDATA #IMPLIED
   access CDATA #IMPLIED
   loggingEnabled (true|false) #REQUIRED
   severity (1|2|3) "2"
```

```
   detectorType (HILO|DEVIATION|ROC|STALENESS) #REQUIRED
   hiLoValue CDATA #REQUIRED
   hiLoLimitType (LOW_LIMIT|HIGH_LIMIT|RANGE) #REQUIRED
   highValue CDATA #IMPLIED
   lowValue CDATA #IMPLIED
   hiLoLoReference (true|false) #IMPLIED
   hiLoHiReference (true|false) #IMPLIED
   deviationValue CDATA #IMPLIED
   positiveDeadBand CDATA #IMPLIED
   negativeDeadBand CDATA #IMPLIED
   deviationType CDATA #IMPLIED
   targetType CDATA #IMPLIED
   positiveTolerance CDATA #IMPLIED
   negativeTolerance CDATA #IMPLIED
   limitType CDATA #IMPLIED
   timeBasisType CDATA #IMPLIED
   ageLimit CDATA #IMPLIED
   ageUnits CDATA #IMPLIED
   owner CDATA #IMPLIED
   createdBy CDATA #IMPLIED
   modifiedBy CDATA #IMPLIED
   ownerDate CDATA #IMPLIED
   creationDate CDATA #IMPLIED
   modificationDate CDATA #IMPLIED
>

<!ELEMENT xhq:limitSubscribers (xhq:limitSubscriber+)>

<!ELEMENT xhq:limitSubscriber EMPTY>
<!ATTLIST xhq:limitSubscriber
   subscriber CDATA #REQUIRED
>
```

Attributes Dictionary [Custom XML Tags for the Import XML File]

```
// XML Element Tags
xhq:appServerConfig
xhq:pi -
xhq:metric  -
xhq:target  -
xhq:targetRecords  -
xhq:targetRecord -
xhq:expressionSchedulerRecords
xhq:schedulerRecord
xhq:limits
xhq:limit

// XML General Attribute Tags
APP_SERVER                      = "serverHost";
SOLUTION                         = "solutionName";
SOLUTION_ID                    = "solutionId";
APP_SERVER_VERSION       = "serverVersion";
APP_SERVER_BUILD           = "serverBuild";

    // XML PI Attribute Tags
    PI_NAME                              = "name";
    PI_DESCRIPTION                 = "description";
    PI_STATE                             = "isEnabled";
    PI_TYPE                               = "type";
    PI_SEVERITY                        = "severity";
```

```
PI_STATUS                          = "status";
PI_OWNER                          = "owner";
PI_MODIFIED_BY                = "modifiedBy";
PI_CREATION_DATE            = "creationDate";
PI_MODIFICATION_DATE     = "modificationDate";

// XML Metric Attribute Tags
METRIC_ALIAS                       = "alias";
METRIC_PATH                        = "path";
METRIC_EXPRESSION              = "expression";
METRIC_VALUE                       = "value";
METRIC_DESCRIPTION            = "description";
METRIC_UNITS                       = "units";
METRIC_TYPE                         = "isExpression";
METRIC_SCHEDULER               = "schedulerEnabled";
METRIC_SCHEDULER_TIME      = "schedulerBaseTime";
METRIC_SCHEDULER_PERIOD  = "schedulerPeriod";

// XML Target Attribute Tags
TARGET_TYPE                = "type";
TARGET_CREATED_BY       = "createdBy";
TARGET_MODIFIED_BY         = "modifiedBy";
TARGET_CREATION_DATE       = "creationDate";
TARGET_MODIFICATION_DATE    = "modificationDate";
TARGET_VALUE_TYPE          = "targetValueType";
TARGET_HIGH_TYPE           = "highTargetType";
TARGET_LOW_TYPE            = "lowTargetType";
TARGET_POS_TOL_TYPE        = "positiveToleranceType";
TARGET_NEG_TOL_TYPE      = "negativeToleranceType";
TARGET_DESCRIPTION               = "description";
TARGET_VALUE               = "targetValue";
TARGET_HIGH                = "highTarget";
TARGET_LOW               = "lowTarget";
TARGET_POS_TOL             = "positiveTolerance";
TARGET_NEG_TOL             = "negativeTolerance";
TARGET_COMMENTS                    = "comments";
TARGET_ACTIVATION_DATE        = "activationDate";
TARGET_DEACTIVIATION_DATE   = "deactivationDate";
TARGET_SCHEDULER_TYPE          = "schedulerType";
TARGET_SCHEDULER                   = "schedulerEnabled";
TARGET_SCHEDULER_TIME          = "schedulerBaseTime";
TARGET_SCHEDULER_PERIOD       = "schedulerPeriod";

// XML Limit Attribute Tags
LIMIT_ID                   = "id";
LIMIT_NAME                 = "name";
LIMIT_DESCRIPTION          = "description";
LIMIT_ACTIVATION_DATE      = "activationDate";
LIMIT_DEACTIVATION_DATE         = "deactivationDate";
LIMIT_CREATED_BY           = "createdBy";
LIMIT_MODIFIED_BY          = "modifiedBy";
LIMIT_CREATION_DATE        = "creationDate";
LIMIT_MODIFICATION_DATE    = "modificationDate";
LIMIT_COMMENTS             = "commentS";
LIMIT_ZONE_TYPE          = "zoneType";
LIMIT_LIST_ID      = "listId";
LIMIT_DEFINITION_LIST      = "definitionList";
LIMIT_ANCHOR               = "anchor";
LIMIT_VIEW                 = "view";
LIMIT_SUBSCRIBED_BY        = "subscribedBy";
LIMIT_CATEGORY             = "category";
```

```
    LIMIT_CLASS                = "limitClass";
    LIMIT_SEQUNCE_ID         = "sequenceId";
    LIMIT_ENABLED              = "isEnabled";
    LIMIT_SHARED               = "shared";
    LIMIT_GRACE_PERIOD         = "gracePeriod";
    LIMIT_SECTION              = "section";
    LIMIT_ACCESS               = "access";
    LIMIT_LOGGING              = "loggingEnabled";
    LIMIT_SEVERITY             = "severity";
    LIMIT_TYPE                 = "detectorType";
    LIMIT_HILO_VALUE          = "hiLoValue";
    LIMIT_HILO_TYPE            = "hiLoLimitType";
    LIMIT_HIGH_VALUE           = "highValue";
    LIMIT_LOW_VALUE            = "lowValue";
    LIMIT_HILO_LO_REF          = "hiLoLoReference";
    LIMIT_HILO_HI_REF          = "hiLoHiReference";
    LIMIT_DEVIATION_VALUE     = "deviationValue";
    LIMIT_POS_DEADBAND        = "positiveDeadBand";
    LIMIT_NEG_DEADBAND         = "negativeDeadBand";
    LIMIT_DEVIATION_TYPE       = "deviationType";
    LIMIT_TARGET_TYPE         = "targetType";
    LIMIT_POS_TOLERANCE        = "positiveTolerance";
    LIMIT_NEG_TOLERANCE        = "negativeTolerance";
    LIMIT_LIMIT_TYPE           = "limitType";
    LIMIT_TIME_BASIS_TYPE      = "timeBasisType";
    LIMIT_AGE_LIMIT          = "ageLimit";
    LIMIT_AGE_UNITS           = "ageUnits";
```

Example of an Import XML File [Using Custom Tags]

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!-- Created by XHQ Application server export on Mar 20, 2009 6:13:13 PM PDT -->
<!DOCTYPE xhq:appServerConfig PUBLIC "-//INDX//DTD TM//EN"
"http://mudslide/indx/tm/TM.dtd" >
<xhq:appServerConfig
   xmlns:xhq="http://www.siemens.com/indx"
   serverHost="localhost"
   solutionName="Enterprise"
   solutionId="{048158E0-EE78-91DD-84FF-AC1000890000}"
   serverVersion="4.0"
   serverBuild="135">
   <xhq:pi
      name="CO2Emission"
      description="CO2 Emission Desc"
      enabled="true"
      type="Environmental"
      subType="Operations"
      severity="High"
      path="::Enterprise.OPCPoint"
      status="WARNING"
      owner="system"
      createdBy="indx1\constantine"
      modifiedBy="INDX1\calingruita"
      ownerDate="Jan 30, 2009 7:33:05 PM PST"
      creationDate="Jan 30, 2009 7:33:05 PM PST"
      modificationDate="Feb 18, 2009 6:34:16 PM PST"
      >
      <xhq:metric
         alias="FQ102"
         value="1270.7374"
```

```
      isExpression="false"
   />
   <xhq:target
      type="RANGE"
      targetValueType="CONSTANT"
      highTargetType="CONSTANT"
      lowTargetType="CONSTANT"
      positiveToleranceType="CONSTANT"
      negativeToleranceType="CONSTANT"
      owner="system"
      createdBy="indx1\constantine"
      modifiedBy="INDX1\calingruita"
      ownerDate="Jan 30, 2009 7:33:05 PM PST"
      creationDate="Jan 30, 2009 7:33:05 PM PST"
      modificationDate="Jan 30, 2009 7:36:01 PM PST"
      >
      <xhq:targetRecords
         >
         <xhq:targetRecord
            description="T2"
            highTarget="14"
            lowTarget="8"
            positiveTolerance="1"
            negativeTolerance="1"
            comments="Target for day 2."
            activationDate="Feb 1, 2009 12:00:00 AM PST"
         />
         <xhq:targetRecord
            description="T1"
            highTarget="10"
            lowTarget="6"
            positiveTolerance="1"
            negativeTolerance="1"
            comments="Target for day1."
            activationDate="Jan 30, 2009 12:00:00 AM PST"
            deactivationDate="Jan 31, 2009 12:00:00 AM PST"
         />
      </xhq:targetRecords>
   </xhq:target>
   <xhq:limits
      >
      <xhq:limit
         id="24"
         name="CO2Emission_Limit_HI-LO_1"
         description="Lower Limit"
         activationDate="Jan 30, 2009 12:00:00 AM PST"
         zoneType="LO_LO_LIMIT"
         listId="0"
         definitionList="3"
         anchor="::Enterprise.OPCPoint.KPI_Group.CO3Emission"
         category="Operations"
         limitClass="Hard"
         sequenceId="0"
         enabled="true"
         shared="false"
         gracePeriodReference="false"
         gracePeriod="0"
         section="0"
         access="0"
         loggingEnabled="false"
         severity="2"
```

```
            detectorType="HILO"
            hiLoValue="::Enterprise.OPCPoint.KPI_Group.CO3Emission.Metric"
            hiLoLimitType="RANGE"
            highValue="8"
            lowValue="3"
            hiLoLoReference="false"
            hiLoHiReference="false"
            deviationValue="0"
            positiveDeadBand="0.2"
            negativeDeadBand="0.2"
            deviationType="0"
            targetType="0"
            limitType="0"
            timeBasisType="0"
            ageLimit="0"
            ageUnits="0"
            ownerDate="Jan 30, 2009 7:33:05 PM PST"
            creationDate="Jan 30, 2009 7:33:05 PM PST"
            modificationDate="Feb 18, 2009 6:34:12 PM PST"
            >
            <xhq:limitSubscribers
               >
               <xhq:limitSubscriber
                  subscriber="indx1\calingruita"
               />
            </xhq:limitSubscribers>
         </xhq:limit>
         <xhq:limit
            id="25"
            name="CO2Emission_Limit_HI-LO_2"
            description="Upper Limit"
            activationDate="Jan 30, 2009 12:00:00 AM PST"
            zoneType="HI_HI_LIMIT"
            listId="0"
            definitionList="3"
            anchor="::Enterprise.OPCPoint.KPI_Group.CO3Emission"
            category="Operations"
            limitClass="Hard"
            sequenceId="0"
            enabled="true"
            shared="false"
            gracePeriodReference="false"
            gracePeriod="0"
            section="0"
            access="0"
            loggingEnabled="false"
            severity="2"
            detectorType="HILO"
            hiLoValue="::Enterprise.OPCPoint.KPI_Group.CO3Emission.Metric"
            hiLoLimitType="RANGE"
            highValue="18"
            lowValue="0"
            hiLoLoReference="false"
            hiLoHiReference="false"
            deviationValue="0"
            positiveDeadBand="0.7"
            negativeDeadBand="0.7"
            deviationType="0"
            targetType="0"
            limitType="0"
            timeBasisType="0"
```

```
            ageLimit="0"
            ageUnits="0"
            ownerDate="Jan 30, 2009 7:33:05 PM PST"
            creationDate="Jan 30, 2009 7:33:05 PM PST"
            modificationDate="Jan 30, 2009 7:33:05 PM PST"
         />
      </xhq:limits>
   </xhq:pi>
</xhq:appServerConfig>
```

Validation DTD for Reason Code XML

The separator used for the "parent-path" XML attribute (to separate the Reason Code names in the path) is "**=>**", which escaped in XML looks like "=>".

```
<?xml version="1.0" encoding="UTF-8"?>
<!ELEMENT reason-code-list (reason-code)* >
<!ELEMENT reason-code EMPTY>
<!ATTLIST reason-code
reason-id CDATA #IMPLIED
reason-name CDATA #REQUIRED
parent-path CDATA #IMPLIED
short-name CDATA #IMPLIED
description CDATA #IMPLIED
xhq-path CDATA #IMPLIED
selectable (true | false) "false"
date-effective (true | false) "false"
color CDATA #IMPLIED
effective-from-date CDATA #IMPLIED
effective-to-date CDATA #IMPLIED
sort-order CDATA #IMPLIED
```

The exported Reason Code XML is similar to the following example:

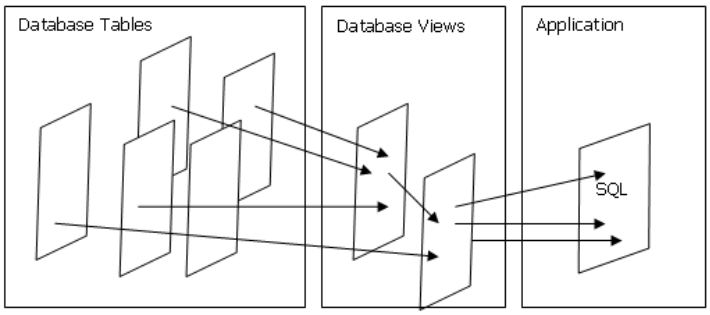
```
<?xml version="1.0" encoding="UTF-8"?>
<!-- Created by XHQ Reason Codes Export on Tue Jul 03 19:55:42 PDT 2012 -->
<!DOCTYPE reason-code-list PUBLIC "-//INDX//DTD Reason Codes//EN" "reason_codes.dtd">
<reason-code-list>
<reason-code
reason-id="8"
reason-name="Reason Y"
parent-path="Reason A (Root)=&gt;Reason C=&gt;Reason X"
selectable="true"
date-effective="false"
color="0"
sort-order="0"
/>
<reason-code
reason-id="9"
reason-name="Reason Z"
parent-path="Reason A (Root)=&gt;Reason C=&gt;Reason X=&gt;Reason Y"
selectable="true"
date-effective="false"
color="0"
sort-order="0"
/>
</reason-code-list>
```

C - For the Application Developer

Working with Database Views

Database views allow read-only access to commonly used Target Management information, such as Performance Indicators, Targets, and Limits data. This information is extracted from the XHQ High-Performance Database (the embedded database within the XHQ System) and can be used by application developers or customer application groups in building Target Management runtime views for the XHQ Applet or XHQ Visual Composer.

To read the XHQ view, use the XHQRO account.



Target Management Database Views Model

XHQ provides database views for various features and, for your convenience, are documented in the guide relevant to the given feature: Monitoring/XHQStats in the *XHQ Connection Guide*; Alert Notification System in the *XHQ ANS User's Guide*; or XHQ Performance Management and View Statistics in this section.

XHQ database views are for use by the XHQ solution only. You may configure an XHQ internal database connection to have READ access to these database views for the sole purpose of data integration into the XHQ solution (for example, into XHQ views). Any other use would violate the terms of the XHQ license. It is explicitly not permitted to access the XHQ embedded database from outside XHQ in any form or to access any internal tables or views other than reading the database views documented in this section.

When to Use Database Views

In general, database views are useful to display: the Performance Indicator Browser or Summary in an XHQ view in the applet; a Performance Indicator's (KPI) details screen, including its Targets and Limits data in a XHQ Visual Composer view.

Getting Target Management Data

Use the following database views to retrieve Target Management data.

For:	The database view name is:
Performance Indicator data	`XHQ_APP_PI_V`

For:	The database view name is:
Targets associated with a PI	XHQ_APP_TARGET_V
Limits associated with a PI	XHQ_APP_LIMIT_V

Because a Performance Indicator (PI) can contain multiple Targets and Limits, data from all three database views may be needed in order to get the complete information for the PI. Therefore, the PI is modeled in XHQ as an object having two nested collections: one corresponding to its Targets, and one to its Limits.

Using the Performance Indicator Database View

The Performance Indicator database view provides access to the following Target Management data:

- Performance Indicator (PI) unique ID
- PI Name
- PI Description
- PI State (Enabled/Disabled)
- PI Type (for example, Environmental, Safety)
- PI Sub-Type (for example, CO2 Emissions)
- PI Priority (for example, High, Low, Medium)
- PI Anchor Path
- PI Metric
- Target Edit URL
- PI Creator User
- PI Updated By User
- PI Creation Date/Time
- PI Last Update Date/Time

The database view name containing the Performance Indicator data is **XHQ_APP_PI_V**.

View Details for XHQ_APP_PI_V

ColumnName	DataType	Null	Description
PI_ID	NUMBER (10)	N	The unique identifier of the PI.
PI_NAME	NVARCHAR2 (256)	N	The user-defined name of the PI.
PI_DESCRIPTION	NVARCHAR2 (512)	Y	The description of the PI.
PI_STATE	NUMBER (1)	N	The state of the PI. A PI can be ENABLED (state = 1) or DISABLED (state = 0).
PI_TYPE	NVARCHAR2 (80)	N	The type of the PI (for example, Environmental, Production, or Safety).
PI_SUBTYPE	NVARCHAR2 (80)	Y	The sub-type of the PI.
PI_SEVERITY	NVARCHAR2 (80)	N	The priority of the PI (for example, High, Low, or Medium).
XHQ_PATH	NVARCHAR2 (256)	N	The XHQ path (node) associated with the PI.
SHARED	NUMBER (1)	N	Indicates if this PI is shared and owned by the system (Global PI).

ColumnName	DataType	Null	Description
METRIC	NVARCHAR2 (2000)	N	The PI metric. It can be a tag/alias, XHQ absolute path, or XHQ expression.
TARGET_EDIT_URL	NVARCHAR2 (485)	Y	The complete URL for the PI Target Editor page (TargetEditor.aspx).
CRT_XHQUSER	NVARCHAR2 (80)	N	The account name for the user that created the PI.
UPDT_XHQUSER	NVARCHAR2 (80)	Y	The account name for the user that modified/updated the PI last.
CRT_TIMESTAMP	DATE	N	The date and time when the PI was created.
UPDT_TIMESTAMP	DATE	Y	The date and time when the PI was last modified/updated.

Using the Target Database View

Each Performance Indicator can have multiple targets associated, with each record in this view representing one target record associated with the PI. The Target database view provides access to the following Target Management data:

- Performance Indicator (PI) unique ID
- Target unique ID
- Target Description
- Target Comments (long text description)
- Target Activation Date/Time
- Target Deactivation Date/Time
- Target Type (having the following possible values: Minimize, Maximize, Target, or Range)
- High Target Type (this is applicable only for "Range" targets having the following possible values: CONSTANT_VALUE, TAG, or EXPRESSION)
- Low Target Type (this is applicable only for "Range" targets having the following possible values: CONSTANT_VALUE, TAG, or EXPRESSION)
- Positive Tolerance Type
- Negative Tolerance Type
- Target Value Type (this is applicable for "Minimize", "Maximize" and "Target" type targets having the following possible values: CONSTANT_VALUE, TAG, or EXPRESSION)
- Target Value (this is applicable for "Minimize", "Maximize", and "Target" type targets, and can be a constant number, a tag or and XHQ valid expression)
- High Target Value (this is applicable for "Range" type targets, and can be a constant number, a tag or and XHQ valid expression)
- Low Target Value (this is applicable for "Range" type targets, and can be a constant number, a tag or and XHQ valid expression)
- Positive Tolerance
- Negative Tolerance
- Target Creator User
- Target Updated By User
- Target Creation Date/Time
- Target Last Update Date/Time

The database view name for the Target is **`XHQ_APP_TARGET_V`**.

View Details for XHQ_APP_TARGET_V

ColumnName	DataType	Null	Description
PI_ID	NUMBER (10)	N	The unique identifier for the PI.
TARGET_ID	NUMBER (10)	N	The unique identifier of the Target.
DESCRIPTION	NVARCHAR2 (256)	Y	The description of this Target record.
COMMENTS	NVARCHAR2 (2000)	Y	The comments for this Target record.
START_DATE	DATE	N	The activation date and time for this Target record.
END_DATE	DATE	Y	The activation date and time for this Target record.
TARGET_TYPE	NUMBER (1)	N	The type of the Target. The Target type codes are: RANGE - 4, MAXIMIZE - 5, MINIMIZE - 6, TARGET - 8.
HIGH_TARGET_TYPE	NUMBER (1)	Y	The type of the High Target parameter (only for "Range" type targets). The possible values for type codes are: CONSTANT_VALUE - 1, TAG - 2, EXPRESSION - 3.
LOW_TARGET_TYPE	NUMBER (1)	Y	The type of the Low Target parameter (only for "Range" type targets). The possible values for type codes are: CONSTANT_ VALUE - 1, TAG - 2, EXPRESSION - 3.
TARGET_VALUE_TYPE	NUMBER (1)	Y	The type of the Target value parameter. The possible values for type codes are: CONSTANT_VALUE - 1, TAG - 2, EXPRESSION - 3.
POS_TOL_TYPE	NUMBER (1)	Y	The type of the Positive Tolerance parameter. The only value can be CONSTANT_VALUE – 1.
NEG_TOL_TYPE	NUMBER (1)	Y	The type of the Negative Tolerance parameter. The only value can be CONSTANT_VALUE – 1.
TARGET_VALUE	NVARCHAR2 (2000)	Y	The actual value number, tag, or path of the Target Value parameter for this Target record.
HIGH_TARGET_VALUE	NVARCHAR2 (2000)	Y	The actual value number, tag, or path of the High Target Value parameter for this Target record.
LOW_TARGET_VALUE	NVARCHAR2 (2000)	Y	The actual value number, tag, or path of the Low Target Value parameter for this Target record.

ColumnName	DataType	Null	Description
POSITIVE_TOLERANCE	NVARCHAR2 (256)	Y	The numerical value of the Positive Tolerance parameter for this Target record.
NEGATIVE_TOLERANCE	NVARCHAR2 (256)	Y	The numerical value of the Negative Tolerance parameter for this Target record.
CRT_XHQUSER	NVARCHAR2 (80)	N	The account name for the user that created the Target.
UPDT_XHQUSER	NVARCHAR2 (80)	Y	The account name for the user that modified/updated the Target last.
CRT_TIMESTAMP	DATE	N	The date and time when the Target was created.
UPDT_TIMESTAMP	DATE	Y	The date and time when the Target was last modified/updated.

Using the Limit Database View

Each Performance Indicator can have multiple limits associated, with each record in this view representing one limit associated with the PI. The Limit database view provides access to the following Target Management data:

- Performance Indicator (PI) unique ID
- Limit unique ID
- Limit Name
- Limit Description
- Zone Type
- Limit Class
- Limit Type (for example HI, Lo, HI_LO)
- Current State (Active/Inactive)
- Limit State Description (for example, Above High Limit)
- Limit Activation Date/Time
- Limit Deactivation Date/Time
- Definition List
- Definition Section
- Category
- Anchor path
- Enabled/Disabled indicator
- Logged indicator
- Monitored member path/alias
- Shared indicator
- Limit Creator User
- Limit Updated By User
- Limit Creation Date/Time
- Limit Last Update Date/Time

The database view name for the Limit is **`XHQ_APP_LIMIT_V`**.

View Details for XHQ_APP_LIMIT_V

ColumnName	DataType	Null	Description
PI_ID	NUMBER (10)	N	The unique identifier for the PI.
LIMIT_ID	NUMBER (10)	N	The unique identifier of the Limit.
NAME	NVARCHAR2 (128)	N	The name of the Limit (generated by the

ColumnName	DataType	Null	Description
			Application Server).
DESCRIPTION	NVARCHAR2 (256)	Y	The description of the Limit.
ZONE_TYPE	NUMBER (1)	N	The zone boundary type for the limit. A limit can have one of the four zone/boundary types: Lower Critical - code 1, Lower Warning - code 2, High Warning - code 3, High Critical - code 4 or None - code 0.
ACTIVE	NUMBER (1)	N	Indicates if the alert associated with this limit is active.
STATE_DESC	NVARCHAR2 (80)	N	The name of the limit state.
CATEGORY	NVARCHAR2 (80)	Y	The category of the alert associated with this limit. This also represents the sub-type of the PI associated with the limit.
DEFINITION_LIST	NVARCHAR2 (80)	N	The user-definable name of the list that this limit belongs to. This also represents the type of the PI associated with the limit.
ENABLED	NUMBER (1)	N	Indicates whether or not the condition associated with this limit is to be detected at runtime.
LOGGED	NUMBER (1)	N	Indicates that the excursions generated by the condition associated with this limit should be logged.
SHARED	NUMBER (1)	N	Indicates that this limit definition may be shared.
LIMIT_CLASS	NVARCHAR2 (80)	N	The class of the limit.
SECTION	NVARCHAR2 (80)	Y	The unique name of the section within the definition list for the limit.
ANCHOR_PATH	NVARCHAR2 (256)	Y	An XHQ path that indicates what object in the XHQ solution is associated with this alert/limit.
LIMIT_TYPE	NVARCHAR2 (80)	N	The type of detector used for condition detection for this limit (for example, HILO).
MONITORED_VALUE	NVARCHAR2 (256)	N	The monitored value (alias or full path or literal) for the limit. The monitored value is the value of the PI metric.
HIGH_VALUE	NVARCHAR2 (256)	Y	The high value for a HILO type limit.
LOW_VALUE	NVARCHAR2 (256)	Y	The low value for a HILO limit.
START_DATE	DATE	N	The activation date and time for the limit.

ColumnName	DataType	Null	Description
END_DATE	DATE	Y	The deactivation date and time for the limit.
CRT_XHQUSER	NVARCHAR2 (80)	N	The account name for the user that created the Limit.
UPDT_XHQUSER	NVARCHAR2 (80)	Y	The account name for the user that modified/updated the Limit last.
CRT_TIMESTAMP	DATE	N	The date and time when the Limit was created.
UPDT_TIMESTAMP	DATE	Y	The date and time when the Limit was last modified/updated.

Retrieving Database Views Metadata

All columns for Target Management views are documented in the column comments table. This table includes the following information and can be queried to determine what a particular column means in one of the views:

- View (table) name
- Column name
- Column Comments

The database view name is **`XHQ_COLUMN_COMMENTS_V`**.

View Details for XHQ_COLUMN_COMMENTS_V

ColumnName	DataType	Null
TABLE_NAME	NVARCHAR2 (30)	N
COLUMN_NAME	NVARCHAR2 (30)	N
COMMENTS	NVARCHAR2 (4000)	Y

Accessing PI Configuration Data From XHQ

The XHQ Workbench contains the following pre-defined Target Management components:

- **`XHQ_PM_Performance_Indicator`**
  The standard performance indicator definition component.
- **`XHQ_PM_Target`**
  The standard PI target definition component.
- **`XHQ_PM_Target_Record`**
  The standard PI target record definition component.
- **`XHQ_PM_Limit`**
  The standard PI limit definition component.
- **`XTag`**
  The XHQ standard tag definition component.

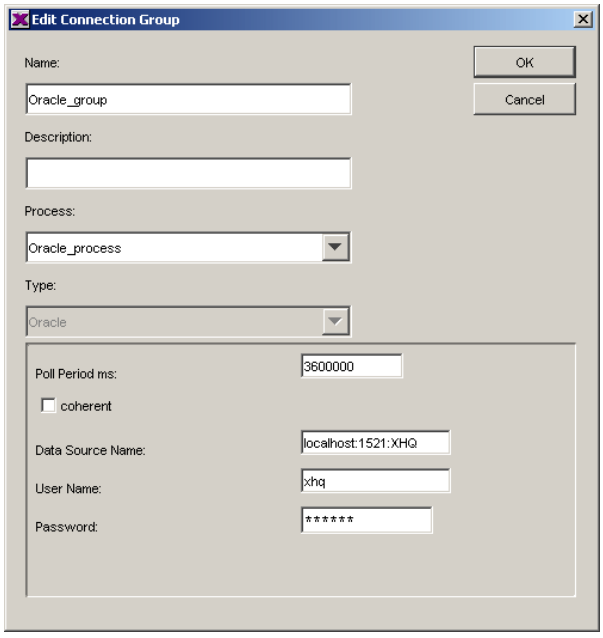
These pre-defined components are grouped in the "Performance Management" XHQ Workbench page. Because a performance indicator has zero to many targets and zero to many limits associated, the **XHQ_PM_Performance_Indicator** component contains a **XHQ_PM_Target_Record** nested collection and also a **XHQ_PM_Limit** nested collection.

To access the configuration (meta data) for performance indicators (in order to create Target Management runtime screens using XHQ Applet views or XHQ Visual Composer views), you need to create and use collections of **XHQ_PM_Performance_Indicator** and nested collections of type **XHQ_PM_Target_Record** and **XHQ_PM_Limit**.

To access PI configuration data using database views from XHQ

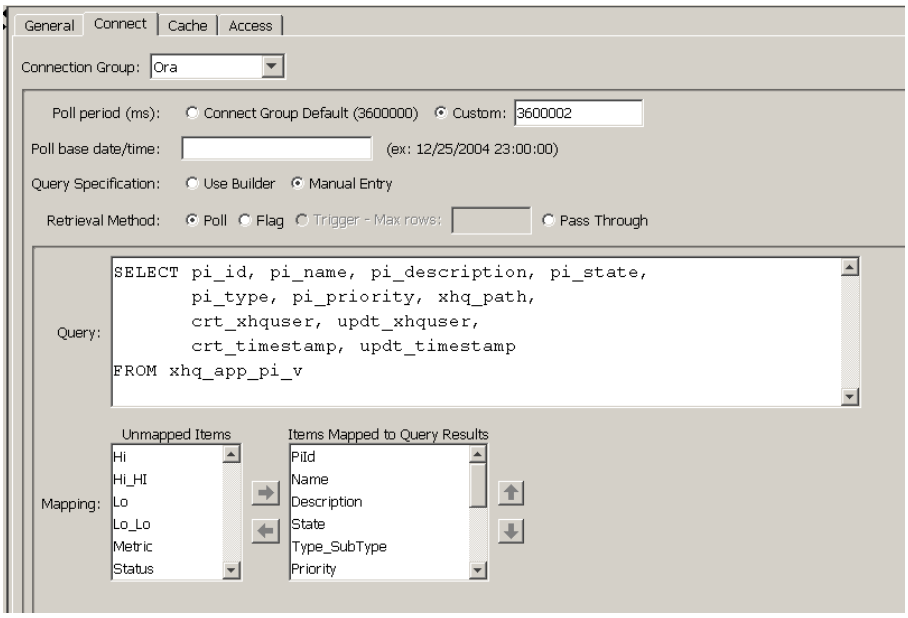
1. From the **Solution Builder**, configure an **Oracle connection** by doing the following in the order given:
   - Injecting the Oracle connector type.
   - Adding the connection process.
   - Creating the connection group using the following:

For:	Enter:
Data Source Name	`localhost:1521:XHQ`
Username	`xhq`
Password	(Use the password you entered during the XHQ installation.)

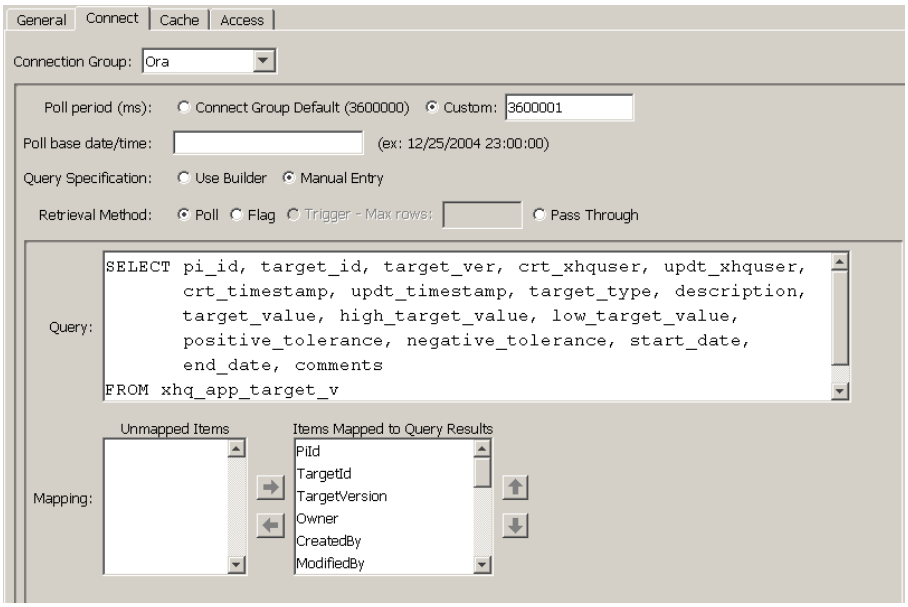


For more information, refer to the topic, *Oracle Connector*, located in the XHQ Connection Guide.

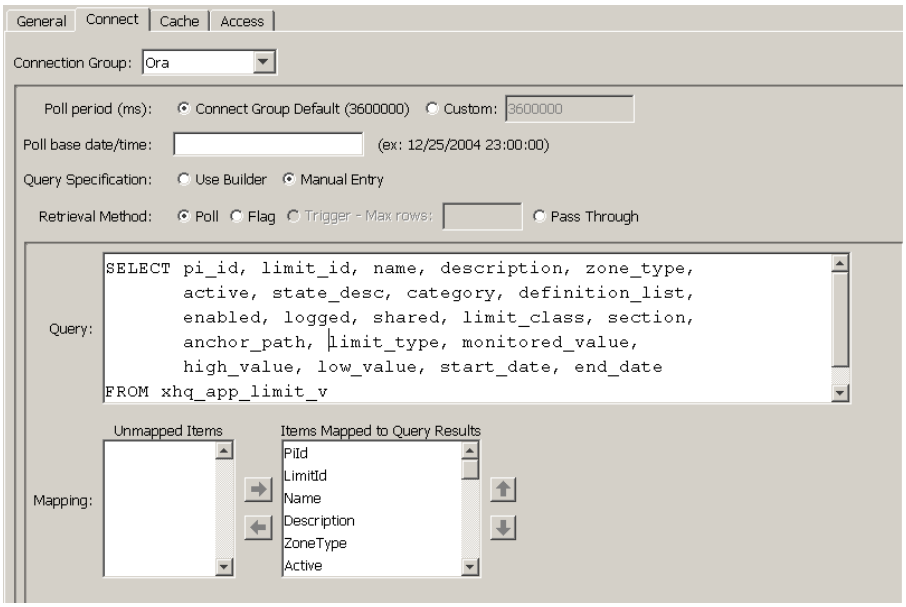
2. Create a collection of type **XHQ_PM_Performance_Indicator** named **PIs**, for example.
3. Use the Oracle connector to map the previously created collection to the **XHQ_APP_PI_V** database view.



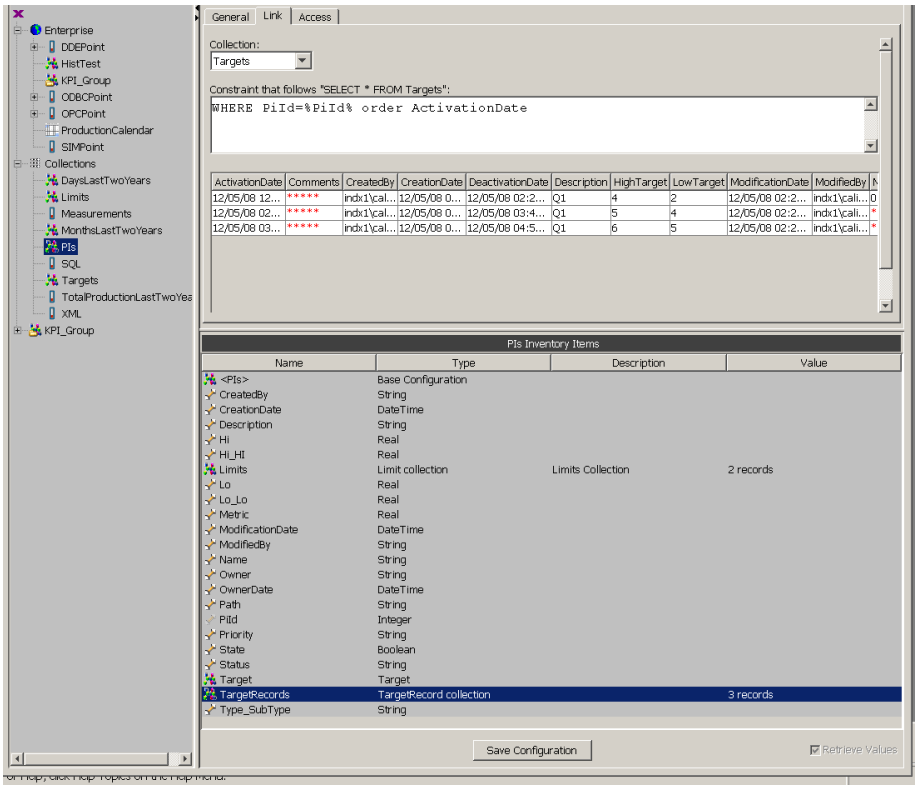
4. Create a collection for the **`XHQ_PM_Target_Record`** named **Targets**, for example.
5. Use the Oracle connector to map the previously created collection to the **`XHQ_APP_TARGET_V`** database view.



6. Create a collection for the **`XHQ_PM_Limit`** named **Limits**, for example.
7. Use the Oracle connector to map the previously created collection to the **`XHQ_APP_LIMIT_V`** database view.



8. In the Performance Indicator collection **PIs**, link the nested collection **TargetRecords** to the **Targets** collection.
9. In the **Link** tab, select the **Targets** collection.



10. In the **WHERE** constrain text area, enter:

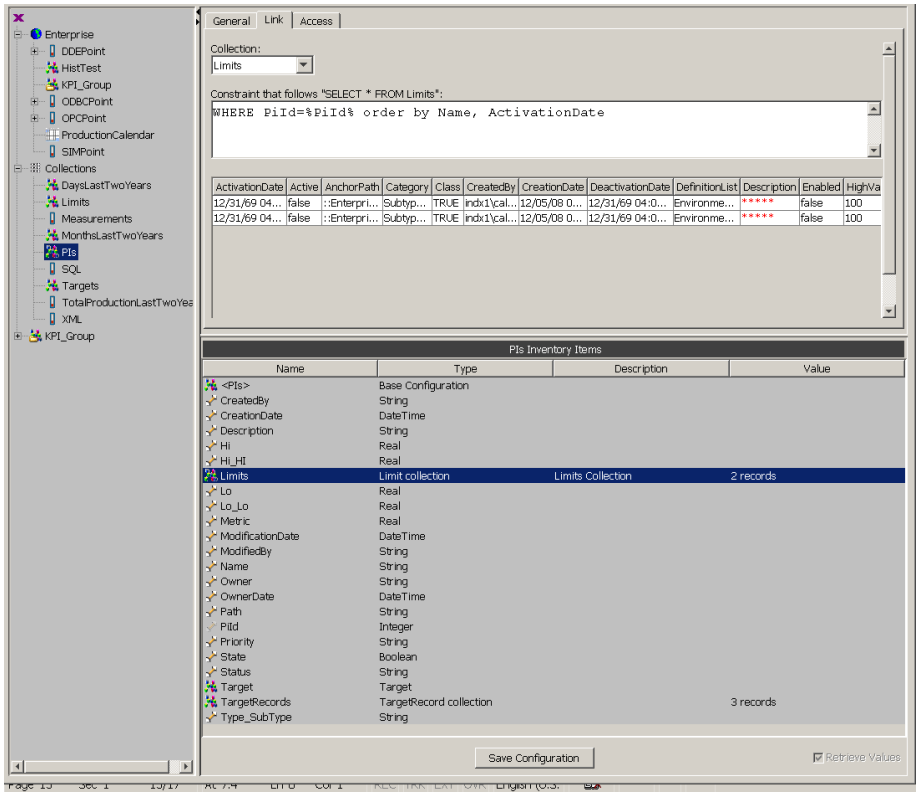
```
WHERE PiId=%PiId% ORDER BY ActivationDate
```

11. In the Performance Indicator collection **PIs**, link the nested collection **Limits** to the **Limits** collection.
12. In the **Link** tab, select the **Limits** collection.
13. In the **WHERE** constrain text area, enter one of the following:

- WHERE PiId=%PiId% ORDER BY ActivationDate

or

- WHERE PiId=%PiId% ORDER BY Name, ActivationDate



14. Click **Save Configuration**.

After following the above mentioned steps the Performance Indicator collection **`PIs`** is configured and ready to be used in XHQ Workbench or XHQ Visual Composer to build Target Management runtime screens (for example, a "Performance Indicator Browser" screen). This configuration allows PI filtering in the browser. Furthermore, by selecting a certain PI from the browser, this configuration allows drill-down to a PI Details screen that displays additional PI details, including, for example, the Targets and Limits associated with the PI.

Trending and Accessing PI Real-time Values from XHQ

The real-time values of a Performance Indicator, as well as the calculated values (like status and limits zone boundaries) cannot be retrieved from the database views. Therefore, collections cannot be used to retrieve these values.

Since the Application Server programmatically creates and manages Performance Indicators and their Targets as rootless objects in the XHQ Solution Server, their real-time value attributes (members) can be retrieved using the absolute path for that primitive member or, more conveniently, their alias.

In order to be able to show a PI's target or metric value in the XHQ Applet views, you can use a function like **`SubscribeToReal()`** in the XHQ Workbench and pass the absolute path or the alias as the input parameter.

Consider the following example.

To get the real-time value for the metric of a PI named `CO2_Emissions` using the absolute path, you set the following expression in the XHQ Workbench:

```
SubscribeToReal(Path + ".KPI_Group." + Name + ".Metric")
```

Where:

- The "Path" is the PI's "Anchor Path" column from the PI collection.
- The "KPI_Group" is the standard name of the Group containing all PIs that are created for a certain anchor path.
- "Name" is the PI name column from the PI collection, in this case `CO2_Emissions`.
- "Metric" is the name of the PI attribute/member.

At runtime this is translated into:

```
SubscribeToReal(::Enterprise.DDEPoint.KPI_Group. CO2_Emissions.Metric)
```

The generic syntax for a PI or Target attribute's absolute path is:

```
[PI_PATH].KPI_Group.[PI_NAME].[PI_ATTRIBUTE])
```

More conveniently, the alias can be used to get the PI's attribute real values:

- **`SubscribeToReal(CO2_Emissions _Metric)`**
  To get the Metric real-time value.

or

- **`SubscribeToReal(CO2_Emissions _Target)`**
  To get the PI's current Target real-time value.

The generic syntax for a PI's attribute alias is: **`[PI_NAME]_[PI_ATTRIBUTE]`**

The same approach can be used to trend PI targets. In the Embedded Trender (or XHQ Interactive Trender) use the Target alias (for example, `CO2_Emissions _Target`) in the **`Value Name`** field. Since the Application Server uses the XHQ Data Recorder (which supports storing and retrieving future values) to store the PI targets, the user can trend all the targets' values configured for a PI, both in the past (deactivated targets, historical data) and in the future (targets which have not yet been activated).

Using the Lost Opportunity Database Views

The following database views enable you to generate Lost Opportunity (LO) reports and build UI LO clients.

- `XHQ_LO_EXCRSN_SLICE_DTL_V`

```
CREATE OR REPLACE FORCE VIEW "XHQ"."XHQ_LO_EXCRSN_SLICE_DTL_V" ("ANS_ID", "CNDTN_DEF_
ID", "EXCRSN_LOG_ID", "EVENT_START_TIMESTAMP", "EVENT_END_TIMESTAMP", "LO_VALUE", "LO_
QUALITY", "AUC_VALUE", "AUC_QUALITY", "FACTOR_VALUE", "REASON_KEY", "REASON_NAME",
"PCT_OF_TOTAL", "ABS_VALUE", "REMARKS", "EVENTDEF_KEY", "EVENT_BOUNDRY_KEY")
AS
SELECT a.ans_id,
a.cndtn_def_id,
a.excrsn_log_id,
a.event_start_timestamp,
a.event_end_timestamp,
b.lo_value,
b.lo_quality,
a.auc_value,
a.auc_quality,
b.fctr_value,
c.reason_key,
d.reason_name,
c.pct_of_total,
c.abs_value,
c.remarks,
b.eventdef_key,
```

```
b.event_boundary_key
FROM xhq_lo_excrsn_slice a,
xhq_lo_excrsn_slice_context b,
xhq_lo_excrsn_slice_reasn c,
xhq_adm_reason_hierarchy d
WHERE b.slice_key =a.slice_key
AND c.slice_context_key=b.slice_context_key
AND d.reason_key(+) = c.reason_key;
```

- XHQ_LO_EXCRSN_SLICE_DTL_VBS_V

```
CREATE OR REPLACE FORCE VIEW "XHQ"."XHQ_LO_EXCRSN_SLICE_DTL_VBS_V" ("ANS_ID", "CNDTN_
DEF_ID", "CNDTN_DEF_DESC", "CNDTN_DEF_CATEGORY_KEY", "CNDTN_DEF_ANCHOR_PATH", "CNDTN_
DEF_LIST_ID", "EXCRSN_LOG_ID", "EVENT_START_TIMESTAMP", "EVENT_END_TIMESTAMP", "LO_
VALUE", "LO_QUALITY", "AUC_VALUE", "AUC_QUALITY", "FCTR_VALUE", "REASON_KEY", "REASON_
NAME", "PCT_OF_TOTAL", "ABS_VALUE", "REMARKS", "EVENTDEF_KEY", "EVENT_BOUNDARY_KEY",
"SCHED_ID", "SCHED_NAME", "SLICE_KEY", "SLICE_CONTEXT_KEY")
AS
SELECT a.ans_id,
a.cndtn_def_id,
e.cndtn_def_desc,
e.cndtn_cat_code_key,
e.anchor_xhq_path,
e.cndtn_def_list_id,
a.excrsn_log_id,
a.event_start_timestamp,
a.event_end_timestamp,
b.lo_value,
b.lo_quality,
a.auc_value,
a.auc_quality,
b.fctr_value,
c.reason_key,
d.reason_name,
c.pct_of_total,
c.abs_value,
c.remarks,
b.eventdef_key,
b.event_boundary_key,
g.sched_id,
g.sched_name,
a.slice_key,
b.slice_context_key
FROM xhq_lo_excrsn_slice a,
xhq_lo_excrsn_slice_context b,
xhq_lo_excrsn_slice_reasn c,
xhq_adm_reason_hierarchy d,
xhq_ans_cndtn_def e,
xhq_lo_event_boundary f,
xhq_adm_sched g
WHERE b.slice_key =a.slice_key
AND c.slice_context_key(+) =b.slice_context_key
AND d.reason_key(+) = c.reason_key
AND e.cndtn_def_id = a.cndtn_def_id
AND f.event_boundary_key = b.event_boundary_key
AND g.sched_id = f.adm_sched_id;
```

- XHQ_LO_EXCRSN_SLICE_DTL_NR_V

```
CREATE OR REPLACE FORCE VIEW "XHQ"."XHQ_LO_EXCRSN_SLICE_DTL_NR_V" ("ANS_ID", "CNDTN_
DEF_ID", "CNDTN_DEF_DESC", "CNDTN_DEF_CATEGORY_KEY", "CNDTN_DEF_ANCHOR_PATH", "CNDTN_
DEF_LIST_ID", "EXCRSN_LOG_ID", "EVENT_START_TIMESTAMP", "EVENT_END_TIMESTAMP", "LO_
VALUE", "LO_QUALITY", "AUC_VALUE", "AUC_QUALITY", "FCTR_VALUE", "EVENTDEF_KEY",
"EVENT_BOUNDARY_KEY", "SCHED_ID", "SCHED_NAME", "SLICE_KEY", "SLICE_CONTEXT_KEY")
AS
SELECT a.ans_id,
a.cndtn_def_id,
e.cndtn_def_desc,
e.cndtn_cat_code_key,
e.anchor_xhq_path,
e.cndtn_def_list_id,
a.excrsn_log_id,
a.event_start_timestamp,
a.event_end_timestamp,
b.lo_value,
b.lo_quality,
a.auc_value,
a.auc_quality,
b.fctr_value,
b.eventdef_key,
b.event_boundary_key,
g.sched_id,
g.sched_name,
a.slice_key,
b.slice_context_key
FROM xhq_lo_excrsn_slice a,
xhq_lo_excrsn_slice_context b,
xhq_ans_cndtn_def e,
xhq_lo_event_boundary f,
xhq_adm_sched g
WHERE b.slice_key =a.slice_key
AND e.cndtn_def_id = a.cndtn_def_id
AND f.event_boundary_key = b.event_boundary_key
AND g.sched_id = f.adm_sched_id;
```

eLogs and Database Views

Getting eLog Data

Use the following database views to retrieve eLogs data.

For:	The database view name is:
eLog Meta data	XHQ_ELOG_METADATA_V

eLog meta data contains all the data for the log, except the long text messages because an eLog could contain one-to-many long text (append) that are held in a table. In order to show the entire log context, the database view data needs to be combined with the database table using the OPER_LOG_ID field.

For:	The database table name is:
eLog long text messages	XHQ_ELOG_OPER_LOG_MSG

Using eLog Metadata View

The eLog metadata database view provides access to the following eLog data:

- eLog Unique ID
- Date Time
- Custom User (when user is Generic User)
- Log Type
- Log SubType
- Log Priority
- Short Text (subject of the log)
- Expired Log status
- Concatenated Associations as strings
- Date Time as Number (yyMMddHHmmss)
- eLog Anchor Path (XHQ Anchor Path)
- eLog User ID
- Log Type Unique ID
- Log SubType Unique ID
- Log Priority Unique ID
- Deactivate log status
- Log Status Unique ID

The database view name containing the eLog meta data is **`XHQ_ELOG_METADATA_V`**.

View Details for XHQ_ELOG_METADATA_V

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The eLog Unique ID (used in order to reference the log entry).
I_DATE_TIME	VARCHAR2(10)	N	Date Time as Number (yyMMddHHmmss)
DT_DATE_TIME	DATE	N	Date Time
XHQ_PATH	NVARCHAR2(4000)	N	The eLog anchor path. It includes the full path. *Example:* `::Enterprise.Node1`
CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
XHQ_USER	NVARCHAR(160)	N	The user ID.
LOG_TYPE	NVARCHAR(256)	N	The type of the eLog. *Examples:* Environmental, Production, Safety
LOG_TYPE_ID	NUMBER(18)	N	The unique type ID.
LOG_CLASS	NVARCHAR(256)	N	The sub- type of the eLog. *Examples:* Spills, Unit1, Contract
LOG_CLASS_ID	NUMBER(18)	N	The unique sub-type ID.
SHORT_TEXT	NVARCHAR(510)	N	The eLog short text.
LOG_PRIORITY	NVARCHAR(256)	N	The priority of the log. *Examples:* High, Medium, Low

Column Name	Data Type	Null	Description
LOG_PRIORITY_ID	NUMBER(18)	N	The unique priority ID.
DEACTIVE_LOG	NUMBER(18)	N	The deactivated state of the log. A log can be Active (state = 0) or Deactivate (state = 1).
EXPIRE_LOG	NUMBER(18)	N	The expired state of the log. A log can be Current (state = 0) or Expired (state = 1).
LOG_STATUS_ID	NUMBER(18)	N	The status state of the log. A log can be Pending (state = 0), Approved (state=1), or Rejected (state = 2).
ASSOC_STRING	NVARCHAR(4000)	N	The concatenated String of Associations (used for log filtering base on the Association).

Using eLog Long Text Data Table

The eLog long text database table provides access to the following eLog Data:

- eLog Unique ID
- Date Time
- Custom User (when user is Generic User)
- Log sequence
- Log Text Unique ID
- Log Text
- eLog User ID

The database table name containing the eLog long text data is **`XHQ_ELOG_OPER_LOG_MSG`**.

Table Details for XHQ_ELOG_OPER_LOG_MSG

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The unique eLog ID.
LOG_TEXT_ID	NUMBER(18)	N	The unique long text ID.
LOG_TEXT	DATE	N	The Date Time.
XHQ_PATH	NVARCHAR2(2000)	N	The eLog anchor path. It includes the full path. *Example:* `::Enterprise.Node1`
CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the user is a generic user. In that case, this field contains the username entered when saving the eLog.
XHQ_USER	NVARCHAR(160)	N	The user ID.
LOG_SEQ	NUMBER(18)	N	The log sequence. This field is used to order the long text base on the entry order.

Getting Shift Report Data

Use the following database views to retrieve shift report Data.

For:	The database view name is:
Shift Report	XHQ_ELOG_REPORT_SHIFT_BY_LOG_V
eLog Meta data	XHQ_ELOG_METADATA_V

The Shift Report does not store the log content. Rather, it stores the reference to the log. So in order to construct a Shift Report for an end user, the data needs to be combined between Shift report database view and eLogs database view and table, using the OPER_LOG_ID field.

For:	The database table name is:
eLog long text messages	XHQ_ELOG_OPER_LOG_MSG

For eLog view and table descriptions see the topic, *Getting eLog Data*.

Using Shift Report Data View

The Shift Report database View provides access to the following Shift Report Data:

- Report Unique ID
- Persist flag
- Schedule Unique ID
- Interval Unique ID
- Last Update Date Time
- Update Custom User
- Creator Custom User
- eLog Unique ID
- Include flag
- Schedule Name
- Interval Name
- Report Name
- Update User ID
- Creator User ID

The database view name containing the shift report data is **XHQ_ELOG_REPORT_SHIFT_BY_LOG_V**.

View Details for XHQ_ELOG_REPORT_SHIFT_BY_LOG_V

Column Name	Data Type	Null	Description
REPORT_ID	NUMBER(18)	N	The unique eLog ID.
OPER_LOG_ID	NUMBER(18)	N	The unique long text ID.
PERSIST	NUMBER(18)	N	Date Time
INCLUDE	NUMBER(18)	N	The eLog anchor path. It includes the full path.

Column Name	Data Type	Null	Description
			Example: `::Enterprise.Node1`
SCHED_ID	NUMBER(18)	N	The unique schedule ID.
SCHED_NAME	NVARCHAR2(256)	N	The schedule name. *Examples:* Maintenance Round, Planning Shift
INTERVAL_ID	NUMBER(18)	N	The unique interval ID.
INTERVAL_NAME	NVARCHAR(256)	N	The interval name. *Example:* day, night
REPORT_NAME	NVARCHAR(256)	N	The report name.
UPDT_TIMESTAMP	DATE	N	The last update time.
UPDT_CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the user is a generic user. In that case, this field contains the username entered during a report update.
UPDT_XHQ_USER	NVARCHAR(160)	N	The shift report update user ID.
CRT_CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the user is a generic user. In that case, this field contains the username entered when the report was created.
CRT_XHQ_USER	NVARCHAR(160)	N	The shift report creator user ID.

Getting Routine Parameters Data

Use the following database views to retrieve Routine Parameters Data.

For:	The database view name is:
Routine Parameters Group by Parameter Group	XHQ_ELOG_ROUTINE_LOG_BY_GRP_V
Routine Parameters	XHQ_ELOG_ROUTINE_LOG_V

Using Routine Parameter by Group Data View

The Routine Parameters by Group database view provides access to the following Routine Parameters Data, It also contains the group information, in case it is needed in XHQ for sorting or filtering.

- Parameter Unique ID
- Group Unique ID
- Parameter Sequence order
- Date Time
- Parameter String
- Parameter Comment
- Parameter Name
- Group Name
- Date Time as Number (yyMMddHHmmss)
- Parameter Value
- Parameter Response
- Condition Unique ID

- Condition name
- Custom User ID
- Parameter Anchor Path (XHQ Path)
- Parameter Target Name
- Parameter Type Unique ID
- User ID
- Parameter Description
- Parameter Tag Name
- Parameter Asset
- Parameter Type Name

The database view name containing the routine parameter data is **`XHQ_ELOG_ROUTINE_LOG_BY_GRP_V`**.

View Details for XHQ_ELOG_ROUTINE_LOG_BY_GRP_V

Column Name	Data Type	Null	Description
PARAM_ID	NUMBER(18)	N	The unique parameter ID.
GROUP_ID	NUMBER(18)	N	The unique group ID.
GROUP_NAME	NVARCHAR(256)	N	Group Name
PARAM_SEQ	NUMBER(18)	N	The Parameter Sequence Order. Used in order to place the parameters in the same order as they where configured in the Parameter Group, *Example:* refinery parameter first than unit 1 parameter
I_DATE_TIME	VARCHAR(10)	N	The Date Time as Number (yyMMddHHmmss).
DT_DATE_TIME	Date	N	Date Time
PARAM_VALUE	NUMBER(18,5)	Y	The Numeric Value. **Important:** If PARAM_STRING has values then this field should not be use.
PARAM_STRING	NVARCHAR(160)	Y	The free form value.
PARAM_RESPONSE	NVARCHAR(2048)	Y	The response text.
PARAM_COMMENT	NVARCHAR(2048)	Y	The comment text
COND_ID	NUMBER(18)	N	The condition unit ID.
CONDITION	NVARCHAR(160)	N	The condition name.
PARAM_NAME	NVARCHAR(256)	N	The parameter name.
PARAM_DESCR	NVARCHAR2(1024)	Y	The parameter description.
PARAM_NODE	NVARCHAR(2048)	Y	The parameter anchor path. It includes the full path. *Example:* `::Enterprise.Node1`
PARAM_TAGNAME	NVARCHAR(510)	Y	The tag name.
PARAM_TARGET	NVARCHAR(510)	Y	The target name.
PARAM_ASSET	NVARCHAR(510)	Y	The asset name.
PARAM_TYPE_ID	NUMBER(18)	N	The unique parameter type ID.
PARAM_TYPE	NVARCHAR(64)	N	The parameter type (used in order to sort or filter parameters).

Column Name	Data Type	Null	Description
CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the user is a generic user. In that case, this field contains the username entered when saving the parameter value.
XHQ_USER	NVARCHAR(160)	N	The user ID.

Using Routine Parameter Data View

The Routine Parameters database View provides access to the following Routine Parameters Data.

- Parameter Unique ID
- Date Time
- Parameter String
- Parameter Comment
- Condition name
- Custom User ID
- Parameter Anchor Path (XHQ Path)
- Parameter Target Name
- Parameter Type Unique ID
- Parameter Type Name
- Parameter Name
- Date Time as Number (yyMMddHHmmss)
- Parameter Value
- Parameter Response
- Condition Unique ID
- User ID
- Parameter Description
- Parameter Tag Name
- Parameter Asset

The database view name containing the routine parameter data is **`XHQ_ELOG_ROUTINE_LOG_V`**.

View Details for XHQ_ELOG_ROUTINE_LOG_V

Column Name	Data Type	Null	Description
PARAM_ID	NUMBER(18)	N	The unique parameter ID.
I_DATE_TIME	VARCHAR(10)	N	The Date Time as number (`yyMMddHHmmss`).
DT_DATE_TIME	Date	N	Date Time
PARAM_VALUE	NUMBER(18,5)	Y	The numeric value. **Important:** If PARAM_STRING has values, then this field should not be used.
PARAM_STRING	NVARCHAR(160)	Y	The free form value.
PARAM_RESPONSE	NVARCHAR(2048)	Y	The response text.
PARAM_COMMENT	NVARCHAR(2048)	Y	The comment text.
COND_ID	NUMBER(18)	N	The condition unit ID.
CONDITION	NVARCHAR(160)	N	The condition name.
PARAM_NAME	NVARCHAR(256)	N	The parameter name.

Column Name	Data Type	Null	Description
PARAM_DESCR	NVARCHAR2(1024)	Y	The parameter description.
PARAM_NODE	NVARCHAR(2048)	Y	The parameter anchor path. It includes the full path. *Example:* `::Enterprise.Node1`
PARAM_TAGNAME	NVARCHAR(510)	Y	The tag name.
PARAM_TARGET	NVARCHAR(510)	Y	The target name.
PARAM_ASSET	NVARCHAR(510)	Y	The asset name.
PARAM_TYPE_ID	NUMBER(18)	N	The unique parameter type ID.
PARAM_TYPE	NVARCHAR(64)	N	The parameter type (used in order to sort or filter parameters).
CUST_USER	NVARCHAR(160)	Y	By default, this is null except when the user is a generic user. In that case, this field contains the username entered when saving the parameter value.
XHQ_USER	NVARCHAR(160)	N	The user ID.

Using Flag Queries with eLogs

To improve solution performance, elogs provide a **Flag Query Table** that allows the configuration of the flag queries in global collections.

The database table name is **`XHQ_ELOG_UPDATE`**.

Table Details for XHQ_ELOG_UPDATE

Column Name	Data Type	Null	Description
APPLICATION	NVARCHAR(80)	N	The key name for the eLog. For example: Elog, ShiftReport, RoutineParameter.
UPDATESEQ	NUMBER(18)	N	The update sequence number. This number increases each time a user enters an eLog, shift report, or routine parameter.

Flag Query for Elog

Use this SQL Statement in the collection Refresh Query text area of the XHQ Solution Builder

```
Select UPDATESEQ from XHQ_ELOG_UPDATE where APPLICATION='Elog'
```

Flag Query for Shift Report

Use this SQL Statement in the collection Refresh Query text area of the XHQ Solution Builder

```
Select UPDATESEQ from XHQ_ELOG_UPDATE where APPLICATION='ShiftReport'
```

Flag Query for Routine Parameters

Use this SQL Statement in the collection Refresh Query text area of the XHQ Solution Builder

```
Select UPDATESEQ from XHQ_ELOG_UPDATE where APPLICATION=' RoutineParameter'
```

Additional eLog Views

View Details for XHQ_ELOG_OPER_LOG_ASSOC_V

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The eLog Unique ID (used in order to reference the log entry).
SEQ	NUMBER(18)	N	The log sequence. This field is used to order the long text base on the entry order.
ASSOC_STRING	NVARCHAR2	N	The concatenated String of Associations (used for log filtering based on the Association).
ASSOC_TYPE	NVARCHAR2	N	The association type (e.g. Tag, Asset, Document, etc.).
ENTRY_TYPE	NUMBER(18)	N	The association input type (0 for Collection, 1 for File and 2 for FreeForm).

View Details for XHQ_ELOG_OPER_LOG_MASTER_MSG_V

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The eLog Unique ID (used in order to reference the log entry).
DATE_TIME	DATE	N	The timestamp of the record.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
XHQ_USER	NVARCHAR2	N	The user ID.
LOG_TYPE_ID	NUMBER(18)	N	The unique type ID.
LOG_TYPE	NVARCHAR2	Y	The type of the eLog.
LOG_SUBTYPE_ID	NUMBER(18)	N	Log subtype unique ID.
LOG_SUBTYPE	NVARCHAR2	Y	Log subtype.
SHORT_TEXT	NVARCHAR2	N	The eLog short text.
CUST_USER	NVARCHAR2	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
DEACTIVE_LOG	NUMBER(18)	N	The deactivated state of the log. A log can be Active (state = 0) or Deactivate (state = 1).
EXPIRE_LOG	NUMBER(18)	N	The expired state of the log. A log can be Current (state = 0) or Expired (state = 1).

Column Name	Data Type	Null	Description
LOG_STATUS_ID	NUMBER(18)	N	The status state of the log. A log can be Pending (state = 0), Approved (state=1), or Rejected (state = 2).
LOG_STATUS	NVARCHAR2	N	The status of the log (Approved, Rejected, etc.).
LOG_PRIORITY_ID	NUMBER(18)	N	The unique priority ID.
LOG_PRIORITY	NVARCHAR2	Y	The priority of the log. `Examples`: High, Medium, Low
KEY_WORD	NVARCHAR2	Y	Log keywords.
EVENT_DATE_TIME	DATE	N	The log event timestamp.
ASSOC_STRING	NVARCHAR2	N	The concatenated String of Associations (used for log filtering base on the Association).
LOG_TEXT	NVARCHAR2	N	The Date Time.
MSG_DATE_TIME	DATE	N	The timestamp the log text entred into the system.

View Details for XHQ_ELOG_OPER_LOG_MASTER_RPT_V

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The eLog Unique ID (used in order to reference the log entry).
DATE_TIME	DATE	N	The timestamp of the record.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
XHQ_USER	NVARCHAR2	N	The user ID.
LOG_TYPE_ID	NUMBER(18)	N	The unique type ID.
LOG_TYPE	NVARCHAR2	Y	The type of the eLog.
LOG_SUBTYPE_ID	NUMBER(18)	N	Log subtype unique ID
LOG_SUBTYPE	NVARCHAR2	Y	Log subtype.
SHORT_TEXT	NVARCHAR2	N	The eLog short text.
CUST_USER	NVARCHAR2	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
DEACTIVE_LOG	NUMBER(18)	N	The deactivated state of the log. A log can be Active (state = 0) or Deactivate (state = 1).
EXPIRE_LOG	NUMBER(18)	N	The expired state of the log. A log can be Current (state = 0) or Expired (state = 1).
LOG_STATUS_ID	NUMBER(18)	N	The status state of the log. A log can be Pending (state = 0), Approved (state=1), or Rejected (state = 2).

Column Name	Data Type	Null	Description
LOG_STATUS	NVARCHAR2	N	The status of the log (Approved, Rejected, etc.)
LOG_PRIORITY_ID	NUMBER(18)	N	The unique priority ID.
LOG_PRIORITY	NVARCHAR2	Y	The priority of the log. *Examples*: High, Medium, Low
KEY_WORD	NVARCHAR2	Y	Log keywords.
EVENT_DATE_TIME	DATE	N	The log event timestamp.
ASSOC_STRING	NVARCHAR2	Y	The concatenated String of Associations (used for log filtering base on the Association).
REPORT_ID	NUMBER(18)	Y	The unique Report ID.

View Details for XHQ_ELOG_OPER_LOG_MASTER_V

Column Name	Data Type	Null	Description
OPER_LOG_ID	NUMBER(18)	N	The eLog Unique ID (used in order to reference the log entry).
DATE_TIME	DATE	N	The timestamp of the record.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
XHQ_USER	NVARCHAR2	N	The user ID.
LOG_TYPE_ID	NUMBER(18)	N	The unique type ID.
LOG_TYPE	NVARCHAR2	Y	The type of the eLog.
LOG_SUBTYPE_ID	NUMBER(18)	N	Log subtype unique ID.
LOG_SUBTYPE	NVARCHAR2	Y	Log subtype.
SHORT_TEXT	NVARCHAR2	N	The eLog short text.
CUST_USER	NVARCHAR2	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
DEACTIVE_LOG	NUMBER(18)	N	The deactivated state of the log. A log can be Active (state = 0) or Deactivate (state = 1).
EXPIRE_LOG	NUMBER(18)	N	The expired state of the log. A log can be Current (state = 0) or Expired (state = 1).
LOG_STATUS_ID	NUMBER(18)	N	The status state of the log. A log can be Pending (state = 0), Approved (state=1), or Rejected (state = 2).
LOG_STATUS	NVARCHAR2	N	The status of the log (Approved, Rejected, etc.).
LOG_PRIORITY_ID	NUMBER(18)	N	The unique priority ID.
LOG_PRIORITY	NVARCHAR2	Y	The priority of the log. *Examples*: High, Medium, Low

Column Name	Data Type	Null	Description
KEY_WORD	NVARCHAR2	Y	Log keywords.
EVENT_DATE_TIME	DATE	N	The log event timestamp.
ASSOC_STRING	NVARCHAR2	N	The concatenated String of Associations (used for log filtering base on the Association).

View Details for XHQ_ELOG_ROUTINE_PARAM_LOG_V

Column Name	Data Type	Null	Description
PARAM_ID	NUMBER(18)	N	The unique parameter ID.
PARAM_NAME	NVARCHAR2	N	The parameter name.
COND_LIST_ID	NUMBER(18)	N	The unique identifier for the condition list.
ISENABLE	NUMBER(18)	N	The status of the routine parameter (Enabled or not).
PARAM_NODE	NVARCHAR2	Y	The parameter anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
PARAM_TAGNAME	NVARCHAR2	Y	The tag name.
PARAM_TARGET	NVARCHAR2	Y	The target name.
PARAM_ASSET	NVARCHAR2	Y	The asset name.
USE_COND_LIST	NUMBER(15)	N	Flag setting for condition list.
USE_RESPONSE	NUMBER(15)	N	Flag setting for response.
USE_COMMENT	NUMBER(15)	N	Flag setting for comment.
PARAM_TYPE_ID	NUMBER(18)	N	The unique parameter type ID.
PARAM_DESCR	NVARCHAR2	Y	The parameter description.
DATE_TIME	DATE	N	The timestamp of the record.
PARAM_VALUE	NUMBER(18)	Y	The Numeric Value. **Important**: If PARAM_STRING has values then this field should not be used.
PARAM_STRING	NVARCHAR2	Y	The free form value.
PARAM_RESPONSE	NVARCHAR2	Y	The response text.
PARAM_COMMENT	NVARCHAR2	Y	The comment text.
CUST_USER	NVARCHAR2	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
XHQ_USER	NVARCHAR2	N	The user ID.
SCHED_ID	NUMBER(18)	Y	The unique schedule ID.

Column Name	Data Type	Null	Description
INTERVAL_ID	NUMBER(18)	Y	The unique interval ID.
COND_ID	NUMBER(18)	Y	The condition unit ID.
CONDITION	NVARCHAR2	Y	The condition name.
CUSTOM	NUMBER(18)	Y	Flag to identify the value to be entered is not numeric.
ISSTRING	NUMBER(18)	Y	Flag to identify the value is string.
HASVALUE	NUMBER(18)	Y	Flag for the condition if it has value.
VALUE_FORMAT	NVARCHAR2	Y	Format of the parameter.
UOM	NVARCHAR2	Y	Unit of measure of the parameter.
RANGE_LOW	NUMBER(18)	Y	The minimum value that can be entered.
RANGE_HIGH	NUMBER(18)	Y	The maximum value that can be entered.
COND_TYPE_ID	NUMBER(18)	Y	The condition type unique ID.
COND_DESCR	NVARCHAR2	Y	The condition description.

View Details for XHQ_ELOG_SR_REPORT_PARAM_V

Column Name	Data Type	Null	Description
REPORT_DEF_ID	NUMBER(18)	N	The unique Report Definition ID.
GROUP_ID	NUMBER(18)	N	The unique group ID.
GROUP_NAME	NVARCHAR2	N	The Group Name.
GROUP_DESCRIPTION	NVARCHAR2	Y	Parameter Group description.
GROUP_SEQ	NUMBER(18)	N	Group sequence.
PARAM_ID	NUMBER(18)	N	The unique parameter ID.
PARAM_SEQ	NUMBER(18)	N	The Parameter Sequence Order. Used in order to place the parameters in the same order as they where configured in the Parameter Group. *Example*: `refinery parameter first than unit 1 parameter`
PARAM_NAME	NVARCHAR2	N	The parameter name.
COND_LIST_ID	NUMBER(18)	N	The unique identifier for the condition list.
ISENABLE	NUMBER(18)	N	The status of the routine parameter (Enabled or not).
PARAM_NODE	NVARCHAR2	Y	The parameter anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
PARAM_TAGNAME	NVARCHAR2	Y	The tag name.
PARAM_TARGET	NVARCHAR2	Y	The target name.

Column Name	Data Type	Null	Description
PARAM_ASSET	NVARCHAR2	Y	The asset name.
USE_COND_LIST	NUMBER(15)	N	Flag setting for condition list.
USE_RESPONSE	NUMBER(15)	N	Flag setting for response.
USE_COMMENT	NUMBER(15)	N	Flag setting for comment.
PARAM_TYPE_ID	NUMBER(18)	N	The unique parameter type ID.
PARAM_DESCR	NVARCHAR2	Y	The parameter description.
DATE_TIME	DATE	N	The timestamp of the record.
PARAM_VALUE	NUMBER(18)	Y	The Numeric Value. **Important**: If PARAM_STRING has values then this field should not be used.
PARAM_STRING	NVARCHAR2	Y	The free form value.
PARAM_RESPONSE	NVARCHAR2	Y	The response text.
PARAM_COMMENT	NVARCHAR2	Y	The comment text.
COND_ID	NUMBER(18)	N	The condition unit ID.
CUST_USER	NVARCHAR2	Y	By default, this is null except when the end user is a generic user. In that case, this field contains the username entered when saving the eLog.
XHQ_USER	NVARCHAR2	N	The user ID.
SCHED_ID	NUMBER(18)	Y	The unique schedule ID.
INTERVAL_ID	NUMBER(18)	Y	The unique interval ID.

View Details for XHQ_ELOG_SR_SHFT_RPT_PRM_GRP_V

Column Name	Data Type	Null	Description
REPORT_ID	NUMBER(18)	N	The unique Report ID.
UPDT_TIMESTAMP	DATE	N	The last update time.
SCHED_ID	NUMBER(18)	N	The unique schedule ID.
INTERVAL_ID	NUMBER(18)	N	The unique interval ID.
REPORT_DEF_ID	NUMBER(18)	N	The unique Report Definition ID.
SR_STATUS_ID	NUMBER(18)	N	Shift Report Status unique ID.
ROLLUP_XHQ_PATH	NVARCHAR2	Y	XHQ Path.
GROUP_ID	NUMBER(18)	N	The unique group ID.
GROUP_SEQ	NUMBER(18)	N	Group sequence.
GROUP_NAME	NVARCHAR2	N	Group Name.

Column Name	Data Type	Null	Description
DESCRIPTION	NVARCHAR2	Y	Routine parameter group description.
PARAM_ID	NUMBER(18)	N	The unique parameter ID.
PARAM_SEQ	NUMBER(18)	N	The Parameter Sequence Order. Used in order to place the parameters in the same order as they where configured in the Parameter Group. *Example*: `refinery parameter first than unit 1 parameter`

View Details for XHQ_ELOG_SR_SHIFT_REPORT_SD_V

Column Name	Data Type	Null	Description
REPORT_ID	NUMBER(18)	N	The unique Report ID.
REPORT_NAME	NVARCHAR2	N	The report name.
REPORT_DEF_ID	NUMBER(18)	N	The unique Report Definition ID.
SCHED_ID	NUMBER(18)	N	The unique schedule ID.
INTERVAL_ID	NUMBER(18)	N	The unique interval ID.
SHIFT_NAME	NVARCHAR2	N	Shift name.
SHIFT_START_DATE	DATE	N	Shift start date.
SHIFT_START_ TIMESTAMP	DATE	Y	Shift start timestamp (date along with time).
START_SHIFT_GRACE	DATE	Y	Start time of the grace period.
END_SHIFT_DATE	DATE	Y	Shift End Date.
END_SHIFT_GRACE	DATE	Y	Shift grace date.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
BUFFER_TIME_ SECONDS	NUMBER(18)	N	End time of the grace period.
HAS_ROUTINE	NUMBER(18)	N	Indicates the report includes routines.
HAS_LOGS	NUMBER(18)	N	Indicates the report includes logs.
INCLUDE_ALL_LOGS	NUMBER(1)	N	Flag to include all logs.
CREATE_USER	NVARCHAR2	N	The user created the report.
UPDATE_USER	NVARCHAR2	N	The user updated the report.
UPDATE_TIMESTAMP	DATE	N	Update timestamp.

View Details for XHQ_ELOG_SR_SHIFT_REPORT_SG_V

Column Name	Data Type	Null	Description
REPORT_ID	NUMBER(18)	N	The unique Report ID.
REPORT_NAME	NVARCHAR2	N	The report name.
REPORT_DEF_ID	NUMBER(18)	N	The unique Report Definition ID.
SCHED_ID	NUMBER(18)	N	The unique schedule ID.
INTERVAL_ID	NUMBER(18)	N	The unique interval ID.
SHIFT_NAME	NVARCHAR2	N	Shift name.
SHIFT_START_DATE	DATE	N	Shift start date.
SHIFT_START_ TIMESTAMP	DATE	Y	Shift start timestamp (date along with time).
START_SHIFT_GRACE	DATE	Y	Start time of the grace period.
SHIFT_END_ TIMESTAMP	DATE	Y	Shift end timestamp (date along with time).
END_SHIFT_GRACE	DATE	Y	Shift grace date.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
BUFFER_TIME_ SECONDS	NUMBER(18)	N	End time of the grace period.
HAS_ROUTINE	NUMBER(18)	N	Indicates the report includes routines.
HAS_LOGS	NUMBER(18)	N	Indicates the report includes logs.
INCLUDE_ALL_LOGS	NUMBER(1)	N	Flag to include all logs.
CREATE_USER	NVARCHAR2	N	The user created the report.
UPDATE_USER	NVARCHAR2	N	The user updated the report.
UPDATE_TIMESTAMP	DATE	N	Update timestamp.

View Details for XHQ_ELOG_SR_SHIFT_REPORT_V

Column Name	Data Type	Null	Description
REPORT_ID	NUMBER(18)	N	The unique Report ID.
REPORT_NAME	NVARCHAR2	N	The report name.
REPORT_DEF_ID	NUMBER(18)	N	The unique Report Definition ID.
SCHED_ID	NUMBER(18)	N	The unique schedule ID.
INTERVAL_ID	NUMBER(18)	N	The unique interval ID.
SHIFT_NAME	NVARCHAR2	N	Shift name.

Column Name	Data Type	Null	Description
SHIFT_START_DATE	DATE	N	Shift start date.
SHIFT_START_ TIMESTAMP	DATE	Y	Shift start timestamp (date along with time).
START_SHIFT_GRACE	DATE	Y	Start time of the grace period.
SHIFT_END_ TIMESTAMP	DATE	Y	Shift end timestamp (date along with time).
END_SHIFT_GRACE	DATE	Y	Shift grace date.
XHQ_PATH	NVARCHAR2	N	The eLog anchor path. It includes the full path. *Example*: `::Enterprise.Node1`
BUFFER_TIME_ SECONDS	NUMBER(18)	N	End time of the grace period.
HAS_ROUTINE	NUMBER(18)	N	Indicates the report includes routines.
HAS_LOGS	NUMBER(18)	N	Indicates the report includes logs.
INCLUDE_ALL_LOGS	NUMBER(1)	N	Flag to include all logs..
CREATE_USER	NVARCHAR2	N	The user created the report
UPDATE_USER	NVARCHAR2	N	The user updated the report.
UPDATE_TIMESTAMP	DATE	N	Update timestamp.

Miscellaneous Views

Database View Name	Description
XHQ_ADM_SCHED_CLNDR_INTVL_DT_V	This view joins the XHQ_ADM_SCHED_INTRVL_CALNDR table with the XHQ_ADM_SCHED_INTRVL table to present shift information along with the calendar. *Special Field Use:* • "INTERVAL_START_TIME_ONDATE" Gives the start date and time of an interval (shift) on the calendar date. For intervals that span multiple days, this will be 00:00:00 if it is the early morning part of the shift. • "INTERVAL_START_DATETIME" The actual start date and time of the shift. If the shift actually started the previous day, then the date and time will be in the previous day. • "INTERVAL_END_TIME_ONDATE" Gives the end date and time of an interval (shift) on the calendar date. For intervals that span multiple days, this will be 23:59:59 if it is the late night part of the shift. • "INTERVAL_END_DATETIME"

Database View Name	Description
	The actual end date and time of the shift. If the shift actually ended on the next day, then the date and time will be in the next day.

Debugging with the XHQ Solution Builder

Because PIs and Targets are rootless (un-modeled) objects in the XHQ Solution Server, they can be viewed in the XHQ Solution Builder to monitor actual values. The ability to view KPIs and their Targets in the XHQ Solution Builder is enabled/disabled by setting the value for the **`DisableExtendedNamespaceUI`** global property.

If **false**, it enables the visualization of rootless objects in the XHQ Solution Builder. If **true** (which is the default), this feature is disabled.

Important Things to Note

- **This feature should only be used for debugging purposes.**
- Never modify the KPI and Target attribute configuration or expressions in the XHQ Solution Builder. Do not use the XHQ Solution Builder to modify rootless objects.

Enabling Debug Logging

For XHQ Performance Management, debug logging is done through the Application Server.

To enable debug logging

1. Go to the **`repos`** directory that is stored at the location specified by the environment variable, **`%XHQ_SERVER_REPOS%`** (which by default is `C:\XHQ\data\repos`).
2. Locate the **`app.properties`** file and open it using a text editor.
3. Find and edit the following lines:

   ```
   net.indx.util.syslog.sysloglevel=4
   net.indx.util.syslog.maxlogsizemb=2
   ```

   The `sysloglevel` property sets the debug logging level on the Application Server.

   The log levels are:

   0 = None (This is the default.)

   1 = Errors

   2 = Warnings

   3 = Information

   4 = Verbose

   The `maxlogsizemb` property sets the maximum size of the log file in megabytes.
4. Save **`app.properties`**.

For more information on this properties file, go to the topic, *The Application Server Properties File*.

eLogs URL Parameters

eLog Main Form

Form Name: `eLogMain.aspx`

Parameter(s):

Parameter Name	Description
HomePage	This sets the first page (the homepage) for the Main window. Values: • **SE** For Single Entry Form • **ME** For Multiple Entry Form • **PBME** For Path Based Multiple Entry Form • **RO** For Routine Logs Entry • **RE** For Shift Report • **CFG** For Configuration (eLog Admin) • **EX** For eLogs Explorer
HideTools	This hides the tool icon in the toolbar. **Note:** The Administrative Tools icon is always available to the Solution Admin role. Values: • **SE** For Single Entry Form • **ME** For Multiple Entry Form • **PBME** For Path Based Multiple Entry Form • **RO** For Routine Logs Entry • **RE** For Shift Report • **EX** For eLogs Explorer

eLogMain will pass any URL Parameter to the other forms.

eLogs Simple Routine Logs Form

Form Name: `RoutineParam.aspx`

Parameter(s):

Parameter Name	Description
ParamID	A valid Parameter ID.
ParamName	A valid Parameter name.
GroupID	A valid Group ID.
GroupName	A valid Group name.

eLogs Edit Simple Logs Form

Form Name: `EditLogEntry.aspx`

Parameter(s):

Parameter Name	Description
LogId	A valid Log Master ID.

eLogs Admin Form

Form Name: `eLogAdmin.aspx`

Parameter(s): *There are currently no parameters associated with this form.*

eLogs Explorer Form

Form Name: `eLogExplorer.aspx`

Parameter(s):

Parameter Name	Description
Dt1	Value Type: Start Date/Time format yyyyMMddHHmmss
Dt2	Value Type: Start Date/Time format yyyyMMddHHmmss
Type	Must match configured Types. Value Type: Valid Type
SubType	Must match configured Sub-types. Value Type: Valid SubType
Priority	Must match configured priority. Value Type: Valid Priority
pathName	The full XHQ node path. Value Type: Valid Node

Parameter Name	Description
KeyWord	Value Type: Freeform
ShortText	Value Type: Freeform
Text	Value Type: Freeform
Assoc	Value Type: Freeform

Single Log Entry Form

Form Name: `AddLogEntry.aspx`

Parameter(s):

Parameter Name	Description
EventDate	*URL Parameter* The event date for logs. The value for this parameter can either be **string date** or a **long** value.
Type	Must match configured Types. Value Type: Valid Type
SubType	Must match configured Sub-types. Value Type: Valid SubType
Priority	Must match configured priority. Value Type: Valid Priority
pathname	The full XHQ node path. Value Type: Valid Node
KeyWord	Value Type: Freeform
ShortText	Value Type: Freeform
Text	Value Type: Freeform
Assoc	The AssocType needs to match a configured Association Type (in the Admin screen) and the Association is any string. Value Type: AssocType | Association, AssocType|Association *Example:* Tags|PT001.PV,Tags|FT001.OP,Assets|TK101,Assets|PT001

Multiple Log Entry Form

Form Name: `AddMultipleLogs.aspx`

Parameter(s):

Parameter Name	Description
EventDate	*URL Parameter* The event date for logs. The value for this parameter can either

Parameter Name	Description
	be **string date** or a **long** value.
Type	*URL Parameter* The type for the log.

Path-Based Multiple Log Entry Form

Form Name: `AddMultipleLogs2.aspx`

Parameter(s):

Parameter Name	Description
CloseWin	Value Type: Integer **1** – Close after save **0** – Stay open
PathName	*URL Parameter* The path for the logs.
EventDate	*URL Parameter* The event date for logs. The value for this parameter can either be **string date** or a **long** value.
ReadOnlyPath	*URL Parameter* If set to "Yes", then the path field is READONLY. In addition, the icon of the loading template (which is loaded automatically) is hidden. *Default:* No

Routine Log List Entry Form

Form Name: `RoutineParamList.aspx`

Parameter(s):

Parameter Name	Description
ReportName	Value Type: Valid Report Name
GroupName	Value Type: Valid Group Name

Shift Report Entry Form

Form Name: `ShiftReport.aspx`

Parameter(s):

Parameter Name	Description
ReportName	Value Type: Valid Report Name
ShiftName	Value Type: Valid schedule interval in ANS

D - DTD Validation Syntax

```
<?xml version="1.0" encoding="UTF-8"?>
<!ELEMENT xhq:eLogsConfig (xhq:logConfigs?, xhq:routineConfigs?, xhq:reportConfigs?,
xhq:userConfigs?)>
<!ATTLIST xhq:eLogsConfig
xmlns:xhq CDATA #IMPLIED
serverHost CDATA #IMPLIED
solutionName CDATA #IMPLIED
solutionId CDATA #IMPLIED
exportTime CDATA #IMPLIED
exportFormattedTime CDATA #IMPLIED
xhqVersion CDATA #IMPLIED
xhqBuild CDATA #IMPLIED
>
<!ELEMENT xhq:logConfigs (xhq:assoc*, xhq:defaultSet*, xhq:multiDefaultSet*)>
<!ELEMENT xhq:assoc (xhq:assocCollection?)>
<!ATTLIST xhq:assoc
id CDATA #IMPLIED
type CDATA #REQUIRED
input CDATA #REQUIRED
enabled (true | false) #REQUIRED
>
<!ELEMENT xhq:assocCollection EMPTY>
<!ATTLIST xhq:assocCollection
id CDATA #IMPLIED
collName CDATA #REQUIRED
isGlobalColl (true | false) #REQUIRED
collField1 CDATA #REQUIRED
collField1Name CDATA #IMPLIED
collField2 CDATA #REQUIRED
collField2Name CDATA #IMPLIED
>
<!ELEMENT xhq:defaultSet EMPTY>
<!ATTLIST xhq:defaultSet
id CDATA #IMPLIED
user CDATA #REQUIRED
class CDATA #REQUIRED
priority CDATA #REQUIRED
node CDATA #REQUIRED
>
<!ELEMENT xhq:multiDefaultSet (xhq:defaultSetRec*)>
<!ATTLIST xhq:multiDefaultSet
id CDATA #IMPLIED
user CDATA #REQUIRED
node CDATA #REQUIRED
>
<!ELEMENT xhq:defaultSetRec EMPTY>
<!ATTLIST xhq:defaultSetRec
id CDATA #IMPLIED
type CDATA #REQUIRED
class CDATA #REQUIRED
priority CDATA #REQUIRED
>
<!ELEMENT xhq:routineConfigs (xhq:uom*, xhq:condType*, xhq:paramType*, xhq:condition*,
xhq:condList*, xhq:routineParam*, xhq:paramGrp*)>
<!ELEMENT xhq:uom EMPTY>
<!ATTLIST xhq:uom
```

```
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
enabled (true | false) #REQUIRED
>
<!ELEMENT xhq:condType EMPTY>
<!ATTLIST xhq:condType
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
enabled (true | false) #REQUIRED
>
<!ELEMENT xhq:paramType EMPTY>
<!ATTLIST xhq:paramType
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
enabled (true | false) #REQUIRED
>
<!ELEMENT xhq:condition EMPTY>
<!ATTLIST xhq:condition
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
enabled (true | false) #REQUIRED
custom (true | false) #REQUIRED
hasValue (true | false) #REQUIRED
units CDATA #IMPLIED
rangeLow CDATA #IMPLIED
rangeHigh CDATA #IMPLIED
valueFormat CDATA #IMPLIED
type CDATA #REQUIRED
>
<!ELEMENT xhq:condList (xhq:activeCond*)>
<!ATTLIST xhq:condList
id CDATA #IMPLIED
name CDATA #REQUIRED
>
<!ELEMENT xhq:activeCond EMPTY>
<!ATTLIST xhq:activeCond
id CDATA #IMPLIED
name CDATA #REQUIRED
>
<!ELEMENT xhq:routineParam (xhq:key*)>
<!ATTLIST xhq:routineParam
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
enabled (true | false) #REQUIRED
condList CDATA #REQUIRED
node CDATA #IMPLIED
tag CDATA #IMPLIED
target CDATA #IMPLIED
asset CDATA #IMPLIED
type CDATA #REQUIRED
useCondList (true | false) #REQUIRED
useComment (true | false) #REQUIRED
useResponse (true | false) #REQUIRED
>
<!ELEMENT xhq:key EMPTY>
<!ATTLIST xhq:key
```

```
id CDATA #IMPLIED
name CDATA #REQUIRED
>
<!ELEMENT xhq:paramGrp (xhq:activeParam*)>
<!ATTLIST xhq:paramGrp
id CDATA #IMPLIED
name CDATA #REQUIRED
description CDATA #IMPLIED
>
<!ELEMENT xhq:activeParam EMPTY>
<!ATTLIST xhq:activeParam
id CDATA #IMPLIED
name CDATA #REQUIRED
>
<!ELEMENT xhq:reportConfigs (xhq:reportDef*)>
<!ELEMENT xhq:reportDef (xhq:key*, xhq:paramGrp*, xhq:xhqPath*, xhq:selectedType*,
xhq:selectedSubType*, xhq:rollup*)>
<!ATTLIST xhq:reportDef
id CDATA #IMPLIED
name CDATA #REQUIRED
enabled (true | false) #REQUIRED
schedule CDATA #REQUIRED
bufferTime CDATA #REQUIRED
includeAllLogs (true | false) #REQUIRED
>
<!ELEMENT xhq:xhqPath EMPTY>
<!ATTLIST xhq:xhqPath
node CDATA #REQUIRED
>
<!ELEMENT xhq:selectedType EMPTY>
<!ATTLIST xhq:selectedType
name CDATA #REQUIRED
>
<!ELEMENT xhq:selectedSubType EMPTY>
<!ATTLIST xhq:selectedSubType
name CDATA #REQUIRED
>
<!ELEMENT xhq:rollup EMPTY>
<!ATTLIST xhq:rollup
name CDATA #REQUIRED
>
<!ELEMENT xhq:userConfigs (xhq:genericUser*)>
<!ELEMENT xhq:genericUser EMPTY>
<!ATTLIST xhq:genericUser
id CDATA #IMPLIED
name CDATA #REQUIRED
>
```

Exported XML File example

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<!-- Created by XHQ Application server export on Oct 7, 2013 10:12:02 AM PDT -
->
<!DOCTYPE xhq:eLogsConfig PUBLIC "-//INDX//DTD TM//EN"
"http://vcag012k8r2/indx/elogs/ELOGS.dtd" >
<xhq:eLogsConfig
   xmlns:xhq="http://www.siemens.com/indx"
   serverHost="vcag012k8r2"
   solutionName="Enterprise"
```

```
exportTime="1381165922216"
exportFormattedTime="Oct 7, 2013 10:12:02 AM PDT"
xhqVersion="4.6"
xhqBuild="93">
<xhq:logConfigs
   >
   <xhq:assoc
      id="4"
      type="ANS ID"
      input="Collection"
      enabled="true"
      >
      <xhq:assocCollection
         id="4"
         collName="collName"
         isGlobalColl="true"
         collField1="collField1"
         collField1Name="collField1Name"
         collField2="collField2"
         collField2Name="collField2Name"
      />
   </xhq:assoc>
   <xhq:assoc
      id="17"
      type="Asset"
      input="Collection"
      enabled="true"
   />
   <xhq:assoc
      id="24"
      type="Asset"
      input="Collection"
      enabled="true"
      >
      <xhq:assocCollection
         id="17"
         collName="collName"
         isGlobalColl="true"
         collField1="collField1"
         collField1Name="collField1Name"
         collField2="collField2"
         collField2Name="collField2Name"
      />
   </xhq:assoc>
   <xhq:assoc
      id="28"
      type="Cacat_Test_2"
      input="Collection"
      enabled="true"
      >
      <xhq:assocCollection
         id="21"
         collName="collName"
         isGlobalColl="true"
```

```
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
   />
</xhq:assoc>
<xhq:assoc
   id="23"
   type="Cacat_Test_2"
   input="Collection"
   enabled="true"
   >
   <xhq:assocCollection
      id="16"
      collName="collName"
      isGlobalColl="true"
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
   />
</xhq:assoc>
<xhq:assoc
   id="19"
   type="Document"
   input="File"
   enabled="true"
/>
<xhq:assoc
   id="7"
   type="Kpi"
   input="FreeForm"
   enabled="true"
/>
<xhq:assoc
   id="20"
   type="Others"
   input="FreeForm"
   enabled="true"
/>
<xhq:assoc
   id="35"
   type="Paparuda88100"
   input="Collection"
   enabled="true"
   >
   <xhq:assocCollection
      id="26"
      collName="collName"
      isGlobalColl="true"
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
```

```
   />
</xhq:assoc>
<xhq:assoc
   id="9"
   type="Paparuda88100"
   input="Collection"
   enabled="true"
   >
   <xhq:assocCollection
      id="6"
      collName="collName"
      isGlobalColl="true"
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
   />
</xhq:assoc>
<xhq:assoc
   id="21"
   type="Tag"
   input="Collection"
   enabled="true"
   >
   <xhq:assocCollection
      id="14"
      collName="collName"
      isGlobalColl="true"
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
   />
</xhq:assoc>
<xhq:assoc
   id="34"
   type="Work Order"
   input="Collection"
   enabled="true"
   >
   <xhq:assocCollection
      id="25"
      collName="collName"
      isGlobalColl="true"
      collField1="collField1"
      collField1Name="collField1Name"
      collField2="collField2"
      collField2Name="collField2Name"
   />
</xhq:assoc>
<xhq:assoc
   id="16"
   type="Work Order"
   input="Collection"
```

```
      enabled="true"
   />
   <xhq:defaultSet
      id="1"
      user="bruia_buha"
      class="GENERAL"
      priority="High"
      node="::Enterprise.DDEPoint"
   />
   <xhq:defaultSet
      id="2"
      user="Papagalus"
      class="GENERAL"
      priority="Medium"
      node="::Enterprise.SIMPoint"
   />
   <xhq:multiDefaultSet
      id="1"
      user="James Ma"
      node="::Enterprise.SIMPoint"
      >
      <xhq:defaultSetRec
         id="0"
         type=""
         class="eLog testing"
         priority="High"
      />
   </xhq:multiDefaultSet>
   <xhq:multiDefaultSet
      id="8"
      user="indx1\jamesma"
      node="::Enterprise.SIMPoint"
      >
      <xhq:defaultSetRec
         id="0"
         type="Environmental"
         class="Bulas 1"
         priority="Low"
      />
      <xhq:defaultSetRec
         id="1"
         type="Financial"
         class="GENERAL"
         priority="Low"
      />
      <xhq:defaultSetRec
         id="2"
         type="X_Cluj-Napoca"
         class="GENERAL"
         priority="High"
      />
   </xhq:multiDefaultSet>
</xhq:logConfigs>
<xhq:routineConfigs
```

```
>
<xhq:uom
   id="2"
   name="mamaliguta"
   description="sdfgfsdgsdf"
   enabled="false"
/>
<xhq:uom
   id="1"
   name="m"
   description="Meter"
   enabled="true"
/>
<xhq:condType
   id="1"
   name="Balabala"
   description="Balalba al condition"
   enabled="true"
/>
<xhq:condType
   id="2"
   name="Test_cond_Type"
   description="svalalab la portocala"
   enabled="true"
/>
<xhq:paramType
   id="1"
   name="Budinca"
   description="sdafsdafasdfasd"
   enabled="true"
/>
<xhq:paramType
   id="2"
   name="Pulasaa"
   description="sdafsdafasdfasd"
   enabled="true"
/>
<xhq:condition
   id="1"
   name="papa"
   description="cssdfd"
   enabled="true"
   custom="false"
   hasValue="true"
   units="m"
   rangeLow="5"
   rangeHigh="10"
   valueFormat="#0.##"
   type="Balabala"
/>
<xhq:condition
   id="2"
   name="ganebilus"
   enabled="true"
```

```
   custom="false"
   hasValue="true"
   units="m"
   rangeLow="225555.46"
   rangeHigh="885555.25"
   valueFormat="#55.## "
   type="Balabala"
/>
<xhq:condition
   id="3"
   name="ganebilus_22"
   description="Ganea Haide U!!!"
   enabled="true"
   custom="false"
   hasValue="true"
   units="m"
   rangeLow="22.46365"
   rangeHigh="88.24873"
   valueFormat="#0.## "
   type="Balabala"
/>
<xhq:condition
   id="4"
   name="ganebilus_22"
   description="Ganea Haide U!!!"
   enabled="true"
   custom="false"
   hasValue="true"
   units="m"
   rangeLow="22.46365"
   rangeHigh="88.24873"
   valueFormat="#0.## "
   type="Balabala"
/>
<xhq:condition
   id="5"
   name="ganebilus_22"
   description="Ganea Haide U!!!"
   enabled="true"
   custom="false"
   hasValue="true"
   units="m"
   rangeLow="22.46365"
   rangeHigh="88.24873"
   valueFormat="#0.## "
   type="Balabala"
/>
<xhq:condition
   id="6"
   name="ganebilus_22"
   description="Ganea Haide U!!!"
   enabled="true"
   custom="false"
   hasValue="true"
```

```
   units="m"
   rangeLow="22.46365"
   rangeHigh="88.24873"
   valueFormat="#0.## "
   type="Balabala"
/>
<xhq:condList
   id="1"
   name="Gruia_List"
   >
   <xhq:activeCond
      id="1"
      name="papa"
   />
   <xhq:activeCond
      id="2"
      name="ganebilus"
   />
</xhq:condList>
<xhq:condList
   id="2"
   name="Babiuc_List"
   >
   <xhq:activeCond
      id="2"
      name="ganebilus"
   />
   <xhq:activeCond
      id="1"
      name="papa"
   />
</xhq:condList>
<xhq:routineParam
   id="1"
   name="Test1_param"
   description="dfgdsfg"
   enabled="true"
   condList="Gruia_List"
   node="::Enterprise.DDEPoint"
   tag="papa"
   target="sdfsd"
   asset="sdfsdfsa"
   type="(General)"
   useCondList="true"
   useComment="true"
   useResponse="true"
   >
   <xhq:key
      id="-3"
      name="Role Admins"
   />
   <xhq:key
      id="-2"
      name="Solution Admins"
```

```
    />
    <xhq:key
       id="-4"
       name="Model Admins"
    />
    <xhq:key
       id="-1"
       name="Solution Users"
    />
</xhq:routineParam>
<xhq:routineParam
    id="2"
    name="Test2_param"
    description="dfgdf"
    enabled="true"
    condList="Gruia_List"
    node="::Enterprise.SIMPoint"
    tag="tag2"
    target="target2"
    asset="asseet2"
    type="(General)"
    useCondList="true"
    useComment="true"
    useResponse="true"
    >
    <xhq:key
       id="-4"
       name="Model Admins"
    />
    <xhq:key
       id="-3"
       name="Role Admins"
    />
    <xhq:key
       id="-2"
       name="Solution Admins"
    />
    <xhq:key
       id="-1"
       name="Solution Users"
    />
</xhq:routineParam>
<xhq:routineParam
    id="3"
    name="Test3_param"
    description="asdfasf"
    enabled="true"
    condList="Gruia_List"
    node="::Enterprise.DDEPoint"
    tag="tag3"
    target="target3"
    asset="asset3"
    type="Pulasaa"
    useCondList="true"
```

```
   useComment="true"
   useResponse="true"
   >
   <xhq:key
      id="-4"
      name="Model Admins"
   />
   <xhq:key
      id="-3"
      name="Role Admins"
   />
   <xhq:key
      id="-2"
      name="Solution Admins"
   />
   <xhq:key
      id="-1"
      name="Solution Users"
   />
</xhq:routineParam>
<xhq:paramGrp
   id="4"
   name="Param_Le Brena 2323"
   description="asdfasdf"
   >
   <xhq:activeParam
      id="2"
      name="Test2_param"
   />
   <xhq:activeParam
      id="3"
      name="Test3_param"
   />
   <xhq:activeParam
      id="1"
      name="Test1_param"
   />
</xhq:paramGrp>
<xhq:paramGrp
   id="3"
   name="Param_Le Brena 1"
   description="asdfasdf"
   >
   <xhq:activeParam
      id="2"
      name="Test2_param"
   />
   <xhq:activeParam
      id="3"
      name="Test3_param"
   />
   <xhq:activeParam
      id="1"
      name="Test1_param"
```

```
      />
   </xhq:paramGrp>
   <xhq:paramGrp
      id="2"
      name="Param_group_2"
      description="testing"
      >
      <xhq:activeParam
         id="1"
         name="Test1_param"
      />
   </xhq:paramGrp>
   <xhq:paramGrp
      id="1"
      name="Param_group_test1"
      description="asdfasdf"
      >
      <xhq:activeParam
         id="2"
         name="Test2_param"
      />
      <xhq:activeParam
         id="3"
         name="Test3_param"
      />
      <xhq:activeParam
         id="1"
         name="Test1_param"
      />
   </xhq:paramGrp>
</xhq:routineConfigs>
<xhq:reportConfigs
   >
   <xhq:reportDef
      id="3"
      name="Reportul 3 a Genialului Gruia"
      enabled="true"
      schedule="24x7"
      bufferTime="40"
      includeAllLogs="true"
      >
      <xhq:key
         id="-1"
         name="Solution Users"
      />
      <xhq:key
         id="-2"
         name="Solution Admins"
      />
      <xhq:paramGrp
         name="Param_group_test1"
      />
      <xhq:paramGrp
         name="Param_group_2"
```

```
    />
    <xhq:xhqPath
       node="::Enterprise.DDEPoint"
    />
    <xhq:selectedType
       name="Environmental"
    />
    <xhq:selectedType
       name="Financial"
    />
    <xhq:selectedType
       name="Maintenance"
    />
    <xhq:selectedSubType
       name="GENERAL"
    />
</xhq:reportDef>
<xhq:reportDef
   id="4"
   name="Reportul Pulalaului Geoana!!!"
   enabled="true"
   schedule="24x7"
   bufferTime="60"
   includeAllLogs="true"
   >
   <xhq:key
      id="-1"
      name="Solution Users"
   />
   <xhq:key
      id="-2"
      name="Solution Admins"
   />
   <xhq:paramGrp
      name="Param_group_test1"
   />
   <xhq:paramGrp
      name="Param_group_2"
   />
   <xhq:xhqPath
      node="::Enterprise.DDEPoint"
   />
   <xhq:selectedType
      name="Environmental"
   />
   <xhq:selectedType
      name="Financial"
   />
   <xhq:selectedType
      name="Maintenance"
   />
   <xhq:selectedSubType
      name="GENERAL"
   />
```

```
</xhq:reportDef>
<xhq:reportDef
   id="1"
   name="Test_Report"
   enabled="true"
   schedule="24x7"
   bufferTime="60"
   includeAllLogs="true"
   >
   <xhq:key
      id="-2"
      name="Solution Admins"
   />
   <xhq:key
      id="-4"
      name="Model Admins"
   />
   <xhq:key
      id="-3"
      name="Role Admins"
   />
   <xhq:key
      id="-1"
      name="Solution Users"
   />
   <xhq:paramGrp
      name="Param_group_test1"
   />
   <xhq:paramGrp
      name="Param_group_2"
   />
   <xhq:xhqPath
      node="::Enterprise.DDEPoint"
   />
   <xhq:selectedType
      name="Environmental"
   />
   <xhq:selectedType
      name="Financial"
   />
   <xhq:selectedType
      name="Maintenance"
   />
   <xhq:selectedType
      name="Production"
   />
   <xhq:selectedType
      name="Safety"
   />
   <xhq:selectedSubType
      name="GENERAL"
   />
</xhq:reportDef>
<xhq:reportDef
```

```
    id="6"
    name="Reportul 4 a Genialului Gruia"
    enabled="true"
    schedule="24x7"
    bufferTime="40"
    includeAllLogs="true"
    >
    <xhq:key
       id="-1"
       name="Solution Users"
    />
    <xhq:key
       id="-2"
       name="Solution Admins"
    />
    <xhq:paramGrp
       name="Param_group_test1"
    />
    <xhq:paramGrp
       name="Param_group_2"
    />
    <xhq:xhqPath
       node="::Enterprise.DDEPoint"
    />
    <xhq:selectedType
       name="Environmental"
    />
    <xhq:selectedType
       name="Financial"
    />
    <xhq:selectedType
       name="Maintenance"
    />
    <xhq:selectedSubType
       name="GENERAL"
    />
</xhq:reportDef>
<xhq:reportDef
    id="7"
    name="Reportul 2 a lui Gruia"
    enabled="true"
    schedule="24x7"
    bufferTime="40"
    includeAllLogs="true"
    >
    <xhq:key
       id="-1"
       name="Solution Users"
    />
    <xhq:key
       id="-2"
       name="Solution Admins"
    />
    <xhq:paramGrp
```

```
      name="Param_group_2"
    />
    <xhq:paramGrp
      name="Param_group_test1"
    />
    <xhq:xhqPath
      node="::Enterprise.DDEPoint"
    />
    <xhq:xhqPath
      node="::Enterprise.SIMPoint"
    />
    <xhq:selectedType
      name="Environmental"
    />
    <xhq:selectedType
      name="Financial"
    />
    <xhq:selectedType
      name="Maintenance"
    />
    <xhq:selectedSubType
      name="GENERAL"
    />
    <xhq:rollup
      name="Reportul 3 a Genialului Gruia"
    />
    <xhq:rollup
      name="Reportul Pulalaului Geoana!!!"
    />
    <xhq:rollup
      name="magalaica"
    />
</xhq:reportDef>
<xhq:reportDef
   id="8"
   name="Reportul 4 a Genialului Gruia"
   enabled="true"
   schedule="24x7"
   bufferTime="40"
   includeAllLogs="true"
   >
   <xhq:key
      id="-1"
      name="Solution Users"
   />
   <xhq:key
      id="-2"
      name="Solution Admins"
   />
   <xhq:paramGrp
      name="Param_group_test1"
   />
   <xhq:paramGrp
      name="Param_group_2"
```

```
      />
      <xhq:xhqPath
         node="::Enterprise.DDEPoint"
      />
      <xhq:selectedType
         name="Environmental"
      />
      <xhq:selectedType
         name="Financial"
      />
      <xhq:selectedType
         name="Maintenance"
      />
      <xhq:selectedSubType
         name="GENERAL"
      />
   </xhq:reportDef>
   <xhq:reportDef
      id="5"
      name="magalaica"
      enabled="true"
      schedule="None"
      bufferTime="40"
      includeAllLogs="false"
   />
</xhq:reportConfigs>
<xhq:userConfigs
   >
   <xhq:genericUser
      id="1"
      name="Gruia Boss"
   />
   <xhq:genericUser
      id="2"
      name="indx1\calingruit.borat"
   />
   <xhq:genericUser
      id="3"
      name="indx1\calingruit.borat"
   />
   <xhq:genericUser
      id="4"
      name="indx1\calingruit.borat"
   />
   <xhq:genericUser
      id="7"
      name="indx1\calingruit.borat"
   />
   <xhq:genericUser
      id="5"
      name="indx1\calingruit.borat"
   />
   <xhq:genericUser
      id="6"
```

```
         name="indx1\calingruit.borat"
       />
   </xhq:userConfigs>
</xhq:eLogsConfig>
```