



Telescope™

# Telescope – Administrator's Reference Manual

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# 1. Telescope Administrator Reference Manual

This chapter provides an overview of the Telescope Administrator.

- ◆ [Section 1.1, "About Telescope Administrator," on page 8](#)
- ◆ [Section 1.2, "Introduction to Telescope," on page 9](#)
- ◆ [Section 1.3, "Components of Telescope," on page 10](#)
- ◆ [Section 1.4, "Data Storage in Telescope," on page 13](#)
- ◆ [Section 1.5, "Metadata," on page 14](#)
- ◆ [Section 1.6, "Telescope Administration," on page 17](#)

# 1.1 About Telescope Administrator

Telescope Administrator is a web application that system and product administrators use to maintain:

- ◆ Telescope Connections
- ◆ Telescope Components
- ◆ Telescope Hubs
- ◆ Telescope Licenses
- ◆ User groups
- ◆ Metadata fields
- ◆ Predefined searches

## 1.2 Introduction to Telescope

Telescope is an enterprise-wide solution for managing digital assets. A digital asset is a valuable resource or product in digital form, for example, a PDF file containing text and graphics that forms part of an organization's intellectual property. Digital assets represent a wide range of file formats produced across the enterprise, for example:

- ◆ Engineering schematics
- ◆ Sound clips
- ◆ Digital photographs
- ◆ Graphic images
- ◆ Video clips
- ◆ Web pages
- ◆ Document files

Telescope can store any type of digital file and create thumbnail and preview images in a variety of file formats.

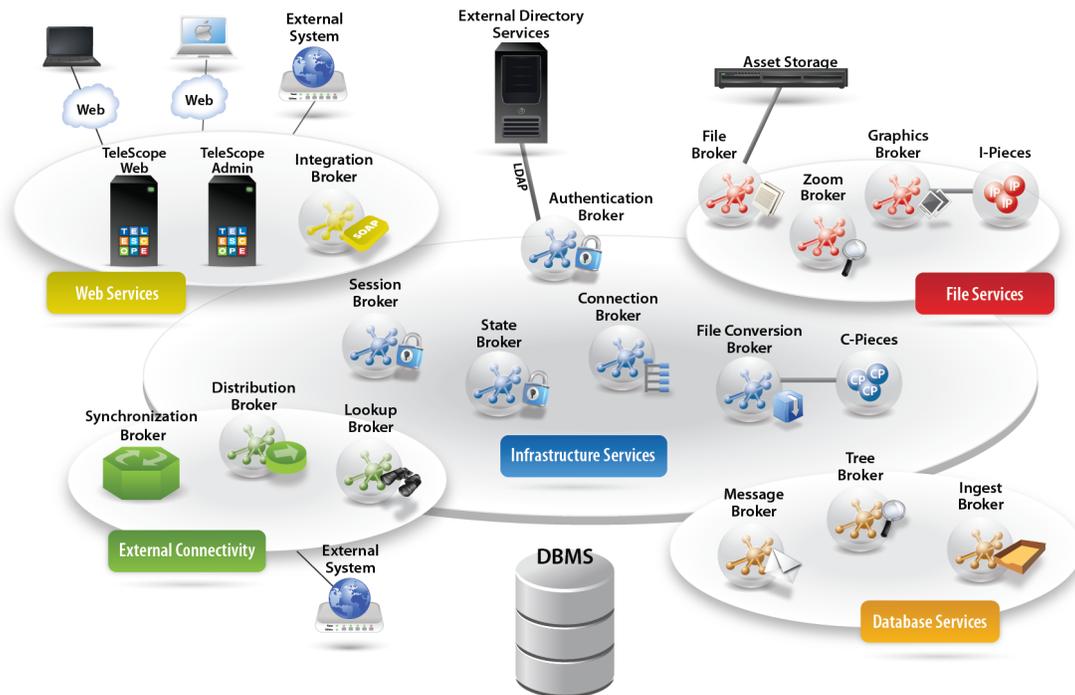
### Protecting Assets

Not only does Telescope track and organize assets, it also protects your organization's intellectual property by controlling how assets are accessed and used. Protecting assets means:

- ◆ Storing the physical assets on a device where they are available to other users to be copied (downloaded) and viewed – with or without restrictions.
- ◆ Maintaining searchable information about assets, called "metadata", which is specific to your organization or department and set up by the Telescope administrator.
- ◆ Keeping track of renditions attached to asset records. An asset's renditions are copies or a "variation" of the asset; for example, an asset might have "high resolution" and "low resolution" renditions or "draft" and "approved" renditions.
- ◆ Controlling access to assets by managing users' privileges for importing, copying, and deleting assets.
- ◆ Controlling how assets are re-purposed by converting them to different formats when they are retrieved; for example, you could select a graphic to download and then choose a conversion option for the medium where you might want to use it, say in a web page or brochure.
- ◆ Requiring users to check out assets and check them back in so that their integrity is maintained, along with named versions.
- ◆ Download an asset to your desktop or a predefined folder on your computer.

## 1.3 Components of Telescope

The following diagram provides a simplified overview of Telescope components, which can be distributed over several computers in a network.



Components	Description
Web	<p>These applications are available:</p> <ul style="list-style-type: none"> <li>◆ Use Telescope to add assets to the database, maintain and view information about assets, copy assets, and much more.</li> <li>◆ Telescope Administrator is a web application that system and product administrators use to maintain user groups, metadata fields, predefined searches.</li> </ul>
Asset repository	<p>The asset repository manages digital print and multimedia assets, including video and music. Repository services include security, communications, asset transformations, distribution, and permissions. Telescope supports Microsoft SQL Server and Oracle relational databases as its metadata storage system.</p>
Telescope Hub	<p>When you make a request of the Telescope system, the Hub coordinates the request. The Hub administers all of the activity of the Telescope system.</p>

Components	Description
Brokers	<p>Your request might be negotiated by a broker, depending on the type of action you perform. For example:</p> <ul style="list-style-type: none"> <li>◆ The File Broker manages the asset shares (the location where the physical files are stored), moves the asset files into and out of the shares, reports asset locations to the database, provides the file contents when a user requests to download the file, and manages location links. It can also manage the Conversion Broker and Conversion I-Piece (C.P. in the diagram) that converts assets to other file types while it is being downloaded.</li> <li>◆ The Lookup Broker enables users to search for and retrieve values from distributed, diverse, and very large sources of metadata in other databases.</li> <li>◆ The Graphics Broker manages the I-Pieces, which in turn, generates thumbnails and extended views, and extracts properties of an asset, during ingestion. Telescope supports multiple Graphics Brokers which allow you to deploy the Graphics Brokers together with the File Brokers to reduce network traffic.</li> <li>◆ The Session Broker is part of Telescope Hub server application. It provides real-time monitoring for all user actions and server component states, session information to Telescope administrators, control of server component deployment, control of Telescope user sessions, and control of I-Piece and Conversion I-Piece deployment.</li> </ul> <p>Administrators access the Session Broker through Telescope Administrator, where they can add license keys and define settings such as heartbeat interval and idle time-out. The session broker manages all of your Telescope licenses including the number of concurrent connections.</p> <ul style="list-style-type: none"> <li>◆ Connection Broker is a centralized repository of database connection information and a “name service” for this connection information.</li> <li>◆ Ingest Broker is used to import assets into Telescope and populate the metadata fields of the database. The Ingestion Broker includes support for File Migration Policies, which provide the flexibility to move the asset to the File Broker during the ingestion process, along with ability to configure file-name collision handling. Duplicate assets are identified using MD5 signatures created from the asset contents.</li> </ul>
Solr Search Components (not shown in diagram)	<p>The <b>Solr Search platform</b> uses the following components to perform searches:</p> <ul style="list-style-type: none"> <li>◆ <b>Solr Multicore</b> (Required) — The Apache Solr platform, used to store and access search indexes. The platform is multicore, meaning it is capable of running multiple cores (databases) at once. (The Solr platform is installed on the machine where the SolrMulticore MSI is installed.)</li> <li>◆ <b>Indexing Broker</b> (Required) — A Telescope broker that manages the search indexing process by sending new and changed data from the Telescope SQL database to the SolrMulticore server to ensure search indexes are kept up to date. If TSWeb is configured to use the Solr search mode, it uses these indexes for fast searching.</li> <li>◆ <b>Child Indexing Broker</b> (Required) — An broker, controlled by the Indexing Broker, used to execute the search indexing process.</li> </ul>

Components	Description
Synchronization Broker	This feature is an automatic process that executes on schedule to “push” data from the Telescope database to a MIMiX file and then notifies the target system to retrieve the asset and the data. Each push process is controlled by a configuration file, and Telescope administrators can set up one or more to work in their systems.
I-Pieces	A plug-in architecture known as I-Piece Technology. It is used within Telescope to recognize, parse, and display an asset to the user in different file formats. New or proprietary file formats can be supported within Telescope simply by adding an I-Piece designed for a specific format.

## 1.4 Data Storage in Telescope

Assets themselves are not stored inside the Telescope database. The physical asset might be located on individuals' computers, servers, or offline storage. However, for these assets to be secure and accessible to other Telescope users, they must be stored in a network drive that is accessible to the Telescope File Broker.

Rather than the assets themselves, the Telescope database management system (DBMS) stores records containing the metadata, thumbnail, and preview. Each metadata record contains:

- ◆ Location of the asset anywhere on the network or in offline storage.
- ◆ Thumbnail representation of the asset's content.
- ◆ Information about the asset (metadata).
- ◆ Extended view (multi-page Component Object View) or preview image of the asset.

An asset record can represent more than one physical file. For example, a logo might exist in the original Adobe Illustrator file as a vector EPS that the artist created, as well as in copies (in other formats such as GIF or JPEG) derived from the original asset. The Illustrator file and its copies can be attached to the asset record as separate renditions.

When assets are uploaded by users or auto-ingested from a hot folder, the physical asset is copied from the original location by the File Broker to a repository, and the metadata is extracted by one or more I-Pieces and stored within the Telescope database. The Solr Indexing Brokers also copy this data to the Solr Multicore to enable searching.

### For more information

- ◆ [Section 11.1, "External Storage of Data," on page 146](#)
- ◆ [Section 13., "Configure Auto-Ingestion via Hot Folders," on page 173](#)

## 1.5 Metadata

Metadata is structured information describing the characteristics of assets. The Telescope administrator defines the metadata fields that are used by Telescope and stored in the database to record information about each asset. The administrator has control over which fields are required to have information and which are optional, as well as what user groups can view individual fields. Metadata can then be used to as criteria to search and locate assets in the database.

Metadata is applied to the asset by the user when it is imported into Telescope. Users can look at and update the metadata applied to an asset via the Document Information View through any one of the Telescope web interface.

### For more information

- ◆ [Section 10., "Metadata Fields," on page 125](#)

### 1.5.1 Asset Documents

When an asset is added to the database, it is represented by a record that contains its metadata. You can then attach renditions to the asset. (Importing an asset is a shortcut for creating an asset and attaching a file to it.) When you attach image files to an asset, thumbnail and extended images are created and added to the record.

You do not have to attach a file to an asset. For example, you can create assets that contain only metadata in order to store important information that might not be applicable to a particular file. These records can be used to store information about a Project, a Collection or possibly represent a *Work Order*. This record could store all sorts of metadata as well as links to related assets within the system.

### 1.5.2 Types of Metadata Fields

Metadata is represented as fields that can accept the following data types:

#### Char

A data field that can contain up to 255 alphanumeric characters.

#### Longchar

A data field that can contain greater than 255 alphanumeric character. The maximum length is defined when a metadata field is created in Telescope Administrator.

#### Integer

A data field that can contain a 32-bit 2's complement integer.

#### Short Integer

A data field that can contain a 16-bit 2's complement integer.

#### Timestamp

A data field that contains a date value, a time value, or both.

#### Boolean

A data char(1) field. Valid values are true or false and are stored in the database as a "Y" or "N" values. If it's not specified as a required field, another valid value is NULL (not specified).

#### Repeating

An array of keyword in a single field. If there are n items in the array, n+1 characters are used as delimiters. For example, “[two items|three delimiters|”. The sum of the array data plus delimiters cannot exceed the maximum defined length (and the maximum field length cannot exceed 4000 characters).

### Normalized Repeating

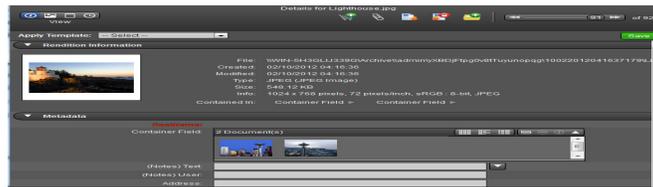
An array of keywords in a separate table. If there are n items in the array, there are n entries in the separate table. The length of each entry can be up to 255 characters. For more information on setting up normalized repeating fields, see [Section 10.3, "Set Up Normalized Repeating Fields," on page 133](#).

### Real

32-bit floating point number.

### Container Field

A container field is like a virtual folder that holds related records. The container field data type takes the form of links to other records in the database. In the Document Info view, a container field displays thumbnail images of its contents. For example:



### Iconic Fields

Iconic fields display as icons to the user. Each value defined for the field is represented by a different icon. The Telescope Administrator associates specific icons to specific fields. These fields are integers in the database. For example:

Value	Icon
0	☆☆☆☆
1	★☆☆☆
2	★★☆☆
3	★★★☆☆
4	★★★★☆

If the user has editing permission, the field values can be changed using a menu. For example:



## Separator Field

Separator Field allows you to group metadata fields.

## 1.6 Telescope Administration

As a Telescope administrator, you may perform the following tasks:

- ◆ Manage the Telescope system, including configuring connection data, setting up Hubs, managing licenses, updating software, and other tasks. See [“System Administration Tasks” on page 29](#).
- ◆ Set up search indexing, and define searches. See [“Set Up Searching” on page 225](#).
- ◆ Monitor user activity. See [“Use The Database Home Page” on page 25](#).
- ◆ Create announcements that will appear when users log in to Telescope. See [“Announcements” on page 321](#).
- ◆ Set up cross-platform networking so that Telescope users on the Macintosh and Windows can access assets. See [“Cross Platform Networking” on page 327](#).
- ◆ Define download methods, including QuickLinks, so that Telescope users have alternative means to copy assets. See [“Configure Telescope Uploader” on page 153](#).
- ◆ Define and manage metadata fields in the Telescope database. See [“Metadata Fields” on page 125](#).
- ◆ Define and manage file migration policies that determine file storage location when assets are imported into the system. See [“File Shares and File Migration” on page 145](#).
- ◆ Add asset types to the database. See [“File Types” on page 275](#).
- ◆ Configure order processing functionality. See [“Fulfillers” on page 289](#).
- ◆ Define and manage Telescope message actions. See [“Message Actions” on page 333](#).
- ◆ Define and manage named conversions, which allow users to easily convert assets between formats when they download assets. See [“Named Conversions” on page 337](#).
- ◆ Add rendition types so that different "flavors" of an asset can be attached to asset records. See [“Rendition Types” on page 271](#).
- ◆ Create and manage functional rules that are triggered in response to users' actions. See [“Functional Rules” on page 187](#).
- ◆ Maintain database settings, such as version-naming conventions and COV links. See [“Telescope Database Settings” on page 83](#).
- ◆ Monitor database statistics, including users' actions. See [“Database Statistics” on page 357](#).
- ◆ Create users and groups and define their privileges. See [“Users and Groups” on page 95](#).
- ◆ Configure video editing options and user permissions for the Video Manager I-Piece if you have purchased it. See the *Video Manager User's Guide*.
- ◆ Define and manage watermarks that are displayed in extended views. See [“Watermarks” on page 281](#).
- ◆ Create and assign Telescope Welcome Pages. See [“Welcome Pages” on page 311](#).
- ◆ Orchestration allows you to define workflows that control the flow of assets through the various stages of the creative process. See [“Orchestration” on page 345](#).
- ◆ Customize the TSWeb interface seen by users, for example, by adding sites or themes, or changing components such as images, navigation panels, or halo colors. See the *TSWeb Interface Customization Guide*.



## 2. Using Telescope Administrator (TSAdmin)

This chapter provides information about using Telescope Administrator.

- ◆ [Section 2.1, "Get Started," on page 20](#)
- ◆ [Section 2.2, "Log In as Telescope Administrator," on page 21](#)
- ◆ [Section 2.3, "About the System Home Page," on page 22](#)
- ◆ [Section 2.4, "Change the Administrator Log In Password," on page 23](#)
- ◆ [Section 2.5, "Monitor Active Users," on page 24](#)
- ◆ [Section 2.6, "Use The Database Home Page," on page 25](#)
- ◆ [Section 2.7, "Customize Telescope Administrator," on page 26](#)
- ◆ [Section 2.8, "Log Out of Telescope Administrator," on page 27](#)

## **2.1 Get Started**

### **2.1.1 Installation**

For assistance installing Telescope (including Telescope Administrator), see *Telescope—Installation and Configuration Guide for Windows Server 2008 R2*.

### **2.1.2 System Requirements**

Your web browser is the interface to the Telescope Administrator application.

For a list of system requirements (including browser and display requirements), see the *Telescope—System Requirements Guide*.

## 2.2 Log In as Telescope Administrator

Your web browser is the interface to the Telescope Administrator application. Telescope Administrator has two log in options: System Administrator and Database Administrator. To access the Telescope Administrator start your web browser and enter the URL for your Telescope installation. For example:

```
http://<Web_Server_Name>/Scripts/WebObjects.dll/TSAdmin
```

**Figure 2.1** Telescope Administrator Login



To log on as the system administrator:

- 1 Select "System" from the *Administer* menu.
- 2 In the *Username* field enter "sysadmin".
- 3 In the *Password* field enter the password (if any).
- 4 Click *Login*.

---

**NOTE:** By default, the password for the sysadmin user is blank. To create a password for the sysadmin user, see [Section 2.1, "Change the Administrator Log In Password,"](#) on page 23.

---

To log in as a database administrator:

- 1 Select the database from the *Administer* list.
- 2 Enter a user name and password.
- 3 Click *Login*.

---

**NOTE:** Although it is recommended that only one system administrator be logged in at one time, Telescope Administrator allows multiple system administrator sessions to exist in parallel. Only one database administrator can be logged in to administer a data source at any one time.

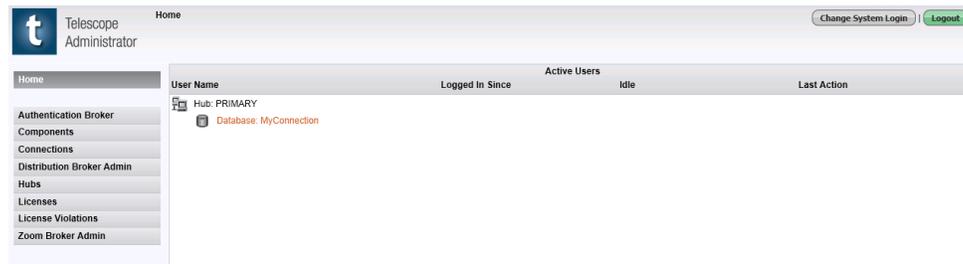
If you need to access the data source but another person is already logged in as database administrator, log in as a sysadmin to disconnect them. See [Section 2.5.2, "Disconnect a User,"](#) on page 24.

---

## 2.3 About the System Home Page

The System Home page displays information about active components and users and administrative tasks.

**Figure 2.2** System Home Page



The Active Users area displays the following information:

- ◆ Hubs installed in your Telescope system.
- ◆ Databases installed on each Hub.
- ◆ License Pools, if any, on each database.
- ◆ Users currently logged in to each database, as well as their license types (for example, Power User, Browse and Download User, or Administrator).
- ◆ The date and time when each user logged in.
- ◆ The length of time that has passed since each user performed an action.
- ◆ The last action performed by each user.

Click the *Refresh* button to update the information displayed. Alternatively, wait for the page to refresh which happens automatically every 60 seconds. To go to the home page for a database, click it in the Active Users list.

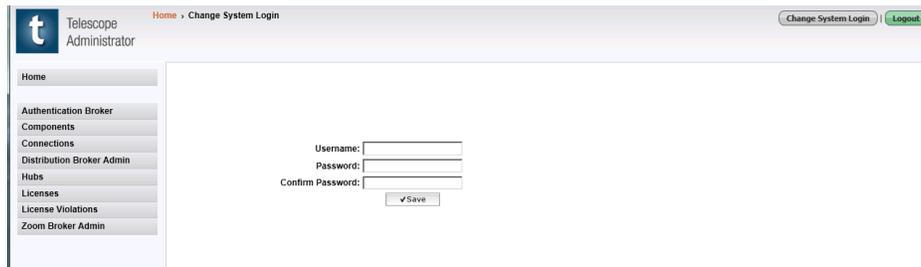
## 2.4 Change the Administrator Log In Password

It is recommended that you change the "sysadmin" account password immediately after installing Telescope since this account is used to administer the environment. For additional security, you can also change the user name from the default "sysadmin" if desired.

To change the System Login:

- 1 In the system home page, click the *Change System Login* button.

**Figure 2.3** *Change System Login*



- 2 In the *Username* field, enter a new user name, if desired.
- 3 In the *Password* field, enter a new password and confirm it.
- 4 Click *Save*.

Once the System Login is successfully changed, Telescope returns to the System Home page. The new user name and/or password must be used the next time you log in.

---

**NOTE:** The System Login password can also be changed in the Config.plist file located in ...\\tsadmin.woa\\Contents\\Resources by specifying a value in the SystemDefaultPassword key. However, if you change the password using the Change System Login link as described above, Telescope uses that password and the value in the Config.plist file is no longer accepted.

---

## 2.5 Monitor Active Users

Active Users is comprised of the following:

- ◆ Hubs installed in your Telescope system.
- ◆ Databases associated with each Hub.
- ◆ License pool, if any, on each database on each Hub.
- ◆ Users currently logged in to each database, as well as their license types. For example, Power User, Browse and Download User, or Administrator.
- ◆ The date and time when each user logged in.
- ◆ The last action performed by each user.

### 2.5.1 Refresh the Display

Click the *Refresh*  button to update the information displayed or wait for the page to refresh automatically every 60 seconds.

### 2.5.2 Disconnect a User

Users are automatically disconnected when the session time-out (default 30 minutes) is reached. However, a user may need to be disconnected manually under certain circumstances. For example, a user forgot to log off, and is tying up a Browse and Download license.

---

**NOTE:** To change the default session time-out time for Telescope, edit the session Timeout value in the ...\\tsweb.woa\\Contents\\Info.plist file. For more information about these settings, see the Appendix A of the *Telescope Installation Guide*.

---

To disconnect a user:

- 1 Select *Home* in the navigation pane.
- 2 Click the *Disconnect* link to the right of that user.

**Figure 2.4** *Disconnect User*



The screenshot shows the Telescope Administrator interface. On the left is a navigation pane with 'Home' selected. The main area displays a table of active users. The table has columns for User Name, Logged In Since, Active Users, Idle, and Last Action. Two users are listed: 'admin (Power User)' and 'Mike (Power User)'. Both have a 'Disconnect' link (represented by a small icon) to their right.

User Name	Logged In Since	Active Users	Idle	Last Action
admin (Power User)	12/18/2012 04:01:38		00:00:42	Not Yet heartbeated
Mike (Power User)	12/18/2012 04:02:08		00:00:12	Not Yet heartbeated

- 3 Click *OK* in the confirmation dialog box that appears.

It will take a few seconds for the system to stop the user's session.

## 2.6 Use The Database Home Page

When you log in to a Telescope database, its home page appears, displaying the tasks you can perform and information about active users.

**Figure 2.5** Telescope Home Page



Above the Active Users area, information is displayed about the content index that makes it possible for users to perform full-text searches of assets containing text. For more information, see [Section 2.1, "Customize Telescope Administrator,"](#) on page 26.

The Active Users area provides the following information:

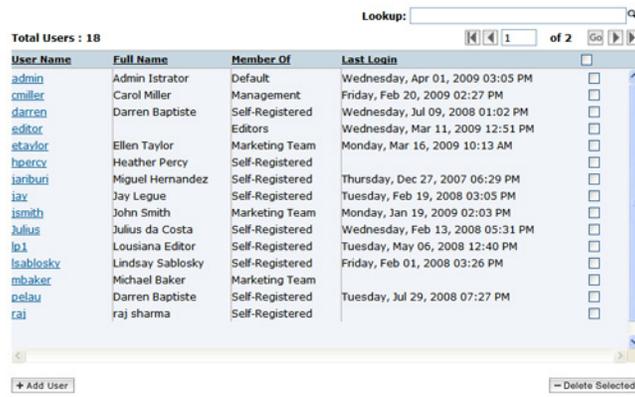
- ◆ Database name.
- ◆ License Pools, if any, on the database.
- ◆ Users currently logged on to the database, as well as their license types (for example, Power User, Browse and Download User, or Administrator).
- ◆ The date and time when each user logged in.
- ◆ The length of time that has passed since each user performed an action.
- ◆ The last action performed by each user.

Click the *Refresh* button to update the information displayed or wait for the page to refresh automatically every 60 seconds.

## 2.7 Customize Telescope Administrator

You can configure how Telescope Administrator displays list results by modifying the `BatchMaximums.plist` file located in `C:\Telescope\Applications\tsadmin.woa\Contents\Resources`. If the number of items in a list exceeds the maximums set in this file, Telescope Administrator displays the surplus on a new page and provides a page navigation control.

In the example below, the `AdminGroup` setting, which controls the number of items to display on one page in Group Administration, is set to 15. The first 15 users are displayed on the first page and the navigation control appears above the list.



Lookup:

Total Users : 18

1 of 2

User Name	Full Name	Member Of	Last Login	
<a href="#">admin</a>	Admin Istrator	Default	Wednesday, Apr 01, 2009 03:05 PM	<input type="checkbox"/>
<a href="#">cmiller</a>	Carol Miller	Management	Friday, Feb 20, 2009 02:27 PM	<input type="checkbox"/>
<a href="#">darren</a>	Darren Baptiste	Self-Registered	Wednesday, Jul 09, 2008 01:02 PM	<input type="checkbox"/>
<a href="#">editor</a>		Editors	Wednesday, Mar 11, 2009 12:51 PM	<input type="checkbox"/>
<a href="#">stavlor</a>	Ellen Taylor	Marketing Team	Monday, Mar 16, 2009 10:13 AM	<input type="checkbox"/>
<a href="#">hpercyc</a>	Heather Percy	Self-Registered		<input type="checkbox"/>
<a href="#">jariburi</a>	Miguel Hernandez	Self-Registered	Thursday, Dec 27, 2007 06:29 PM	<input type="checkbox"/>
<a href="#">jay</a>	Jay Legue	Self-Registered	Tuesday, Feb 19, 2008 03:05 PM	<input type="checkbox"/>
<a href="#">ismith</a>	John Smith	Marketing Team	Monday, Jan 19, 2009 02:03 PM	<input type="checkbox"/>
<a href="#">julius</a>	Julius da Costa	Self-Registered	Wednesday, Feb 13, 2008 05:31 PM	<input type="checkbox"/>
<a href="#">lo1</a>	Louisiana Editor	Self-Registered	Tuesday, May 06, 2008 12:40 PM	<input type="checkbox"/>
<a href="#">lsablosky</a>	Lindsay Sablosky	Self-Registered	Friday, Feb 01, 2008 03:26 PM	<input type="checkbox"/>
<a href="#">mbaker</a>	Michael Baker	Marketing Team		<input type="checkbox"/>
<a href="#">nelau</a>	Darren Baptiste	Self-Registered	Tuesday, Jul 29, 2008 07:27 PM	<input type="checkbox"/>
<a href="#">raj</a>	raj sharma	Self-Registered		<input type="checkbox"/>

+ Add User - Delete Selected

In this example, `AdminGroup` is set to 40. All the users appear in a single list with a scroll bar.



Lookup:

Total Users : 18

User Name	Full Name	Member Of	Last Login	
<a href="#">admin</a>	Admin Istrator	Default	Wednesday, Apr 01, 2009 03:11 PM	<input type="checkbox"/>
<a href="#">cmiller</a>	Carol Miller	Management	Friday, Feb 20, 2009 02:27 PM	<input type="checkbox"/>
<a href="#">darren</a>	Darren Baptiste	Self-Registered	Wednesday, Jul 09, 2008 01:02 PM	<input type="checkbox"/>
<a href="#">editor</a>		Editors	Wednesday, Mar 11, 2009 12:51 PM	<input type="checkbox"/>
<a href="#">stavlor</a>	Ellen Taylor	Marketing Team	Monday, Mar 16, 2009 10:13 AM	<input type="checkbox"/>
<a href="#">hpercyc</a>	Heather Percy	Self-Registered		<input type="checkbox"/>
<a href="#">jariburi</a>	Miguel Hernandez	Self-Registered	Thursday, Dec 27, 2007 06:29 PM	<input type="checkbox"/>
<a href="#">jay</a>	Jay Legue	Self-Registered	Tuesday, Feb 19, 2008 03:05 PM	<input type="checkbox"/>
<a href="#">ismith</a>	John Smith	Marketing Team	Monday, Jan 19, 2009 02:03 PM	<input type="checkbox"/>
<a href="#">julius</a>	Julius da Costa	Self-Registered	Wednesday, Feb 13, 2008 05:31 PM	<input type="checkbox"/>
<a href="#">lo1</a>	Louisiana Editor	Self-Registered	Tuesday, May 06, 2008 12:40 PM	<input type="checkbox"/>
<a href="#">lsablosky</a>	Lindsay Sablosky	Self-Registered	Friday, Feb 01, 2008 03:26 PM	<input type="checkbox"/>
<a href="#">mbaker</a>	Michael Baker	Marketing Team		<input type="checkbox"/>
<a href="#">nelau</a>	Darren Baptiste	Self-Registered	Tuesday, Jul 29, 2008 07:27 PM	<input type="checkbox"/>
<a href="#">raj</a>	raj sharma	Self-Registered		<input type="checkbox"/>
<a href="#">scottl</a>	Scott Lekovich	Self-Registered	Tuesday, Jul 22, 2008 06:11 PM	<input type="checkbox"/>
<a href="#">stava</a>	Steve Kishinnon	Self-Registered	Tuesday, Jan 20, 2008 02:14 PM	<input type="checkbox"/>

+ Add User - Delete Selected

## 2.8 Log Out of Telescope Administrator

To log out of Telescope Administrator, click Logout at the top-right corner of the page. The Login page appears again.

---

**NOTE:** If you close the web browser without logging out of Telescope Administrator, no one else can log in to administer a Telescope database until the previous session expires. You can log in to the System Administration home page and “disconnect” the orphaned session to release the lock on the database home page. For more information see [Section 2.1, "Disconnect a User," on page 24](#).

---



# 3. System Administration Tasks

This chapter provides information about the tasks performed by a Telescope Administrator.

- ◆ [Section 3.1, "Overview," on page 30](#)
- ◆ [Section 3.2, "Monitor Component Usage," on page 31](#)
- ◆ [Section 3.3, "Manage Connection Data," on page 32](#)
- ◆ [Section 3.4, "Managing the Distribution and Zoom Brokers," on page 34](#)

## 3.1 Overview

Telescope Administrator is comprised of two levels of administration:

**System Administration:** A Telescope System Administrator can check the status of running components, for example, File Brokers, Graphics Brokers, Lookup Brokers and can stop a session remotely. Stopping a session will take a component offline the next time Telescope checks for changes in the system. On Windows, if auto restart is configured for the component in the Service Manager, the component will attempt to restart and establish a new session. Administrators can also see all configured databases and can log in to any of them directly.

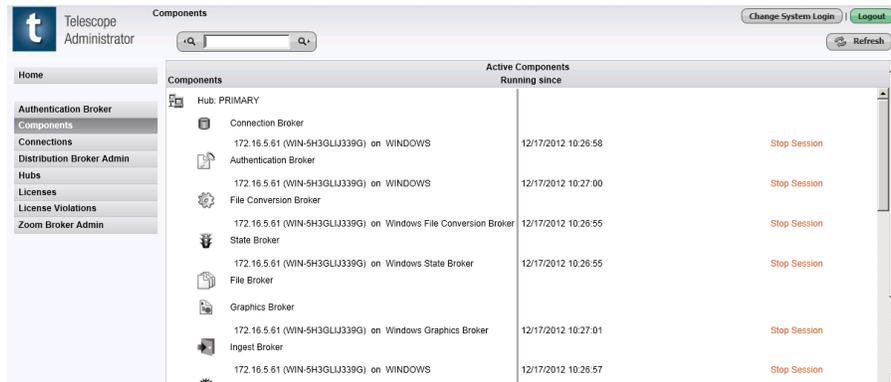
The default system administrator account is created when Telescope Hub is installed. The default user name is sysadmin (case sensitive) with no password.

**Database Administration:** A Telescope Database Administrator can create users and groups, create file migration policies, configure metadata information, and manage functions of the Telescope database.

## 3.2 Monitor Component Usage

To view the components that are currently active in your Telescope system, click *Components* in the navigation area on the left.

**Figure 3.1** *Components*



This page displays the following information:

- ◆ Hubs installing in your Telescope system.
- ◆ Names of the components connected to each Hub, for example, brokers, Telescope servers, and I-Pieces.
- ◆ Machine and platform where each component is installed.
- ◆ Date and time when each component started running.

To refresh the information, click the *Refresh* button in the bottom-right corner of the page.

### 3.2.1 Stop Active Components

To stop an active component, click the *Stop Session* link beside it.

Normally, components should not be stopped unless there is a conflict with licensing or when there is a clear indication of malfunction. This panel also does not allow you to start any stopped components. To restart a stopped component, navigate to *Start > Administrative Tools > Services*. Locate the stopped component and click *Start* in the Services pane.

---

**NOTE:** Starting and restarting components should be done through the operating system. Stopping components from here should only be done in extreme situations.

---

## 3.3 Manage Connection Data

The connection components comprise of the following:

- ◆ Telescope
- ◆ Telescope Administration
- ◆ Various Brokers

Each connection contains all of the information needed by the Telescope components on any of the supported platforms to access a particular data source.

To manage existing connections and create new ones:

- ◆ Click *Connections* in the navigation area on the system home page.

**Figure 3.2** *Connections*



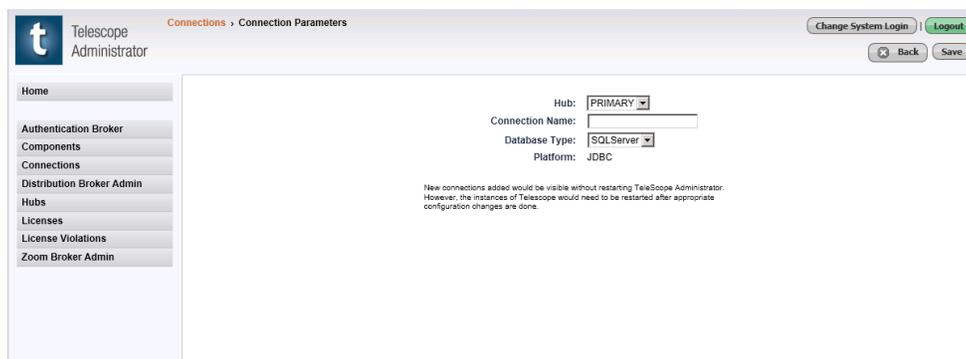
### 3.3.1 Add a New Connection

When a new Telescope database becomes available to the system, connection information for each of the supported platforms must be added in Telescope Administrator. First, add the JDBC connection information. Then parameters for the other platforms can be configured.

To add a new connection:

- 1 In the Connection page, click *Add Connection*. The Connection Parameters page appears, displaying JDBC as the platform.

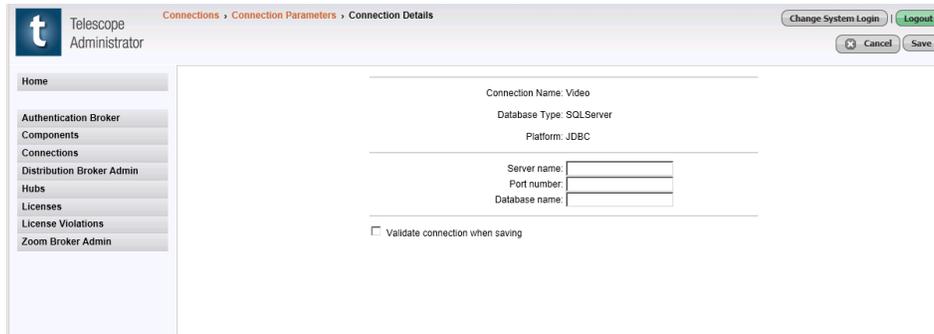
**Figure 3.3** *Connection Parameters*



- 2 Select the Hub.
- 3 Enter a connection name to identify the database.
- 4 Select the database type from the list.
- 5 Click *Save*.

Additional fields required to connect to the database are displayed.

**Figure 3.4** Connection Details



The screenshot shows the Telescope Administrator web interface. The breadcrumb trail is "Connections > Connection Parameters > Connection Details". The page title is "Telescope Administrator". On the left is a navigation menu with items: Home, Authentication Broker, Components, Connections, Distribution Broker Admin, Hubs, Licenses, License Violations, and Zoom Broker Admin. The main content area displays the "Connection Details" form. The form fields are: "Connection Name" (text input, value: "Video"), "Database Type" (text input, value: "SQL Server"), "Platform" (text input, value: "JDBC"), "Server name" (text input), "Port number" (text input), and "Database name" (text input). Below these fields is a checkbox labeled "Validate connection when saving" which is currently unchecked. At the top right of the form area are buttons for "Change System Login", "Logout", "Cancel", and "Save".

In all cases you will need to enter the database server or host and the database name. To use a named instance of an SQL Server database, in the Database name field, enter the name of the database, followed by ";instance=" and the instance name. For example: Telescope;instance=dev01.

- 6 To have the connection tested when you save the connection parameters, select *Validate connection* when saving.
- 7 Click *Save*. The connection information is saved and the Connections page appears again.

---

**NOTE:** To make the new connection available to Telescope users, you must add the connection to a site using Telescope Site Manager and restart each instance of Telescope.

---

Once the connection has been defined, assuming that it is available, it is displayed in the system home page. Telescope Administrator does not need to be restarted to open a new connection.

## 3.4 Managing the Distribution and Zoom Brokers

The Distribution Broker and the Zoom Broker are optional, licensed components that add additional functionality to Telescope. When a Distribution or Zoom Broker license is added to Telescope, the component appears in the Telescope Administrator navigation pane.

To manage the settings of the Distribution or Zoom Broker, click the component in the navigation pane.

For more information about configuring and using these components, see the Distribution and Zoom Broker Manuals.

# 4. Configure Telescope Database Connections

A database connection is configured as part of the initial Telescope installation. Use this chapter if you need to change this database, or add additional database connections.

If your site needs to install a new Telescope database, consult the appendix in *Telescope—Installation and Configuration Guide for Windows Server 2008 R2*.

## In this Chapter:

- ◆ [Section 4.1, "About Connections," on page 36](#)
- ◆ [Section 4.2, "Add a New Connection," on page 37](#)
- ◆ [Section 4.3, "Update Connections," on page 45](#)
- ◆ [Section 4.4, "Update the Telescope Database Encryption Connection Passphrase," on page 48](#)

## 4.1 About Connections

The connection components are comprised of the following:

- ◆ Telescope
- ◆ Telescope Administration
- ◆ Various Brokers

Each connection contains all of the information needed by the Telescope components on any of the supported platforms to access a particular data source.

To manage existing connections and create new ones:

- ◆ Click *Connections* in the navigation area on the system home page.

**Figure 4.1** *Connections*



## 4.2 Add a New Connection

Follow these steps to add a new database connection:

- ◆ Section 4.2.1, "Add the JDBC Connection Information," on page 37
- ◆ Section 4.2.2, "Make the Database Connection Available to Telescope Sites," on page 40
- ◆ (Optional) Section 4.2.3, "Assign Connections to the Default Site," on page 42

### 4.2.1 Add the JDBC Connection Information

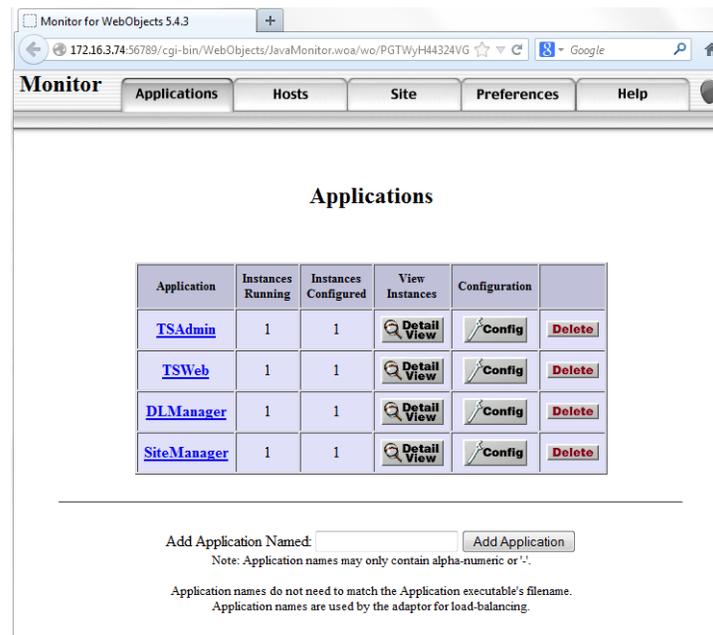
You must use Telescope Administrator to add connection information for each of the supported platforms so they can access the database. First, use the following steps to add the JDBC connection information. Then you can configure the parameters for the other platforms.

- 1 Start the WebObjects Monitor.

To access this application by default, go to a web browser and type a URL consisting of the IP address for the Telescope web server and append “:56789.” For example: 123.45.6.789:56789

- 2 In the WebObjects Monitor, make sure the *Applications* tab is selected.

**Figure 4.2** Monitor for WebObjects, Applications Tab



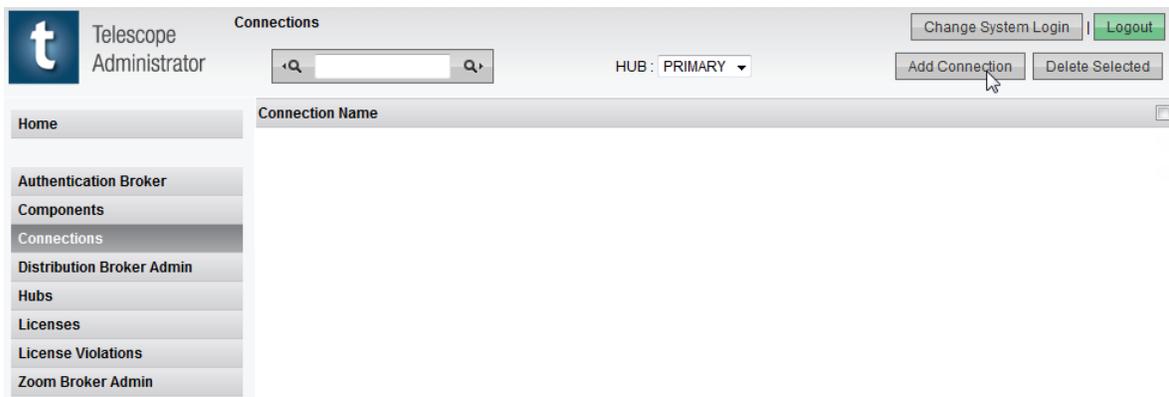
- 3 Click the *TSAdmin* link to start Telescope Administrator.

**Figure 4.3** Telescope Administrator Login



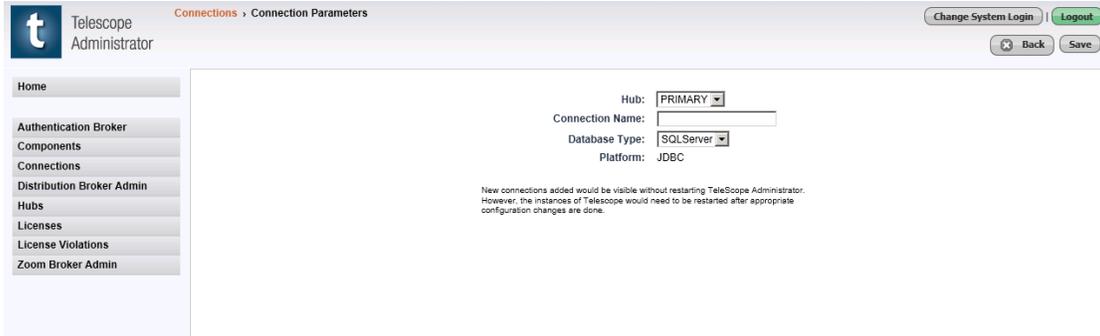
- 4 Make sure “System” is selected in the *Administer* list, and log in.
- 5 In the Telescope Administrator, click *Connections* in the left navigation pane.
- 6 In the Connections dialog, click the *Add Connection* button.

**Figure 4.4** Add Connection Button



- 7 The Connection Parameters panel appears, automatically displaying JDBC as the platform.

**Figure 4.5** Connection Parameters



- 8 Select a *Hub*.
- 9 Enter a connection name to identify the database.  
This name can be different from the database name. Keep track of it!
- 10 Select the database type from the list.
- 11 Click *Save*.
- 12 Additional details are required, depending on the database being used. The figure below shows the additional SQL Server requirements for connecting to the database.

**Figure 4.6** Connection Details. (For Oracle databases, parameters for JDBC and Native Parameters are requested instead.)



---

**NOTE:** For Oracle databases, you'll also need to specify the Oracle TNS Name Entry (DBQ) and Oracle Driver. Refer to the Oracle documentation to guide your installation.

---

- 13 Check *Validate connection when saving* (so you can test the connection when you save the connection parameters).
- 14 Click *Save*.  
The connection information is saved and the Connections dialog appears again. It will show the new connection.
- 15 Click on the connection name. Links to connection parameters appear.

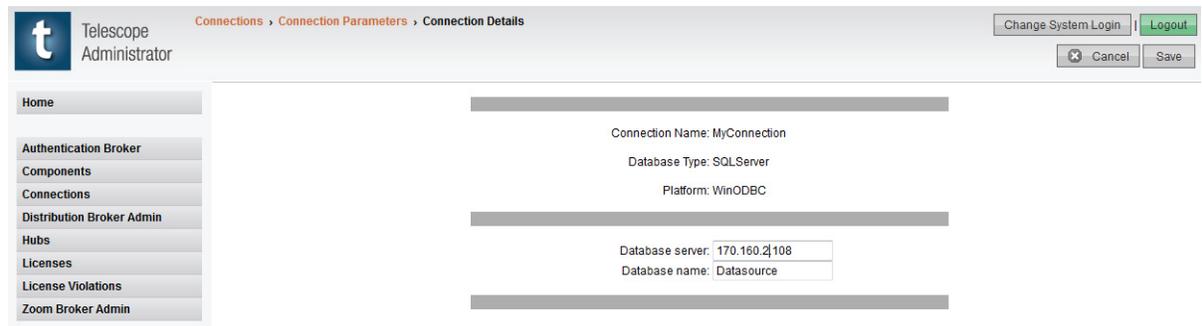
**Figure 4.7** Connection Parameters.



16 Click *WinODBC parameters*.

17 Fill out the values, or verify if they are correct.

**Figure 4.8** ODBC Parameters.



18 Click *Save*.

19 Click the *Home* button to return to the System Administrator home page. If the database connection is available, you will see it displayed on this page.

---

**NOTE:** If you have installed Telescope on multiple servers, each installation must be restarted to make the new connection available to it.

---

## 4.2.2 Make the Database Connection Available to Telescope Sites

After you have added a new database connection in Telescope Administrator (see the previous section), you must use Site Manager to add that connection and make it available to Telescope sites and connections:

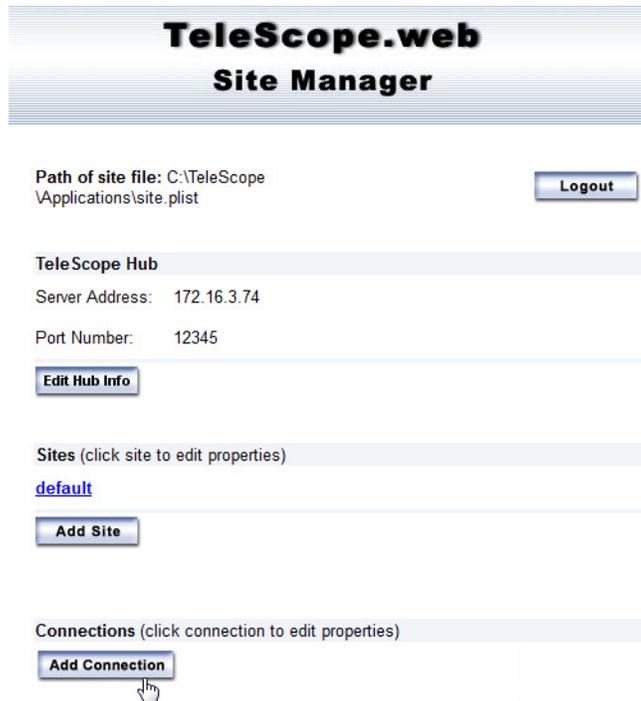
- 1 Start the WebObjects Monitor and go to its *Applications* tab.  
(See [Section 4.2, "Add a New Connection," on page 37](#) to find out how to start the WebObjects Monitor.)
- 2 Click the *SiteManager* link.  
The Site Manager login appears in a new browser tab.

Figure 4.9 Site Manager



- 3 Type a password (if required). By default there is no password.
- 4 Click *Login*.
- 5 In the Site Manager panel, click the *Add Connection* button.

Figure 4.10 Telescope Site Manager: Add Connection



- 6 Type the appropriate information for the database being connected to.  
**Label:** The name of the connection.

**Connection:** The database you want to define a connection for. The connection names are the names of the connections defined on the connection broker, as configured in [Section 4.2, "Add a New Connection,"](#) on [page 37](#).

**Description:** A description of the connection. This field is optional.

**Figure 4.11** Telescope Site Manager. Add a Connection.

- 7 Click *Save Changes*. The connection will appear in the Connections section of the Site manager.
- 8 Stop and then restart the DLManager application from its detail view in the WebObjects Monitor.

**Figure 4.12** Restart DLManager

Name	Host - Port	Status	Start - Stop	Auto Recover	Refuse New Sessions	Scheduled	Next Shutdown	Statistics					Configure	Delete	
								Transactions	Active Sessions	Average Transaction	Average Idle Period	Deaths			WOSTats
<a href="#">DLManager-1</a>	npstlescope:2003			OFF	OFF	OFF	-	2	0	0.256	15565.137	-			

### 4.2.3 Assign Connections to the Default Site

Telescope is installed with a default site. After you have added connections in Telescope Administrator and defined the connections in the Site Manager, you can assign the available connections to this default site.

- 1 In the WebObjects Monitor, click the *SiteManager* link.
- 2 In the Site Manager main page, under the Sites heading, click *default*.

Figure 4.13 Telescope Site Manager



- 3 Select the connection(s) you want to make available to the site.

Figure 4.14 Telescope Site Manager, Select Connections



- 4 Click *Save Changes*.
- 5 Stop and then restart the DLManager application from its detail view in the WebObjects Monitor.

Figure 4.15 Restart DLManager

**Monitor**    Applications    Hosts    Site    Preferences    Help

**DLManager**  
 This page automatically updates every 60 seconds.  
[Refresh Now](#)

Name	Host - Port	Status	Start - Stop	Auto Recover	Refuse New Sessions	Scheduled	Next Shutdown	Statistics					Configure	Delete	
								Transactions	Active Sessions	Average Transaction	Average Idle Period	Deaths			WOSTats
<a href="#">DLManager-1</a>	mpstlescope:2003			OFF	OFF	OFF	-	2	0	0.256	15565.137	-			

## 4.3 Update Connections

### 4.3.1 Modify Connections

---

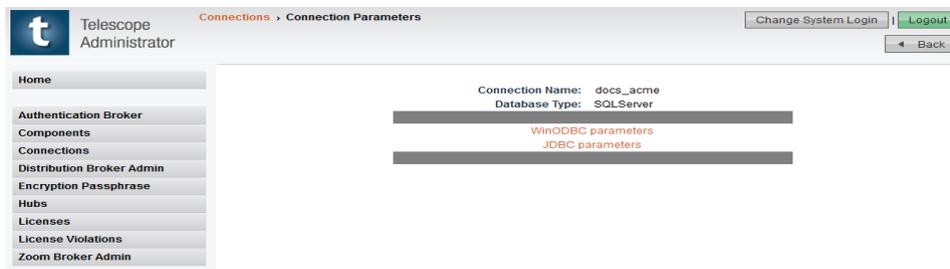
**NOTE:** If you have manually modified the `cb_data.xml` file (as described in [Section , "Special Cases," on page 46](#) or for any other reason), do not add or modify any connection data using Telescope Administrator or your custom settings will be overwritten with the new information.

---

To modify a connection:

- 1 Log in as sysadmin to the TSAdmin Systems application.
- 2 Click the *Connection* tab.
- 3 Click the connection name on the Connections page.

**Figure 4.16** *Connection Parameters*



This page lists links to pages with the parameters for each of the supported platforms, as well as the native parameters used by the Graphics Broker on UNIX machines.

- 4 Click the link corresponding to the parameters you want to modify.
- 5 Enter the appropriate values for the connection. (For more information on updating database connection passwords, see the next section.)

	SQL Server Settings	Oracle Settings
WinODBC Parameters	Database server Database name Database connection credentials Custom connection strings	Server name Port number Schema name DB Service Database connection credentials Custom connection strings

	SQL Server Settings	Oracle Settings
JDBC Parameters	Server name Port number Database name Database connection credentials Custom connection strings	Server name Port number Schema name Sid Database connection credentials Custom connection strings
Native Parameters	None	Server host Server port Database schema ORA service

6 Click *Save*.

### Special Cases

In some cases, you will not be able to configure a connection information using Telescope Administrator. In these cases, you must manually modify the `cb_data.xml` file in the Telescope installation directory (by default, `C:\Telescope` on Windows, or `.../NPS/config/CBroker` on Linux).

### 4.3.2 Delete Connections

When you delete a connection, Telescope components will no longer be able to access the connection, but the database itself is not deleted. If a component is using a connection when you delete it, the component still has access until it closes the connection.

To delete connections:

- 1 Select the connection(s) you want to delete.
- 2 Click *Delete Selected*.
- 3 Click *OK* on the confirmation dialog.

### 4.3.3 Update Telescope Database Credentials

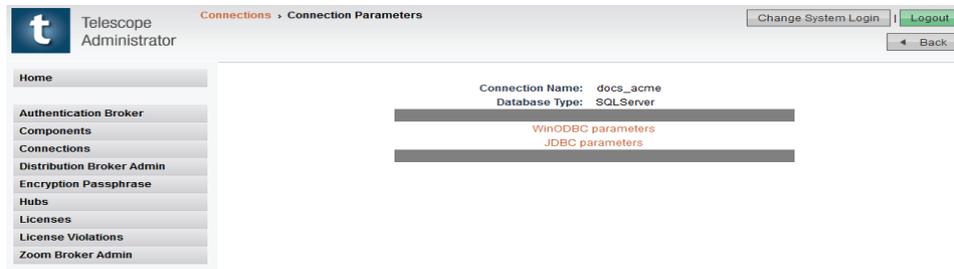
Telescope brokers use a user name and password when connecting to the Telescope database. (These credentials are used internally by the Telescope software, and are not required for any user logins.) For every connection request, the user name and password are encrypted uniquely by the encryption passphrase you specified when you installed or upgraded Telescope. They are not accessible to North Plains Systems staff.

Depending on your organization's internal security policies, you may wish to update these database credentials on a regular basis.

To update the credentials used internally by Telescope when connecting to the Telescope database:

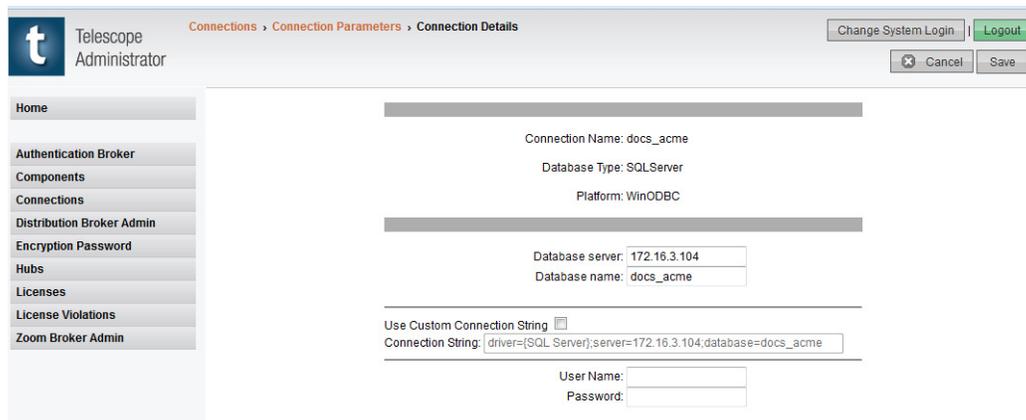
- 1 Log in as `sysadmin` to the TSAdmin Systems application.
- 2 Click the *Connection* tab.
- 3 Click the connection name on the Connections page.

**Figure 4.17** Connection Parameters



- 4 Click *WinODBC Parameters*.

**Figure 4.18** Connection Details



- 5 To update the user name and password, type new values in the fields provided.
- 6 If your organization prefers a custom connection string, click the check box beside Use Custom Connection String, then alter the connection string provided.
- 7 Click *Save*.
- 8 Repeat the above steps for the JDBC parameters.  
For JDBC parameters, you also have the option to click *Validate connection when saving*.

## 4.4 Update the Telescope Database Encryption Connection Passphrase

Typically you will not need to update the database connection encryption passphrase after you specify it when you install or upgrade Telescope. (For details on how to specify it the first time, see the *Telescope Installation and Configuration Guide*.)

If your organization enforces a rigorous encryption policy, or in the unlikely event that Telescope database encryption keys no longer work, use the following instructions to update the passphrase. You do not need to know the previous passphrase, which is overwritten after you perform these steps.

### To update the encryption passphrase:

---

**NOTE:** Do not run these steps while Telescope is in active use. Ensure all users are signed out or disconnected before proceeding.

---

- 1 From the WebObjects Monitor, turn off both TSAdmin and TSWeb.
- 2 On the hub server machine, select *Start > Administrative Tools > Services*.

---

**NOTE:** If there are multiple hub servers, you will need to turn off services as outlined below on the appropriate servers, then change the encryption passphrase on every hub server. It is recommended you use the same passphrase for all machines.

---

- 3 Stop the following NPS services (as applicable to your installation), in the following order:
  - a NPS InDesign Broker
  - b NPS Zoom Builder
  - c NPS Zoom Broker
  - d NPS Distribution Broker
  - e NPS Ingest Broker
  - f NPS Graphics Broker
  - g NPS File Broker
  - h NPS Lookup Broker
  - i NPS Child Indexing Broker
  - j NPS Indexing Broker
  - k NPS Message Broker
  - l NPS Authentication Broker

Leave on the following brokers:

- ◆ NPS Connection Broker
- ◆ NPS State Broker
- ◆ NPS Session Broker
- ◆ NPS Name Server

4 On the machine running the hub server:

a Open a command line window.

b Navigate to C:/Telescope/ (assuming you installed Telescope to the default location):

```
cd C:/Telescope
```

c You will be running the updatepassphrase.bat tool. To see its options, as shown below, type:

```
updatepassphrase.bat -h
```

updatepassphrase.bat option	Description
-H [HUB IP]	Specify the hub IP address or hostname. (If this option is not specified, the default is 127.0.0.1.)
-P [HUB PORT]	Specify the hub port. (Default is 12345.)
-p [NEW PASSPHRASE]	Specify the new passphrase. (Default is to generate a random passphrase.)
-e [KEY LENGTH]	Specify the key bit length: 128, 192, or 256. (Default is 128.)
-q	Quiet operation. With this option, there is no prompt for confirmation.
-v	Provide version number (and then exit).
-h	Provide help information (and then exit).

d Type the updatepassphrase.bat tool with appropriate options and press Enter.

```
updatepassphrase.bat [-H <HUB_IP>] [-P <HUB_PORT>] [-p <NEW_PASSPHRASE>] [-e  
<KEY_LENGTH>]
```

e If you did not specify the -q option, you will be prompted to confirm the action.

5 Restart all stopped brokers in reverse order to the list above.

6 From the WebObjects Monitor, turn back on both TSAdmin and TSWeb.

### Note about AES key lengths greater than 128 bits

Key lengths of 192 and 256 require the JRE security library to be updated. This update is performed automatically on Telescope servers, but must be performed manually on the FlipFactory server. Either download the "Java Cryptography Extension (JCE) Unlimited Strength Jurisdiction Policy Files" from [the Oracle web site](#) and install them on the Flipfactory server, or copy the following files from the Telescope server to the same locations on the FlipFactory server:

```
C:\Program Files (x86)\Java\jre6\lib\security\local_policy.jar
C:\Program Files (x86)\Java\jre6\lib\security\US_export_policy.jar
C:\Program Files (x86)\Java\jdk1.6.0_37\jre\lib\security\local_policy.jar
C:\Program Files (x86)\Java\jdk1.6.0_37\jre\lib\security\US_export_policy.jar
```

### In the event of database encryption failure:

In case of an update failure or other condition whereby the encryption key no longer works, you can remove and reset the encryption key as follows:

- 1 If required, stop the NPS services in the order listed in the previous section.
- 2 Remove the key from the hub completely using the following options with the `updatepassphrase.bat` command as described above:

```
updatepassphrase.bat -H hub -P port --remove
```

- 3 **WARNING!** After you run the command with these options, Telescope will be in an unusable state until you provide a passphrase in TSAdmin, using the same steps you performed when you first specified a passphrase after installing or upgrading. For details on how to do this, see the section, “Define an Encryption Passphrase” in the *Telescope Installation Guide*.
- 4 Remove all database connections and add them again.
- 5 Restart the NPS services in reverse order to the list shown in the previous section.

# 5. Authentication Broker

This chapter provides information about managing the Authentication Broker in Telescope.

- ◆ [Section 5.1, "Overview," on page 52](#)
- ◆ [Section 5.2, "Manage Authentication Broker Connections," on page 53](#)
- ◆ [Section 5.3, "Primary and Secondary LDAP Servers," on page 55](#)
- ◆ [Section 5.4, "Configure Telescope for LDAP Authentication," on page 59](#)

## 5.1 Overview

You can manage your Authentication Broker settings using Telescope Administrator. Telescope has two types of authentication:

### Direct Authentication

Direct Authentication validates user names and passwords against the information in the Telescope database.

---

**NOTE:** Telescope uses direct authentication automatically. You do not need to configure any Authentication Broker settings to use direct authentication.

---

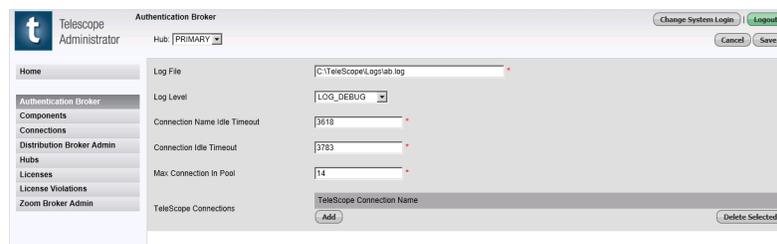
### LDAP Server Authentication

LDAP (Lightweight Directory Access Protocol) is an internet standard directory access service used by many organizations to provide authentication and user management services on an enterprise basis. The Authentication Broker settings allow Telescope to communicate with one or more LDAP servers to validate user credentials and populate the USERS table in the Telescope database. You can create log-in scripts to determine when and how Telescope should update the USERS table, and mappings to control how data is mapped from the LDAP server to the Telescope database.

When Telescope populates the USERS table, it maps the user name the user entered to the user\_name field, but it does not store the user's password in the Telescope database. The password is always validated by the LDAP server. Consequently, if Telescope is unable to connect to the LDAP server, users will not be able to log in.

To access the Authentication Broker settings, log in to Telescope Administrator as the system administrator and click Authentication Broker in the left navigation pane.

**Figure 5.1** Authentication Broker



The Authentication Broker Administration page lists the connections you have configured Authentication Broker settings for. If you are managing multiple Hubs, select the Hub you want to view connections for from the Hub list.

## 5.2 Manage Authentication Broker Connections

### 5.2.1 Add Authentication Broker Settings

To add a connection:

In the Authentication Broker Administration page, click *Add*.

**Figure 5.2** Add Authentication Broker

Telescope Connection Name: conn\_name

Failover Selection:  
 Direct Authentication Plug-In  
 Disable failover

Authentication I-Pieces:  
 LDAP Plug-In  
 Direct Authentication Plug-In

Primary LDAP Servers: Server Name, Add, Delete Selected

Secondary LDAP Servers: Server Name, Add, Delete Selected

Default User Group(Case Sensitive): Default

Automatically delete deprecated users

User Metadata Mappings: Destination Telescope User Field, Add, Delete Selected

Prefix: [Text Field]

Suffix: [Text Field]

Database User Name Creation:  
 Remove the Primary Server Name  
 Remove the Primary Server Name and Domain Name  
 Keep the User Name Unchanged

User Creation Script: [Text Area]

User Login Script: [Text Area]

LDAP parameter directory: [Text Field]

Direct Authentication Plug-In

Cancel Ok

- 1 Enter the name of the Telescope connection these settings will apply to as defined in the Connections page.

- 2 Select a Failover option.

**Direct Authentication Plug-In:** Select this option to allow users of both the Telescope database and the LDAP server to log in to Telescope.

**Disable Failover:** Only users defined on the LDAP server will be able to log in to Telescope.

- 3 Select the authentication plug-in this connection will use.

**LDAP Plug-In:** Select this option to authenticate users using one or more LDAP servers.

- ◆ For more information about configuring primary and secondary LDAP servers, see [Section 5.3, "Primary and Secondary LDAP Servers,"](#) on page 55.
- ◆ For more information about Configuring Telescope for LDAP authentication, see [Section 5.4, "Configure Telescope for LDAP Authentication,"](#) on page 59.

**Direct Authentication Plug-In:** Select this option if you want to disable LDAP authentication without deleting the connection settings. This allows you to re-enable LDAP authentication without having to recreate the connection data.

- 4 In the *LDAP parameter directory* field, enter a location to store the LDAP parameter information. This is the location where user profiles larger than 4000 bytes are saved. For example, C:\Telescope\temp.
- 5 Click *OK*.
- 6 Click *Save*.

---

**NOTE:** The connection information you entered will not be saved to the server until you click the *Save* button on the Authentication Broker Administration page.

---

## 5.2.2 Edit Authentication Broker Settings

To edit the Authentication Broker settings for a connection:

- 1 Click the connection name on the Authentication Broker page. A dialog opens with the current settings for the connection.
- 2 Make any necessary changes to the settings.
- 3 Click *OK*.
- 4 Click *Save*.

## 5.2.3 Delete a Connection

- 1 In the Authentication Broker page select the connection's checkbox
- 2 Click *Delete Selected*.

---

**NOTE:** When you click *Delete Selected*, the connection is deleted immediately. You are not presented with a confirmation dialog where you can cancel the delete.

---

- 3 Click *Save*.

## 5.3 Primary and Secondary LDAP Servers

When one or more LDAP servers are configured, Telescope authenticates user login credentials against the primary LDAP server(s). You can configure multiple primary LDAP servers, if necessary, to give Telescope access to authentication data for all users.

If a user does not specify the primary server when they enter their log in credentials, Telescope checks their credentials against each primary LDAP server in the order they are configured, stopping when it finds a match.

However, Telescope can parse out the server name if a user enters it along with their user name in the format <server name>\<user name>. For example NPS\_02\cmiller. In this case, Telescope goes directly to the NPS\_02 server to authenticate the user.

You can configure Telescope to connect to one or more secondary LDAP servers in addition to the primary LDAP servers. This is useful if you have user information stored in multiple LDAP servers. For example, a user enters their user name and password, which is authenticated against a primary LDAP server. In the schema record for the authenticated user on the main server, is an internal employee ID. This ID is then used to query a secondary LDAP server, which contains other information about the employee. Telescope uses this information to populate the USERS table in the Telescope database.

### 5.3.1 Manage Primary and Secondary LDAP Servers

Primary and secondary LDAP servers can be add, modified, or deleted as required.

### 5.3.2 Add a Primary LDAP Server

To add a primary LDAP server:

- 1 Select the Authentication Broker in the navigation pane.
- 2 In the main Authentication Broker pane, under Telescope Connections, click *Add*.
- 3 In the Connection Settings dialog, click *Add* under the list of primary LDAP servers.

**Figure 5.3** Authentication Broker Server Settings

The screenshot shows a web-based dialog box titled "Authentication Broker Setting - Mozilla Firefox". It contains several input fields and buttons. The "Server Name" field is filled with "NPS\_P1". The "Primary LDAP Address" section has a header "Primary Server Address" and an "Add" button. The "Primary User Name" field is filled with "user". The "Primary User Password" field is filled with "\*\*\*\*\*" and has a "Confirm Password" field below it. The "Base authentication context" field is filled with "uid-<<>,cn=users,dc=Toronto,dc=Northplains,dc". The "Authentication" dropdown menu is set to "SIMPLE". There are "Cancel" and "Ok" buttons at the bottom right.

- 4 In the Server Settings dialog enter the following information for the server (fields marked with a red asterisk \* are mandatory):

**\*Server Name:** A name for the server.

To enter a primary server address:

- a Click *Add*.

**Figure 5.4** Primary Server Address



- b Enter the LDAP server URL, for example, `LDAP_SERVER_HOST:PORT` , then click *OK*. If you are using multiple servers to store the primary LDAP data (as a failover solution), you can add additional addresses. Telescope attempts to connect to the servers in the order you define them.

---

**NOTE:** The Authentication Broker must be able to send and receive network traffic to and from the LDAP server. Network routers and firewalls must be configured to allow this service to work.

---

**\*Primary User Name:** The user name to log in to the LDAP server.

**\*Primary User Password:** The password to log in to the LDAP server.

**\*Confirm Password:** Enter the password again.

**\*Base Authentication Context:** A string containing a parameter substitution that can be used for creating the base context for the bind; for example:

`uid=<<>>, ou=Personnel, dc=northplains, dc=com`

where the “<<>>” is replaced by the user name that the user entered.

**Authentication:** Select the encryption method the LDAP server is using to authenticate users.

Select This Option	If
Digest-MD5	The LDAP server uses the MD5 encryption algorithm.
External	The LDAP server uses SSL encryption.
Simple	The security level of the LDAP server is "simple".
None	The security level of the LDAP server is "none".

- 5 Click *OK*.
- 6 In the Authentication Broker Administration page click *Save*.

---

**NOTE:** Your settings are not saved until you click *Save* in the Authentication Broker page.

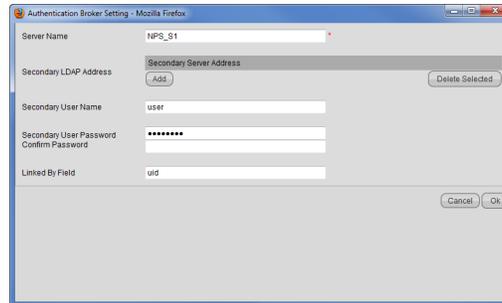
---

### 5.3.3 Add a Secondary LDAP Server

To add a secondary LDAP server:

- 1 In the Authentication Broker main pane, under Telescope Connections, click *Add*.
- 2 In the dialog that opens, next to the Secondary LDAP Servers, click *Add*.

**Figure 5.5** Secondary Server Settings



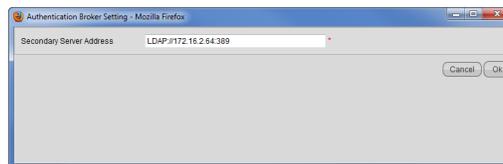
- 3 Enter the following information for the server (fields marked with a red asterisk \* are mandatory):

**\*Server Name:** The logical name of the secondary LDAP server (it cannot be "MAIN"); Telescope uses this name to specify LDAP schema fields when populating the USERS table in the database, to determine which LDAP server the information comes from.

To enter a primary server address:

- a Click *Add*.

**Figure 5.6** Secondary LDAP Server Address



- b Enter the LDAP server URL.
- c Click *OK*.

If you are using multiple servers to store the secondary LDAP data (as a failover solution), you can add additional addresses. Telescope will attempt to connect to the servers in the order you define them.

**Secondary User Name:** Enter the user name to log in to the LDAP server.

**Secondary User Password:** Enter the password to log in to the LDAP server.

**Confirm Password:** Enter the password again.

**Linked By Field:** The name of a schema field in the main LDAP server that is used to link between the main LDAP server and the secondary server.

- 4 Click *OK*.
- 5 Click *Save* on the Authentication Broker page.

---

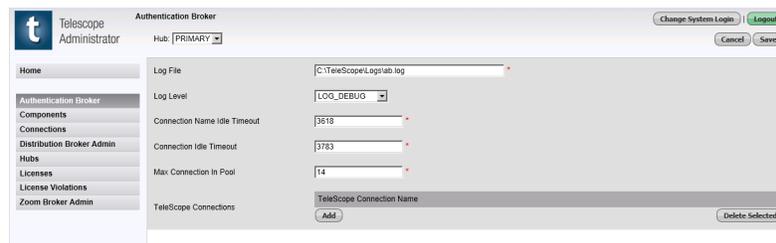
**NOTE:** Your settings are not saved until you click *Save* on the Authentication Broker page.

---

### 5.3.4 Edit a LDAP Server

The primary and secondary servers you have configured for a connection are listed on the detail page for the connection. To view the servers configured for a connection, click the connection on the Authentication Broker page.

**Figure 5.7** Authentication Broker



To edit the settings for an LDAP server:

- 1 Click the server name in the Telescope Connection Name.
- 2 Make any necessary changes to the settings.
- 3 Click *OK*.
- 4 Click *Save* on the Authentication Broker Administration page.

---

**NOTE:** Your settings are not saved until you click *Save* on the Authentication Broker page.

---

### 5.3.5 Delete a LDAP Server

To delete a LDAP server:

- 1 In the Authentication Broker select the checkbox next to the server to be deleted.
- 2 Click *Delete Selected*.
- 3 Click *Save* on the Authentication Broker page.

---

**NOTE:** The server is not deleted until you click *Save* on the Authentication Broker page.

---

## 5.4 Configure Telescope for LDAP Authentication

In addition to configuring the LDAP servers, you can configure how Telescope handles LDAP server data.

- 1 In the Authentication Broker pane select a Telescope Connection Name.
- 2 In the Connections Name dialog, scroll down to the *Default User Group* text box field.

**Figure 5.8** LDAP Authentication

- 3 In the *Default User Group* text box, enter the name of the user group (as defined on the Group Administration page) to which new users should be assigned when Telescope populates the USERS table in the Telescope database.

This group is used if there is no mapping from the LDAP user data into the group membership field, or if the mapping of LDAP data to this field results in an invalid user group.

This field is mandatory.

- 4 Select the *Automatically delete deprecated users* option to automatically remove users who no longer exist in the LDAP directory from the Telescope database USERS table. If this checkbox is not selected, the user will remain in the USERS table. However, they will not be able to log in since they cannot be authenticated against the LDAP server.

### 5.4.1 Add User Metadata Mappings

The User Metadata Mappings maps fields in the LDAP database to fields in the Telescope database. The data in the LDAP fields are merged into the Telescope database fields they are mapped to.

- 1 In the Authentication Broker pane select a Telescope Connection Name.
- 2 In the Connections Name dialog, scroll down to *User Metadata Mappings*.
- 3 Next to User Metadata Mappings, click *Add*.

**Figure 5.9** *User Metadata Mapping*



- 4 Enter the mapping information (fields marked with a red asterisk \* are mandatory):

\***Destination Telescope User Field:** The Telescope field you want to map to.

\***Source LDAP Server:** Select the LDAP server to map fields from.

\***Source LDAP Schema Field:** The LDAP schema field you want to map to the Telescope database.

The data type of the LDAP schema field must be compatible with the data type of the destination Telescope user field. The following type conversions are supported:

- ◆ date/time > date/time
- ◆ date/time > character
- ◆ integer > integer
- ◆ integer > character
- ◆ character > character
- ◆ Boolean > char(1) ('Y'/'N')

All other data type conversions will fail. Any character fields that are longer than their mapped field in the USERS table will be truncated.

- 5 Click *OK*.
- 6 Click *Save* in the Authentication Broker page.

---

**NOTE:** Settings are not saved until you click *Save* on the Authentication Broker page.

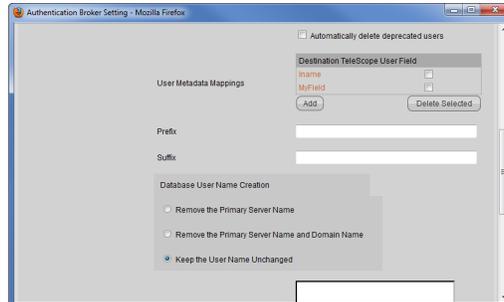
---

## 5.4.2 Edit User Metadata Mappings

To edit a mapping:

- 1 In the Telescope Connection Name dialog click a mappings name in the *Destination Telescope User Field* list.

**Figure 5.10** *User Metadata Mapping*



- 2 In the mapping window make the necessary changes.
- 3 Click *OK*.
- 4 Click *Save* in the Authentication Broker main pane.

### 5.4.3 Delete a User Metadata Mappings

- 1 In the Telescope Connection Name dialog select a mappings name in the *Destination Telescope User Field* list.
- 2 Click *Delete Selected*.
- 3 Click *OK*.
- 4 Click *Save* in the Authentication Broker main pane.

### 5.4.4 User Name Prefix and Suffix

A prefix and suffix can be added to a user's name before being stored in Telescope. This can be useful to differentiate a user record in different application but still have them authenticated against the company directory. The prefix or suffix is not visible to the user.

- 1 In the Telescope Connection Name dialog scroll down to *User Name Prefix and Suffix*.
- 2 In the Prefix field, enter a prefix to append to the user's name before it is stored in the Telescope database USERS table.

Prefix	<input type="text"/>
Suffix	<input type="text"/>

This allows Telescope users to have names which differ slightly from the authenticated names in the LDAP directory.

---

**NOTE:** The Prefix and Suffix settings are optional.

---

### 5.4.5 Database User Name Creation

These options allow you to configure how Telescope populates the user\_name field in the USERS table.

- 1 In the Telescope Connection Name dialog scroll down to *Database User Name Creation*.
- 2 Configure the following required fields:
  - Remove the Primary Server Name:** Select this option to remove the server name from the user name if the user entered it when logging in.
  - Remove the Primary Server Name and Domain Name:** Select this option to remove the server name and the domain name from the user name if the user entered it when logging in.
  - Keep the User Name Unchanged:** Select this option to create the user name exactly as the user entered it when logging in.

## 5.4.6 User Creation Script

A User Creation Script is an SQL script that runs when a new user is created in the Telescope database USERS table. It accepts input parameters that are used to set the user's profile and can be used to set user preferences to comply with corporate policies. You can use parameter *s* in this script that contain the name of fields in the LDAP user schema whose value is retrieved from the LDAP server and replaced in the script.

Parameter *s* must take the form "server.field", where *server* is the name of the LDAP server to retrieve the data from (or "MAIN"), and *field* is the LDAP schema field name to retrieve from the server. If the field name does not exist on the specified LDAP server, then the parameter replacement results in an empty string. There is one special purpose parameter substitution, "<!un!>", which represents the user\_name field in the USERS table of the record which has just been created.

The user creation script runs after the user is created but before the Telescope client software loads the user privileges for the newly-created user for the current session.

To add a user creation script:

- 1 In the Telescope Connection Name dialog scroll down to User Creation Script.
- 2 Enter the script in the *User Creation Script* field.



- 3 *LDAP Parameter Directory* (at the bottom of the window) can be either C:\Temp or \\server\path.
- 4 Click *OK*.
- 5 Click *Save*.

## 5.4.7 User Login Script

A User Login Script is an SQL script that runs after a user has successfully logged in to Telescope and has been authenticated by LDAP. You can use parameter *s* in this script that contain the name of a field in the LDAP user schema whose value will be retrieved from the LDAP server and replaced in the script.

Parameter *s* must take the form "server.field", where "server" is the name of the LDAP server to retrieve the data from (or "MAIN"), and "field" is the LDAP schema field name to retrieve from the server. If the field name does not

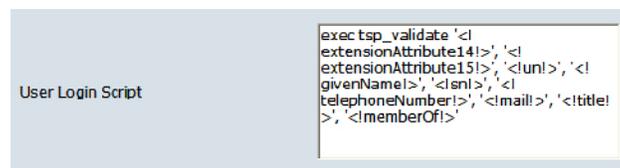
exist on the specified LDAP server, then the parameter replacement results in an empty string. There is one special purpose parameter substitution, "<!un!>", which represents the user\_name field in the USERS table.

The User Login Script runs after the user is authenticated by the LDAP server but before the Telescope client logs the user in, so the script can alter the user's privileges, or group membership, or other information in the user record before the log in actually occurs.

To add a user log in script:

- 1 In the Telescope Connection Name dialog scroll down to User Creation Script.
- 2 Enter the script in the *User Login Script* field.

**Figure 5.11** *User Login Script*



- 3 Click *OK*.
- 4 Click *Save*.



# 6. Managing Hubs

This chapter provides information about adding and managing Hubs in Telescope.

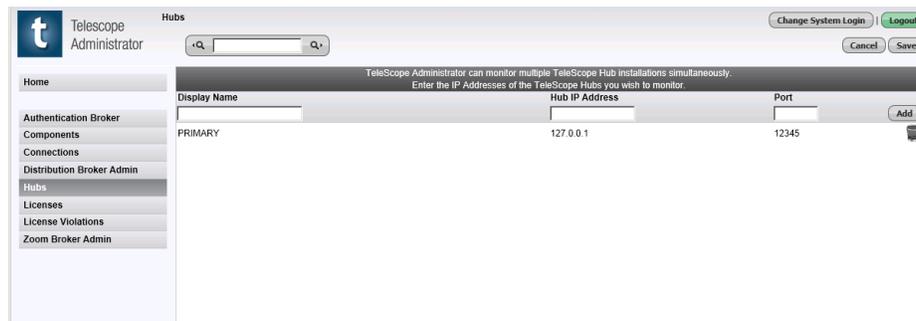
- ◆ [Section 6.1, "Overview," on page 66](#)
- ◆ [Section 6.2, "Add a Hub," on page 67](#)
- ◆ [Section 6.3, "Remove a Hub," on page 68](#)

## 6.1 Overview

The Telescope hub is the central location that manages services such as user authentication, connection, session, and file conversion. Using Telescope Administrator, you can monitor Hub activity, add new Hubs, and delete unwanted Hubs.

To view connected Hubs:

- ◆ Click *Hubs* in the left navigation pane.



## 6.2 Add a Hub

To add an installed Hub to the list of Hubs monitored:

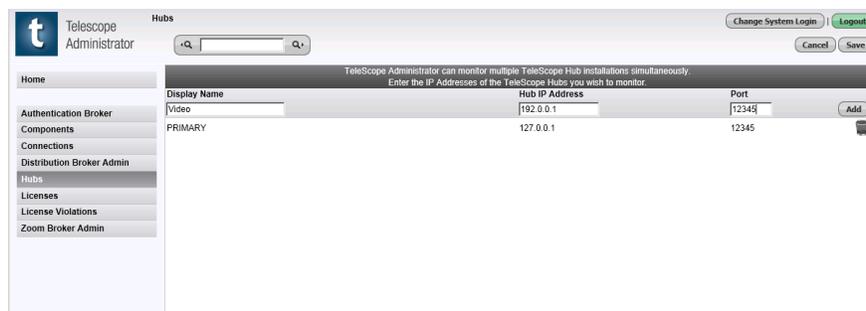
- 1 Enter the name of the hub in the *Display Name* field. This name will appear on the home page of Telescope Administrator.
- 2 Enter the Hub IP or DNS address in the *Hub IP Address* field.
- 3 Enter the Port number in the *Port* field.

---

**NOTE:** The Port number is port number of the Name Server (the omniNames process).

---

**Figure 6.1** Adding a Hub



The screenshot shows the 'Hubs' management page in the Telescope Administrator. The page has a sidebar with navigation options: Home, Authentication Broker, Components, Connections, Distribution Broker Admin, Hubs (selected), Licenses, License Violations, and Zoom Broker Admin. The main content area is titled 'Hubs' and contains a table for monitoring multiple Telescope Hub installations. The table has three columns: 'Display Name', 'Hub IP Address', and 'Port'. There are two rows of data: one for 'Video' with IP '192.0.0.1' and port '12345', and one for 'PRIMARY' with IP '127.0.0.1' and port '12345'. An 'Add' button is visible next to the 'Video' row. At the top of the page, there are buttons for 'Change System Login', 'Logout', 'Cancel', and 'Save'.

Display Name	Hub IP Address	Port
Video	192.0.0.1	12345
PRIMARY	127.0.0.1	12345

- 4 Click *Add*.
- 5 Click *Save*.

Telescope Administrator displays information about this Hub on the system home page. It also displays information about the databases and current users on the databases' home page.

## 6.3 Remove a Hub

To remove a Hub from the monitor:

- 1 Click the Trash Can  icon to the right of the Hub.
- 2 Click the *Save* button at the bottom of the page.
- 3 The Hub is no longer be monitored by Telescope Administrator.

---

**NOTE:** This does not remove the Hub, it just stops Telescope Administrator from monitoring this particular installation of the Hub.

---

# 7. Managing Licenses

This chapter provides information about adding and applying licenses for Telescope and I-Piece Plug-ins.

- ◆ [Section 7.1, "License Overview," on page 70](#)
- ◆ [Section 7.2, "View Licenses," on page 71](#)
- ◆ [Section 7.3, "Add Licenses," on page 72](#)
- ◆ [Section 7.4, "Move Licenses," on page 73](#)
- ◆ [Section 7.5, "Add a License Pool," on page 74](#)
- ◆ [Section 7.6, "Manage I-Piece License Pools," on page 75](#)
- ◆ [Section 7.7, "View License Violations," on page 78](#)
- ◆ [Section 7.8, "Update the Master License Key," on page 79](#)

## 7.1 License Overview

Using Telescope Administrator, you can manage licenses for users and product components. You can add, move, and delete user licenses between Telescope hubs.

### 7.1.1 Types of User Licenses

Server components are licensed per server or per CPU. There are three types of user licenses, which vary in price and their ability to access product functionality.

**Power User:** Power Users are named licenses, meaning they have a dedicated connection to the Telescope database. Power Users can connect and use all Telescope features.

**Concurrent Users:** Users with the same access to all Telescope features as Power users, but with concurrent licenses, meaning they can only log in if there is less than a set number of other users logged onto the system.

**Browse and Download User:** Functionality is focused on users who primarily search and browse the repository and download selected assets. They cannot import assets, save searches, or share catalogs.

---

**NOTE:** Telescope **administrators** are not licensed. However, only one full administrator can administer a database at any given time, or an arbitrary number of sub-administrators, assuming they do not share visible groups.

---

---

**NOTE:** **Content Editors** are legacy concurrent licenses that were used in Telescope 8.x. These licenses are grandfathered, which means that they are available on Telescope 9.x only for existing Telescope 8.x clients.

---

### 7.1.2 Comparison of Functionality Available to User Licenses

The following table shows TSWeb functionality available by default to each user type. Note that available functionality may vary depending on the customized permissions granted to individual Users/Groups.

Feature	Power Users/ Concurrent Users	Browse and Download Users
Import assets	Yes	Yes, but cannot add any metadata. Power Users must add metadata for these imported assets.
Version tracking, checking assets in and out	Yes	No
Edit asset metadata	Yes	No
Perform a search (quick search, advanced search)	Yes	Yes
Save a search	Yes	No
Create a collection (catalog)	Private and shared collections	Only private collections
Download	Yes	Yes

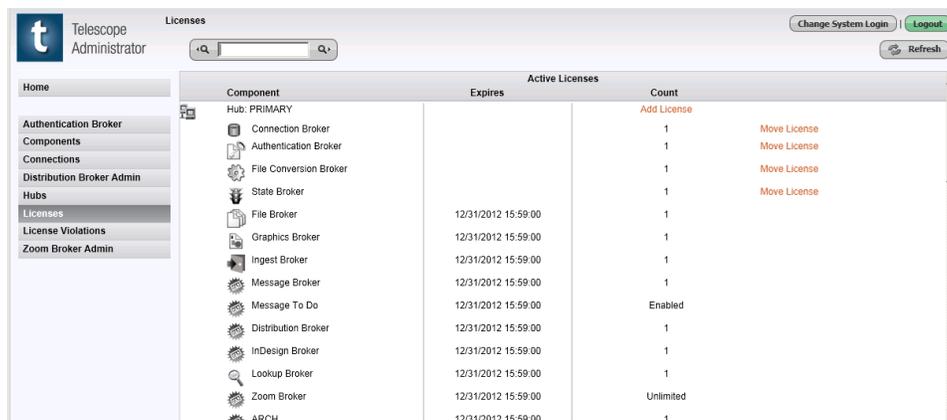
## 7.2 View Licenses

Telescope Licenses are tied directly to your hardware's network interface card (NIC). The Master License for Telescope can be tied to more than one NIC on a single server to support NIC failover.

To display the License Management page:

- 1 Log in to System of the Telescope Administrator.
- 2 Click *Licenses* in the navigation pane. The page shows all of the licenses that have been added to the Telescope system. If a license is temporary, this page displays the date and time it will expire.

**Figure 7.1** Telescope Licenses



The screenshot shows the Telescope Administrator interface with the 'Licenses' page selected. The page displays a table of active licenses for various components. The table has columns for Component, Expires, and Count. The 'Expires' column shows the expiration date and time for most licenses, while the 'Count' column shows the number of licenses for each component. Some licenses have a 'Move License' link next to them.

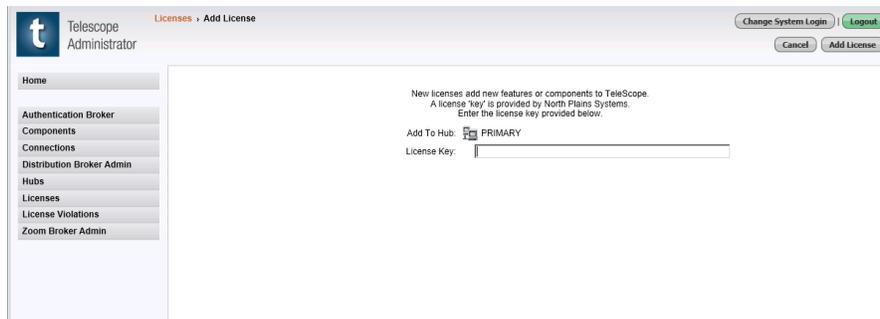
Component	Expires	Count
Hub: PRIMARY		Add License
Connection Broker		1
Authentication Broker		1
File Conversion Broker		1
State Broker		1
File Broker	12/31/2012 15:59:00	1
Graphics Broker	12/31/2012 15:59:00	1
Ingest Broker	12/31/2012 15:59:00	1
Message Broker	12/31/2012 15:59:00	1
Message To Do	12/31/2012 15:59:00	Enabled
Distribution Broker	12/31/2012 15:59:00	1
InDesign Broker	12/31/2012 15:59:00	1
Lookup Broker	12/31/2012 15:59:00	1
Zoom Broker	12/31/2012 15:59:00	Unlimited
ARCH	12/31/2012 15:59:00	1

## 7.3 Add Licenses

To add a new license you must have purchased a license key. Have your license key ready when you add a license in TeleScope Administrator.

- 1 Log in to System of the Telescope Administrator.
- 2 In the Telescope Administration page, click *Licenses* in the navigation pane.
- 3 In the Licenses page, click *Add License* to the right of the Hub you want to add the license to.
- 4 Enter the license key in the field.

**Figure 7.2** *Add License*



- 5 Click *Add License*.

If the license key is correct and valid, the new license is added to TeleScope Administrator and appears in the Licenses page.

Repeat the above procedure for all licenses.

## 7.4 Move Licenses

If you have more than one hub installed, you can move licenses between hubs. Some components might need to be restarted after licenses have been moved in order for the change to take effect.

---

**NOTE:** If you want to move a large number of user licenses, you can group them in one or more pools.

---

To move a license:

- 1 Click *Move License* next to the license you wish to move.

**Figure 7.3** Move License

Telescope Administrator

Licenses > Move License

Change System Login Logout

Back Move License

Home

Authentication Broker

Components

Connections

Distribution Broker Admin

Hubs

Licenses

License Violations

Zoom Broker Admin

Licenses can be moved between TeleScope Hubs, to permit the distribution of licenses in multi-hub environments.

License: File Conversion Broker

Licenses To Move: (maximum 1)

Add To Hub: Other...

To move a license to another hub not managed by TeleScope Administrator, you will need to know the destination hub's "Master Key" which was provided by North Plains Systems, and was associated with the hub when it was installed.

If you do not know the master key for the destination hub, contact North Plains Systems, which maintains a registry of master keys.

Master Key:

- 2 Specify the number of licenses to move.
- 3 Select the Hub in the *Add to Hub* menu.  
If you wish to move the licenses to a hub not managed by TeleScope Administrator, select *Other*.
- 4 Enter the master key for the other hub. If you do not have the master key, contact North Plains Systems.
- 5 Click *Move License*.

---

**NOTE:** The new hub **MUST** use the same Master Key as the original hub. A sub-key license cannot be moved to a hub that has a different master key.

---

## 7.5 Add a License Pool

License pools are used to "reserve" a set number of Telescope licenses for specific Browse and Download Users.

For example, a company has a total of 15 user licenses for Browse and Download Users. Department A has 15 users with 5 being frequent users (the remaining 10 users only access Telescope occasionally). Department B also has 15 users with 5 using Telescope often.

With no license pools defined, all 15 users from Department A could be logged into Telescope, leaving no licenses left for users from Department B.

To better manage the Browse and Download Users licenses, two license pools, 'Dept A' and 'Dept B', are created. Each pool has 5 licenses assigned to it and both have 'roll over' enabled. Roll over is a feature that allows users in a pool to use available licenses from the default license pool. Rollovers across hubs are not permitted.

Using the TeleScope Administrator Edit Users page, five users are assigned to each license pool.

---

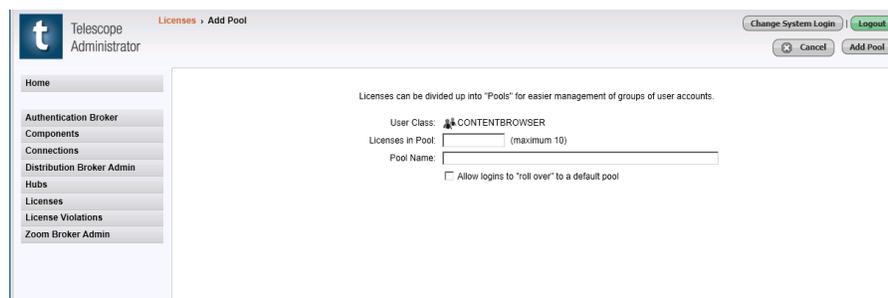
**NOTE:** To see the User Pool menu on the Edit Users page, Browse and Download Users must be selected from the Type field. With these pools, 5 users from each department will always have access to Telescope. This uses up 10 licenses, allowing an additional 5 users total from either department to log into Telescope.

---

To add a pool:

- 1 On the Licenses page, click *Add Pool* next to the license type you want to pool. The Add Pool page appears with the license type you selected displayed next to the User Class field.

**Figure 7.4** Add License Pool



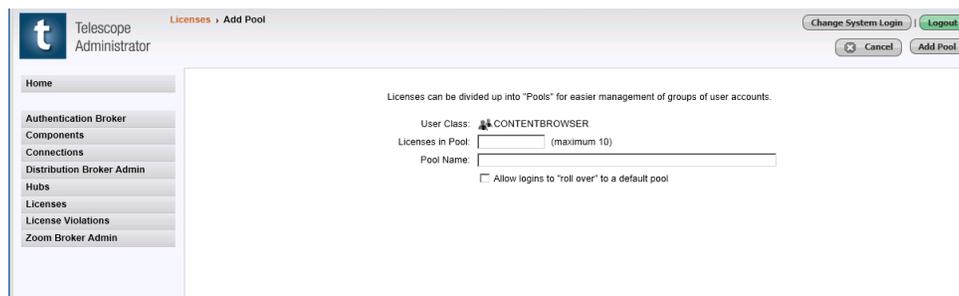
- 2 Specify the number of licenses you want to add to the pool.
- 3 Provide a name for the pool.
- 4 Select the *Allow logins to "roll over" to default pool* option if you want users in the pool to have access to available licenses in the default pool. This is useful if you have more users assigned to a pool than licenses.
- 5 The Default pool is the number of user licenses remaining after the licenses of all named pools are subtracted from the total number of users held by the license.
- 6 Click *Add Pool*. The new pool is created and the Active Licenses page is displayed.

## 7.6 Manage I-Piece License Pools

The I-Piece License Pool is an optional license which, when added to Telescope, allows you to create pools of I-Pieces that are available to users. This is useful if you have different types of users, who need different functionality, accessing the hub through separate connections.

When the License Pool I-Piece is added to Telescope, it appears as a component on the Active Licenses page and any other I-Piece licenses you have added are displayed with an *Add to Pool* link to the right of the Count column.

**Figure 7.5** Licenses

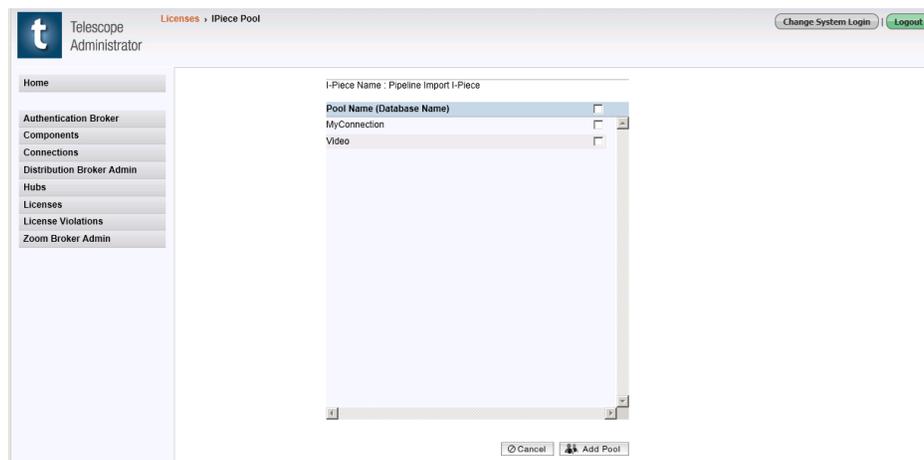


### 7.6.1 Add an I-Piece to a Pool

To add an I-Piece to the pool of I-Pieces available to a connection:

- 1 Click the *Add To Pool* link for the I-Piece you want to add.

**Figure 7.6** Add To Pool



- 2 Select the connection(s) you want to make the I-Piece available to.
- 3 Click *Add Pool*. The I-Piece now appears as a link on the Active Licenses page with the number of connections it is available to in brackets.

**Figure 7.7** I-Pieces License Pool

I-Piece Name	Expiration Date	Status	Action
News I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
License Pool I-Piece	12/31/2012 15:59:00	Enabled	
Orchestration	12/31/2012 15:59:00	Enabled	Add To Pool
Photo Portal	12/31/2012 15:59:00	Enabled	Add To Pool
Pipeline Import I-Piece (1)	12/31/2012 15:59:00	Enabled	Add To Pool
Post Script I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
Quark I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
Video Manager (1)	12/31/2012 15:59:00	Enabled	Add To Pool
XMP I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
CP-DIGI	12/31/2012 15:59:00	Enabled	
CP-DIGPH	12/31/2012 15:59:00	Enabled	
CP-EQMR	12/31/2012 15:59:00	Enabled	
CP-FFC	12/31/2012 15:59:00	Enabled	

To view the list of connections an I-Piece is currently available to, click the I-Piece name on the Active Licenses page.

**Figure 7.8** I-Piece Connections

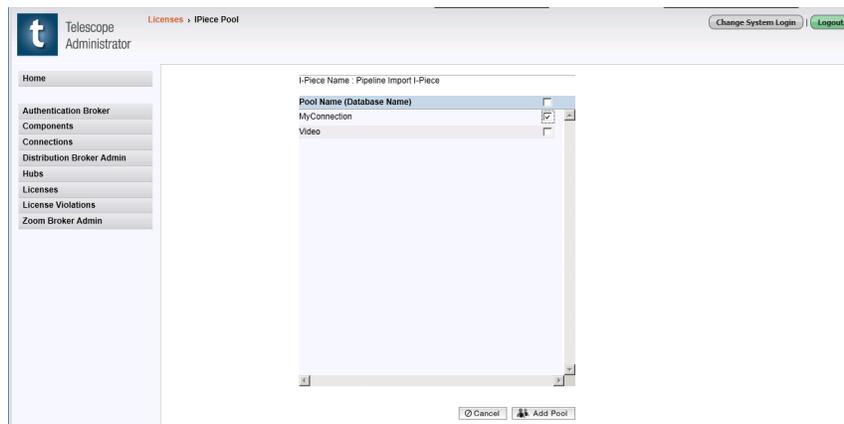
I-Piece Name	Expiration Date	Status	Action
News I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
License Pool I-Piece	12/31/2012 15:59:00	Enabled	
Orchestration	12/31/2012 15:59:00	Enabled	Add To Pool
Photo Portal	12/31/2012 15:59:00	Enabled	Add To Pool
Pipeline Import I-Piece (1)	12/31/2012 15:59:00	Enabled	Add To Pool
MyConnection			
Post Script I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
Quark I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
Video Manager (1)	12/31/2012 15:59:00	Enabled	Add To Pool
MyConnection			
XMP I-Piece	12/31/2012 15:59:00	Enabled	Add To Pool
CP-DIGI	12/31/2012 15:59:00	Enabled	
CP-DIGPH	12/31/2012 15:59:00	Enabled	
CP-EQMR	12/31/2012 15:59:00	Enabled	
CP-FFC	12/31/2012 15:59:00	Enabled	

## 7.6.2 Remove an I-Piece from a Pool

To remove an I-Piece from the pool of I-Pieces available to a connection:

- 1 Click the *Add To Pool* link for the I-Piece you want to remove.

**Figure 7.9** *I-Piece License Pool*



- 2 Clear the *I-Piece* checkbox.
- 3 Click *Add Pool*.

## 7.7 View License Violations

This page displays any incidents related to licenses (for example, licensed number of users exceeded) from the Session Broker `sesb_violation.log` file in the Telescope Logs directory.

To view license violations:

- 1 Click *License Violations* in the navigation on the left.

**Figure 7.10** License Violations



- 2 From the HUB menu, select a hub to view license violations for.

If the list of violations is too long to display on a single page, page navigation controls are displayed. Click the arrows to move forward or backward through the pages, or enter the page number you want to view in the text field.

The Reset button rolls over the license violations log by appending `"-rollover@<date>_<time>"` to the `sesb_violation.log` file name. The next time a license violation occurs, the Session Broker creates a new `sesb_violation.log` file. Only violations that occurred after the last reset appears on the License Violations page.

## 7.8 Update the Master License Key

### When you need to update the master license key:

If any of the following situations happen, you must obtain a new master key from North Plains Systems and update the hub with the new key.

- ◆ The network card of the computer is changed.
- ◆ The master key needs to be applied to a different network card in a multiple-card computer.
- ◆ A temporary master key has expired.

### To update the master license key:

When you have obtained the new key, follow these steps to update the master license key on the hub:

- 1 Stop all Telescope applications using WebObjects Monitor.
- 2 Within the WebObjects Monitor, turn off Auto Recover for the Telescope application.
- 3 Stop the NPS Broker services (as applicable to your installation) in the following order:
  - a Any Broker not listed in the list below (for example, InDesign Broker, Zoom Builder, Zoom Broker, Distribution Broker, Child Indexing Broker, Indexing Broker)
  - b Ingest Broker
  - c Graphics Broker
  - d Lookup Broker
  - e Message Broker
  - f NTFS File Broker
  - g Authentication Broker
  - h Connection Broker
  - i State Broker
  - j Session Broker
  - k Name Server

---

**NOTE:** You must stop all NPS brokers on all computers.

---

- 4 Open a command window (DOS window) with “Run as Administrator” on the machine on which Telescope hub is installed and navigate to the Telescope directory (where the sesb.exe file is located, usually the Telescope installation directory, C:\Telescope by default).
- 5 Delete the `sesb.dat` file in this directory.
- 6 Run the following command from this directory:

```
sesb -remaster <new master key>
```

where *<new master key>* is the new master key string in the license text file that was sent to you. Insert only characters without the braces "[]".

**7** Start **only** the these NPS services in the following order:

- a** Name Broker
- b** Session Broker
- c** State Broker
- d** Connection Broker
- e** Authentication Broker

**8** Enter the license keys in either of the following ways:

**Manually:**

- a** From WebObjects Monitor (or a saved bookmark), start TSAAdmin.
- b** Log in to Telescope Administrator as 'sysadmin'
- c** Enter all the subkeys in the license text file.

**OR Programmatically:**

- a** Locate the `JLicApp.jar` file under `C:\Telescope\` on the Telescope hub.
- b** Execute the jar file.
- c** Enter the Hub IP address in the licensing tool.
- d** Locate the license Key file.
- e** Click on the *Parse Subkeys* button.
- f** Click on the *Apply Licenses* button

**9** Start the remaining NPS services in this order:

- a** File Broker
- b** Message Broker
- c** Lookup Broker
- d** Graphics Broker
- e** Ingest Broker
- f** Any other broker not listed above. (For example, Indexing Broker, Child Indexing Broker, Distribution Broker, Zoom Broker, Zoom Builder, InDesign Broker)
- g** If the LDAP license was entered above, then you need to restart the Authentication Broker to apply the LDAP license to the Authentication Broker.

- 10** Review the `gb.log` file. Ensure the IPieces were loaded correctly. License sub-keys for IPieces that were incorrectly applied will have an error message displayed in this file.
- 11** Start all the Telescope applications using WebObjects Monitor.
- 12** Within the WebObjects Monitor, turn *Auto Recover* back on for the Telescope application.
- 13** Test all licensed components in the application. to ensure availability



# 8. Telescope Database Settings

The Settings page in Telescope Administrator (TSAdmin) allows you to maintain a variety of system parameters that affect how assets are imported into the Telescope database, and the behavior of the environment as a whole.

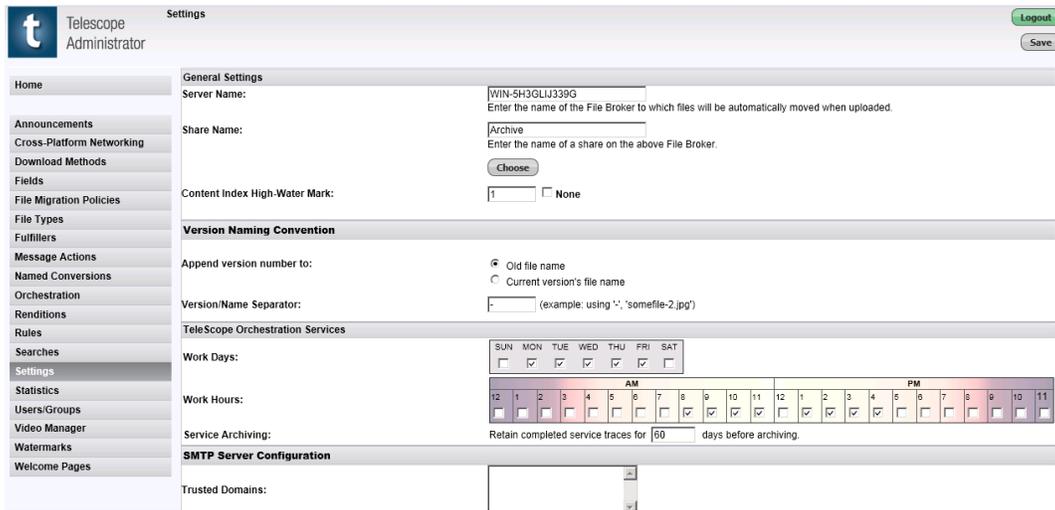
This chapter provides information about configuring the Telescope Database Settings:

- ◆ [Section 8.1, "Manage Database Settings," on page 84](#)
- ◆ [Section 8.2, "General Settings," on page 85](#)
- ◆ [Section 8.3, "Version Naming Conventions Settings," on page 86](#)
- ◆ [Section 8.4, "Telescope Orchestration Services Settings," on page 87](#)
- ◆ [Section 8.5, "SMTP Server Configuration Settings," on page 88](#)
- ◆ [Section 8.6, "Search Settings," on page 90](#)
- ◆ [Section 8.7, "Video Rendition Settings," on page 92](#)
- ◆ [Section 8.8, "Maintain COV Links Setting," on page 93](#)

# 8.1 Manage Database Settings

- 1 Log in to TSAdmin.
- 2 Click *Settings* in the navigation pane.

Figure 8.1 Telescope Database Settings



- 3 After you finish updating the settings, be sure to click *Save* at the top of the page.

## 8.2 General Settings

### 8.2.1 Set the Location for Imported Assets

When Telescope users import assets, they are automatically moved to the Telescope File Broker and stored on the server. As an administrator, you must specify the location where these assets are saved. Specify these parameters:

**Server Name:** The name of the server (MacOS, NT, or Samba on Unix) that stores assets. Be sure to use the hostname and not the IP address.

**Share Name:** The name of the File Broker share on the server for uploading. This is the name of the File Broker share without any sub-path directory. You can only enter the name of the share itself.

### 8.2.2 Set the Content Index High-Water Mark

The content index facilitated by the underlying database (Oracle or SQL Server) is used by Telescope to support conceptual and advanced content searches. This powerful functionality allows users to search for text in the contents of documents that have been ingested into Telescope. As documents are ingested into Telescope, the body of the documents are scanned and the raw text is extracted and stored for searching. In order for this information to appear in the content index, it is necessary to regenerate the content index from time to time. For information about this process, see [Section 2.7, "Customize Telescope Administrator," on page 26](#).

The Telescope system keeps track of the last time the content index was rebuilt and keeps track of how many assets have been ingested into the system since then. You can set a high-water mark so that Telescope prompts you to regenerate the index when the assets not indexed reach a certain number.

To set a high-water mark:

- 1 Under General Settings on the Settings page, in the *Content Index High-Water Mark* field, specify how many textual documents can be imported or updated (synchronized) before you are prompted to regenerate the index.
- 2 For the *Content Index High-Water Mark* field, clear None.
- 3 Click *Save*.

### 8.2.3 Locking Out Users After X Login Attempts

The *Maximum Login Attempts* field allows administrators to lock out TSWeb users out after a maximum number of failed login attempts.

The maximum number of retries is set to 99999 by default (a large number that means the feature is effectively turned off). For our customers' network security, we recommend that this maximum be changed to 3-5 retries.

This field requires an integer, and cannot be less than 3. We recommend a value of 3, 4, or 5. This value is tracked by the `login_fail_cnt` column in the users table (the count of failed login attempts).

If TSWeb users lock themselves out, there is an informational message at login telling them they are locked out and need to contact their administrator.

To unlock a user, the administrator needs to go to TSAAdmin, click the *Users/Groups* tab, go to the individual user's settings, and deselect the *Lock/Unlock Account* check box (which was checked on when the user was locked out).

## 8.3 Version Naming Conventions Settings

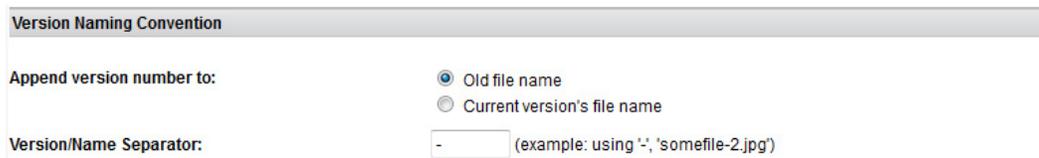
Whenever an asset is checked into Telescope after being checked out, Telescope creates a new version of the asset. The newly checked-in asset is linked to the original asset in the Telescope database so that you can view information about the asset's history and access the different versions of an asset.

In the Settings page, you can maintain the version asset naming conventions that determine how new and old versions are identified. Telescope always appends a number to distinguish new versions from old. However, you can specify whether the number is appended to the name of the original asset or the name of the new asset. You can also specify what character is used to separate the version number from the file name.

To set the version-naming conventions for your database:

- 1 Choose to append the version number to either the asset name of the original asset (old asset name) or to the new version (current version).
- 2 In the *Version/Name Separator* field, specify a character to be used to separate the number from the asset name.

**Figure 8.2** *Version Naming Convention*



The screenshot shows a form titled "Version Naming Convention". It contains two main sections. The first section is "Append version number to:", which has two radio button options: "Old file name" (which is selected) and "Current version's file name". The second section is "Version/Name Separator:", which has a text input field containing a hyphen "-" and a note in parentheses: "(example: using '-', 'somefile-2.jpg')".

- 3 Click *Save*.

## 8.4 Telescope Orchestration Services Settings

Orchestration lets you to automate workflows to control the movement of assets through the various stages of the creative process. For details on this feature, see [Section 26., "Orchestration," on page 345.](#)

## 8.5 SMTP Server Configuration Settings

Configure SMTP to send and receive email messages. SMTP is the Internet standard for email across the network.

---

**NOTE:** After you finish updating the settings, be sure to click *Save* at the top of the page.

---

**Figure 8.3** SMTP Server Configuration

Home	<b>SMTP Server Configuration</b>	
Announcements	Trusted Domains:	<input type="text" value="mycorp.com, gmail.com"/>
Cross-Platform Networking		<small>Enter the trusted domains using comma separator</small>
Download Methods	Trusted Default Email:	<input type="text" value="admin@mycorp.com"/>
Fields	SMTP Server:	<input type="text" value="smtp.gmail.com"/>
File Migration Policies	SMTP Port:	<input type="text" value="465"/>
File Types	Mail Transport Protocol:	<input type="text" value="SMTP"/>
Message Actions	Required Email Authentication:	<input checked="" type="checkbox"/>
Named Conversions	This server requires an encrypted connection (SSL):	<input type="checkbox"/>
Orchestration	Mail User:	<input type="text"/>
Renditions	Mail Password:	<input type="password" value="*****"/>
Rules	Confirm Password:	<input type="password" value="*****"/>
Searches		
Settings		
Statistics		
Users/Groups		
Video Manager		
Watermarks		

### Trusted Domains

List all email domains that the system trusts for authentication information. Separate each domain by a comma; spaces after the comma are not permitted. For example: widget1.com,widget2.com,widget3.com

This setting ensures that the email address in the “Sent By” field is from a **trusted domain**. If, for instance, “mycorp.com” is set as the trusted domain, but an employee sends a message/email from a different domain (for example, “gmail.com”), then the two domains don't match—and Telescope will substitute the “Sent by” email with the “trusted admin” account (with the “mycorp.com” domain in this example). This prevents recipients from replying to an untrusted source.

If this field is left blank, all accounts are not considered “trusted,” rather than being validated to be trustworthy.

### Trusted Default Email

Enter the mail host to send the message from. This is your admin/return-to email address. For example: admin@mycorp.com. The email address must be valid on your SMTP server.

### SMTP Server

Enter the SMTP server. This must be in the DNS lookup that is accessed by your server. For example: mail.mycorp.com.

### SMTP Port

Enter the SMTP port number (if you want a port number different from the default port, 25).

### Mail Transport Protocol

Enter the transport protocol for email. Typically, this is SMTP. This value is case sensitive.

### Required Email Authentication

Check this check box if the account requires a password to access it. If this value is not selected, no password is used to access the account. If this value is selected, you must specify the user name and password in the following additional fields provided:

*Mail User*— Enter the user name for the account the email is sent from.

*Mail Password* — enter the password for the account the email is sent from. This value is only necessary if *Required Email Authentication* setting is selected.

*Confirm Password* — re-enter the password exactly as typed in the *Mail Password* field.

*This server requires an encrypted connection (SSL)*

Click this check box if the SMTP server is using encrypted connection (SSL).

**Note:**

There is a default 20-second timeout period to establish communication between TSWeb and the SMTP server and complete email tasks. You can change this default by setting `smtpTimeout=[time in seconds]` in the TSWeb `Config.plist` file, located on the web application server:

```
..\TeleScope\Applications\tswweb.woa\Contents\Resources\Config.plist
```

**See also:**

- ◆ [Section 12.6, "Use QuickLinks in your Organization," on page 166](#)

## 8.6 Search Settings

If your organization has a large installation and wants to improve performance, or if it wants or limit the search features available to users, you can remove or adjust Solr search features by selecting one or more of the following check boxes

---

**NOTE:** After you finish updating the settings, be sure to click *Save* at the top of the page.

---

*Disable Refine Search* — When checked, disables refine search (faceting).

*Disable Search Term Highlighting* — When checked, disables search term highlighting.

*Disable Search Relevance Weighting* — When checked, disables search relevance rankings to improve query execution times.

*Use Single Default Search Field* — When checked, uses a single default search field. See the section below, [Section 8.6.1, "Implement Search on Single Default Search Field," on page 90](#).

### 8.6.1 Implement Search on Single Default Search Field

To improve Solr search performance, there is an option to search within a Single Default Search field within Solr that contains all metadata information about assets, rather than within each searchable field individually. The Single Default Search field is created by default in the Solr database, and contains all metadata for each asset.

This option, if enabled, results in simplified queries to Solr and faster results because a single field is searched rather than an explicit list of all searchable fields. Note that assets are still filtered from view through where clauses before the results are shown to users in TSWeb, ensuring security of assets with this change.

This option is added to the DB\_SETTINGS table with the USE\_SINGLE\_DEFAULT\_SEARCH\_FIELD setting. If this setting does not exist, or is set to anything but 'true' or 'TRUE', then the feature is disabled (the default is disabled).

To turn this option on, select the *Use Single Default Search Field* checkbox in the *Settings* tab of TSAdmin. You also need to make a manual configuration to the Solr core, as described below

#### Solr Implementation

To enable the *Use Single Default Search Field* option, you need to make a manual configuration to the Solr core:

- 1 On the Solr multicore machine, open the solrconfig.xml file with a text editor. This file is usually located in the

C:\Telescope\Solr\solr-4.10.3\telescope\multicore3\core0\conf folder.

- 2 Find the requestHandler section, and on line 813 (line number may vary depending on your configuration) add the following line:

```
<str name="df">spelltext</str>
```

This section should look like the snippet below:

```
<requestHandler name="/select" class="solr.SearchHandler">
<!-- default values for query parameters can be specified, these
will be overridden by parameters in the request
-->
```

```
<lst name="defaults">
<str name="echoParams">explicit</str>
<int name="rows">10</int>
<str name="df">spelltext</str>
</lst>
```

- 3** Save and close the file.
- 4** Restart the NPS Jetty-Service for the solrconfig.xml changes to take effect.

## 8.7 Video Rendition Settings

It is possible to configure two different video preview renditions:

*Video Manager Rendition* — The type of video preview renditions for Video Manager 3

*Regular Preview Rendition* — The type of video preview renditions for regular video previews not using Video Manager 3

Typical customer environments will use the same “Original” rendition for both of these options. We recommend that all customers validate that these settings are correctly set after installing this release as detailed in the installation steps for the Web App Server.

Some customers, for example those in the broadcasting industry, may want to use the "Streaming URL" option, available from either pull-down. For details on how to implement a streaming service solution, contact the Northplains Services team.

## 8.8 Maintain COV Links Setting

Some asset types, when ingested into Telescope, produce not only a thumbnail but also a detailed extended view or Complex Object View (COV). Referred to as COV documents, these assets produce an extended view that includes raw text and placed images and allows the user to flip through multi-page documents within Telescope without downloading and opening the original asset. This functionality is facilitated by I-Piece plug-ins to Telescope and support Quark, PDF, Office and InDesign file types.

In the case of Quark and InDesign files, Telescope can automatically keep track of imbedded documents such as images pulling them into Telescope when the parent document is ingested and serving them out when the parent document is downloaded. Within the parent asset, a Telescope container field displays the linked or placed documents.

To maintain COV links when compatible assets are imported:

- 1 In the Settings page, click *COV Linkages*.

**Figure 8.4** *COV Linkages*



- 2 Select the *Maintain COV Links* option.
- 3 Select a *Parent Container Field* where the placed images inside the associated asset is stored.
- 4 Click *Save*.

Whenever a new COV document is imported into Telescope, the container field in its Document Info view is updated to display the embedded assets that have been ingested into Telescope. These assets could have been ingested automatically with the COV document, they might have been ingested prior to the COV document being ingested, they might be ingested after the COV document OR they might never be ingested in which case they will not show up in this view.

If required, you can immediately update the COV links by clicking *Refresh Linkages Now*. Click *OK* on the warning message. A progress bar appears showing the update process or you can cancel the process if necessary.



# 9. Users and Groups

This chapter provides information about adding, modifying User Groups and Users, and defining user permissions in Telescope.

- ◆ [Section 9.1, "Overview," on page 96](#)
- ◆ [Section 9.2, "Manage Groups and Users," on page 97](#)
- ◆ [Section 9.3, "Change Group Permissions," on page 102](#)
- ◆ [Section 9.4, "Add Users," on page 106](#)
- ◆ [Section 9.5, "Use Where Clauses to Control User Access to Data," on page 111](#)
- ◆ [Section 9.6, "Assign Functional Rules to Limit User Actions," on page 118](#)
- ◆ [Section 9.7, "Set Visibility of Telescope Components by User," on page 119](#)

## 9.1 Overview

Group and user definitions allow Telescope users to access the system and perform tasks according to the privileges assigned to them. The administrator for each Telescope database in your Telescope environment defines users and groups, manages their privileges, and monitors their activity, as required.

A user definition in Telescope Administrator controls how a Telescope user can access the system and the actions he or she can perform. Each user belongs to a group, and the group definition is a handy way of assigning the same privileges to users with similar responsibilities. The user group also defines what entities (fields, renditions, groups, and hierarchical searches) are visible to the members of the group. It can also be used to control which assets are visible.

Adding users and groups involves adding them to the system, providing information about them, and assigning privileges to them. The first user, created automatically for a new database, is always the Telescope Administrator user (by default, the username is “admin”, with no password, and the password should be changed right away). The Telescope Administrator user belongs to the Default group.

## 9.2 Manage Groups and Users

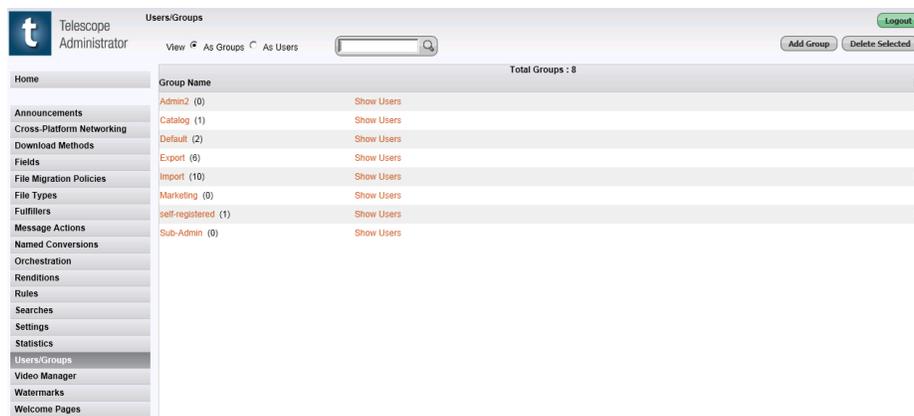
Telescope Administrator provides several features for viewing and browsing groups and users.

### 9.2.1 View Groups

To view the currently defined groups:

- 1 Log into Telescope Administrator as a database administrator, accessing the data source whose groups you wish to view.
- 2 Click *Users/Groups* in the navigation area.

**Figure 9.1** *Users and Groups*



On this page, you can have the following options for finding and viewing information:

- ◆ To find a particular group, enter its name in the *Lookup* text box and click *Lookup*. The list of groups is re-ordered so that the name you selected is at the top.
- ◆ To scroll to a different page in a large list, use the navigation controls that appear under the *Lookup* field.
- ◆ To view the members of a particular group, click *Show Users*.
- ◆ To view a group's characteristics, click the group name in the *Group* page.

### 9.2.2 Overview of Adding Groups and Users

Adding groups and users are similar processes. They involve filling in fields in the *Permissions* tab and setting options on the *Preferences* tab. Some options, such as specifying the visibility of fields, are available only at the group level.

Adding groups and users to the Telescope system involves these tasks:

- ◆ Adding one or more groups and specifying what entities are visible to them.
- ◆ Defining each group's privileges, for example, the ability to import or download assets.
- ◆ Adding users, defining the user name, user type, password, and other identifying information to the system.
- ◆ Setting any user privileges that are different from the group's. Users "inherit" privileges from their groups, but you can also change or assign privileges to them individually.

The number of users you can add to a database is limited by your Telescope license, which specifies the number of Power Users and Browse and Download Users allowed to access the system concurrently.

Sub-administrators can perform administrative tasks for one or more groups, but not all groups in the Telescope system. The tasks they can perform are limited to administering users, and they cannot perform any other actions in Telescope Administrator. For information see [Section 9.2.4, "Create Sub-Administrator Groups," on page 99](#).

## 9.2.3 Add a Group

To add a new group:

- 1 On the navigation pane, select *Users/Groups*.
- 2 Select View As Groups.
- 3 Click *Add Group*.

**Figure 9.2** Add Permissions

The screenshot shows the Telescope Administrator interface for adding a group. The top navigation bar includes the Telescope logo, the text 'Telescope Administrator', and the current page title 'Users/Groups > Permissions'. There are 'Logout', 'Cancel', and 'Save' buttons. A left navigation pane lists various system components. The main area is divided into three sections: 1) Form fields for 'Group Name', 'Make Like' (with a list icon), and 'Remarks'. 2) A central pane with tabs for 'Permissions', 'Preferences', 'Fields', 'Searches', 'Message Actions', 'Renditions', 'Group Visibility', 'Rules', 'Named Conversions', 'Welcome Pages', 'Video Manager', and 'Migration Policies'. 3) A right pane titled 'View Permissions' containing 'Unrestricted Actions' (Import, Delete, Change Multiple, Template Maintenance, Convert All Files, Synchronize Documents, Import with No Migration, Place Orders, Allow Telescope Uploader) and 'Actions Which Require Approval' (Import, Delete, Copy). There are also checkboxes for 'Extended Views', 'Copy Files', 'Move Files', 'Check Out Files', 'Create Shared Catalogs', 'See File Brokers at Import', 'Locate Document Files', 'Hide Migration Policy', 'Hide QuickLinks', and 'Allow Uploader Download'. An 'Approval Messages To:' field is at the bottom.

- 4 In the *Group Name* text box, enter a suitable name for the group.
- 5 If you want to copy information from an existing group into the current profile, do the following:
  - a Click the list icon next to the *Make Like* field.
  - b Select a group to model the new group on.
  - c Click *Go*. The group's information appears in the fields. You can now change the parameters as required.
  - d If required, add comments in the *Remarks* field.
- 6 Click the tabs to specify group permissions and other settings. For details, see the sections that follow.

## 9.2.4 Create Sub-Administrator Groups

Sub-administrators have the ability to manage users within a particular group, or set of groups, but they cannot perform other administrative duties. This enables an enterprise installation to have individual administrators who can add new users or change user privileges for specific groups of users (within a department, for example).

The only difference between a database administrator with full privileges and a sub-administrator in Telescope is that the sub-administrator's user group cannot view all groups. The complete Telescope Administrator interface for a database is only available to administrators with visibility on all groups. Consequently, when a sub-administrator logs into Telescope Administrator, only the *Users* link is available in the navigation area. When the sub-administrator clicks *Users*, only the groups that the sub-administrator has permission to see are displayed. The Delete and Add Group commands are disabled. Sub-administrators can delete users, but they cannot delete groups.

### To create a sub-administrator group:

- 1 In TSAdmin, navigate to the Users/Groups page.
- 2 Click *Add Group*.
- 3 Provide a name for the group.
- 4 On the *Permissions* tab, be sure to select the Administrator option.
- 5 Click *Save*.
- 6 Back at the Users/Groups page, select the group you created.
- 7 Go to the *Group Visibility* tab. Deselect all other groups, and select only the group you created, making only that subgroup visible to itself.
- 8 Click *Save*.
- 9 Add users to the group. See [Section 9.4, "Add Users," on page 106](#).

### To make an existing group a sub-administrator group:

- 1 In TSAdmin, navigate to the Users/Groups page.
- 2 Select *View as Groups*.
- 3 Select the group name in the list you want to make a subgroup.
- 4 On the *Permissions* tab, be sure to select the Administrator option.
- 5 Go to the *Group Visibility* tab. Deselect all other groups, and select only the group you created, making only that subgroup visible to itself.
- 6 Click *Save*.
- 7 If you wish to revise the list of users that are to be visible to the current group, see [Section 9.4, "Add Users," on page 106](#).

### The following rules apply to administrators and sub-administrators when they log in:

- ◆ When a database administrator is logged in to Telescope Administrator, no other user (full administrator or sub-administrator) of the same database can be logged in.
- ◆ When a database sub-administrator is logged in, only sub-administrators whose visibility group set is distinct from the current sub-administrator's can log in, in parallel. A full administrator is excluded by default.

- ◆ Any log-in attempt which does not qualify as a "legitimate" log-in is refused. The reason for the refusal is displayed in an alert window.

### **About visibility by sub-administrators to other groups and moving to those groups:**

Sub-administrators are only allowed to move themselves to groups to which they have visibility. In TSAdmin, sub-admin users can no longer see groups for which they have not been given visibility, and therefore cannot move themselves to those groups to increase their own visibility, or by way of work-around, expand their permissions.

In addition, TSWeb users are not permitted to see users from other groups (for example, when messaging) unless their group has been given explicit visibility to see these other groups. If users belong to a group that has not been given permission to see itself, they will not be able to see other members from their own group either.

We recommend using caution when configuring group visibility for sub-administrators, because if they have visibility to a group that has more visibility or more permissions than the group to which they currently belong, they can change their membership to that group and have more visibility and more permissions than perhaps they were intended to have.

Sub-administrators should be cautioned to not log out of TSAdmin if they have placed themselves in a group with less visibility or fewer permissions, because they may not be able to log back in or have visibility to their group to change back to it. (If this happens, they need to contact their administrator to reset their group.)

## **9.2.5 Add a Group for Self-Registered Users**

To allow users to register themselves using the Self-Registration button on the Telescope Login page:

- 1 Create a group specifically for self-registered users.
- 2 Once the group is created update the `SelfRegistrationGroupName` key in the `config.plist` file with the name of the group. This file is located in:  
`C:\Telescope\Applications\tswweb.woa\Contents\Resources`
- 3 In TSAdmin, configure SMTP to send and receive email messages. (See [Section 12.6.7, "QuickLinks Troubleshooting,"](#) on page 169.)

## **9.2.6 Change a User's Group**

When a user is moved to a new group, the user's privileges are overwritten with the privileges of the new group.

- 1 Open the *Edit User* page for the user.
- 2 In the *Member of* field, select a new group.
- 3 In the confirmation dialog that appears, click *OK*.

## **9.2.7 Delete Groups**

To delete a group:

- 1 On the Users/Groups page, select *View As Groups*.
- 2 Select the checkboxes of the groups you want to delete. To select all of the fields, click the checkbox at the top of the column. (To clear all of the checkboxes in the column, click the checkbox at the top of the column again.)
- 3 Click *Delete Selected*. If the group being deleted has any users, a confirmation dialog is displayed.

- 4 Click *OK* in the confirmation dialog to delete the group.

## 9.3 Change Group Permissions

### 9.3.1 Set Group Permissions

In the TSAAdmin Users/Groups settings, the Permissions tab allows you to control what users in the selected group are permitted to see.

#### General Permissions

**Administrator:** Gives the group access to all Telescope Administrator functions for the database. This includes the ability to configure users and groups.

**Change Password:** Allows users to change their own passwords. If the *Change Password* option is not selected, users will have to ask a Telescope Administrator to change their password.

**Where Clause:** Enables you to limit a group to viewing only particular data in your Telescope database. For details, see the section below.

**Download Limit:** Specify the total size of assets that a user can download at one time, in bytes. You can apply a limit for the group and override it as necessary for specific users. In their download baskets, users' download limits are used to calculate whether they are permitted to download. The file size for each asset (or a calculated file size if named conversions are used) is added to the total and compared to the download limit. To set a download limit for the group, enter the total number of bytes that they can download at one time in the Download Limit field. A download limit of zero (0) means that downloads are unlimited.

#### Order Entry

**Fulfiller:** If you want a user or the users in a group to be a fulfiller for Telescope order processing, select a fulfiller category from the list; otherwise, select *Not A Fulfiller*.

#### View Permissions

Select any of the following check boxes to allow users in the group to see the following items:

**Thumbnails:** Allows the group to use the Thumbnail and Paragraph views in collections.

**Extended Views:** Gives users access to extended view images of assets from their Document Info views.

---

**NOTE:** Disabling Thumbnails or the Extended View can improve performance.

---

**See Versions:** Allows the group to see previous versions of assets.

#### Unrestricted Actions

Select any of the following actions to allow users in the group to perform the actions without having to obtain approval:

**Import:** Allows users to import files into the Telescope database. With this permission, TSWeb users see the import options. They are prompted to download the Telescope Uploader, if they do not already have it installed, when they request to import a file. Note that the Telescope Uploader is required to import files.

**Copy Files:** Users can copy documents from the database.

**Delete:** Users can delete documents from the database and original files.

**Move Files:** Users can move assets and re-orient the references in the database to the new locations.

**Change Multiple:** Users can make uniform changes to two or more documents at the same time.

**Check Out Files:** Users can download assets from the Telescope database. The assets are tracked for revisions, and multiple versions of assets are maintained. This permission can only be selected if users have Import permission. If Import is permission is removed, this permission is also removed.

**Template Maintenance:** Users can add and remove templates in the database.

**Create Shared Collections:** Users can save collections to the database that can be accessed by all users.

**Convert All Files:** Users can set their own conversion options when downloading files; they can use any named conversions, in addition to the standard “free-form” conversion provided by the File Conversion Broker. If a group does not have this privilege, its users can only select named conversions when downloading files.

**See File Brokers From Import:** Users can view the contents of File Brokers when they are importing files.

**Synchronize Documents:** When an asset is synchronized, Telescope compares the modified date of the original asset with the date the asset was imported into the database. If the original asset has changed since that time, Telescope re-reads the thumbnail and extended view from the file, and updates the database.

**Locate Document Files:** Files that are tracked by Telescope can become lost when they are moved to a new location not on a Telescope File Broker. The Locate Document Files command allows users to update the Telescope database with the new locations of assets.

**Import With No Migration:** Users can import assets without using a migration policy.

**Hide Migration Policy:** Hides the Migration Policies selection drop down box on the Import page (it will be hidden). If left unchecked, users will be able to see the drop down box.

**Place Orders:** Telescope users can place orders using the Order Processing functionality.

**Allow Find All:** Enables/disables the Find All search feature for users.

**Hide QuickLinks:** The Telescope QuickLink download method allows people who are not Telescope users to download assets. To hide the "Manage Quicklinks that you have sent" icon from TSWeb users, select this check box.

**Allow Export:** Enables/disables export ability for users.

**Allow Telescope Uploader:** Displays the *Download Telescope Uploader* choice in the TSWeb user menu.

Note that the Telescope Uploader is required by users who need to import files (and also is required for checkout, renditions, the Asset Dock, and the enhanced download feature). There is no option to prevent users from installing it.

**Allow Enhanced Download:** Enables Browse and Download users to access the enhanced download features provided through the Telescope Uploader. When this permission is granted and after users try to download a file, an "Improve your download experience" link appears in the Download tab of their TSWeb user settings. They need to click this link to install the Uploader and access these features.

Note that Browse and Download users should encouraged to try downloading a file and then to go to their settings and use this link. They do not receive notification that these features are available; for example, they are not prompted to install them during downloads.

**Allow Drag&Drop:** Enables the Asset Dock feature, which allows TSWeb users to drag and drop files from Telescope directly into an application such as Adobe InDesign. This feature requires the Telescope Uploader.

## Actions Which Require Approval

Use the following options to specify which actions the user must have approval for to perform:

**Import:** Users must obtain approval from an authorized user to import assets.

**Copy:** Users must obtain approval from an authorized user before assets can be copied.

**Delete:** Users must obtain approval to delete documents from the database and to delete original assets.

**Approval Messages To:** Specifies which approver should be notified when a user requires approval to perform an import, copy, or delete action.

Click to choose from a list containing all visible users, not only those granted permission to approve actions. If a user requires approval to perform actions and no approver is specified here, when the user attempts to perform the action, a dialog appears prompting the user to select an approver.

## Issue Approvals For

Use the following options to give users the ability to approve actions for other users:

**Import:** Users can approve documents that have been imported (uploaded) by other users who have the Import with Approval privilege.

**Copy:** Users can approve documents for downloading (copying) by other users who have the Copy with Approval privilege.

**Delete:** Users can approve documents for deleting by other users who have the Delete with Approval privilege.

---

**NOTE:** User groups with Approve Copy Files, Approve Deletes, and Approve Imports privileges cannot also have Copy with Approval, Delete with Approval, and Import with Approval privileges.

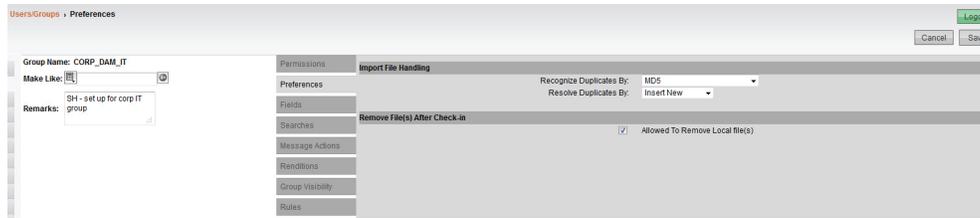
---

## 9.3.2 Specify Group Preferences for Managing Duplicate Assets

In the TSAAdmin Users/Groups settings, the Preferences tab allows you to set preferences for duplicate assets handling during imports. Assets managed by Telescope can be modified and saved to a different location. If, when a user tries to import the asset, Telescope identifies the asset as a duplicate of an existing database asset, it then proceeds according to the preferences. The duplicate asset handling feature is also useful as a screening tool while performing batch imports.

- 1 Click Users/Groups in navigation pane.
- 2 Click the Preferences tab to display the Preferences page.

**Figure 9.3** Group Preferences



## Recognize Duplicate Files

The duplicate files preferences allow you to select the criteria that Telescope uses to determine what constitutes a duplicate file.

**Recognize Duplicates By** list contains the following options:

**File Name:** Telescope considers any two files with the same file name as duplicates.

**File Name And Created Date:** Telescope considers any two files with the same file name and creation date as duplicates.

**File Path:** Telescope considers any two files with the same file name and location in the same directory as duplicates.

**MD5:** Telescope considers any two files with the same MD5 identifier as duplicates. Telescope uses the MD5 algorithm to generate a unique identifier for files when they are imported. When MD5 is selected as the criterion for identifying duplicate files, Telescope checks the database for an identical MD5 identifier when it imports a file.

## Resolve Duplicate Assets

Once you have selected the criterion in the Recognize Duplicates By list, select the action to be performed when a duplicate file is detected.

**Resolve Duplicates By** list contains the following options:

**Update Existing:** Whenever a duplicate asset is identified, the original asset record is updated with the current information found in the duplicate asset record being imported. (Note that the asset's database information is updated, not the physical asset file itself.)

**Insert New:** The new asset is inserted into the database regardless of whether or not it is a duplicate of an existing asset.

**Skip File:** Any duplicate asset detected is skipped during import.

## Remove Files after Checkin

**Allowed To Remove Local File(s):** Select this check box to allow users of the group to opt to remove files from their local drives as they check them in.

## 9.4 Add Users

Once you have created one or more groups, you can add users to the system and assign them to the groups. Adding a user to the Telescope system involves the following:

- ◆ Providing general information about the user, for example a name and parent group.
- ◆ Defining the user's permissions, for example, the ability to import or download files.
- ◆ Specifying the user's preferences for importing files.

When you have completed these tasks, be sure to click *Save* to store the user in the system.

### 9.4.1 Add General Information

- 1 Click the *View As Users* option in the Users/Groups page.
- 2 Click *Add User*.

**Figure 9.4** Users/Groups Edit Users

- 3 In the *User Name* field, enter a name for the user.
- 4 Provide information about the user such as first name, last name, phone number, password, and address.

---

**NOTE:** Passwords are limited to 32 characters. They can contain letters, numbers, and special characters, and must not begin or end with a space. Passwords CANNOT include an asterisk (\*).

---

- 5 If required, add comments in the *Remarks* text box.
- 6 In the *Type* field, specify the user's license type: Power User, Browse and Download User, or Administrator. The list contains only the types of users for which you have available licenses. For information about the privileges available to the different user types See "Managing Licenses" on page 69.
- 7 If there is more than one license pool defined in your Telescope system for Content Creators or Content Editors, you can assign the user to a pool other than Default. For more information about license pools, see Section 7.5, "Add a License Pool," on page 74.
- 8 Specify the group to which the user belongs to in the *Member of* field. Click the Group list icon to select from the list of defined groups.

- 9 Enter the user's email address.
- 10 Define the unique permissions and preferences for this user.
- 11 Click *Save*.

## 9.4.2 Edit User Permissions

To edit user permissions:

- 1 On the *Permissions* tab, configure the following:

General Permissions:

**Administrator:** Gives the user access to all Telescope Administrator functions for the database. This includes the ability to configure users and groups.

**Change Password:** Allows users to change their own passwords. If the *Change Password* option is not selected, users will have to ask a Telescope Administrator to change their password.

**Where Clause:** Enables you to limit a user to viewing only particular assets in a Telescope database using SQL. When a user clicks *OK* in a search dialog, Telescope generates an SQL select statement like this:

```
select from editorial where (where clause) and (user criteria)
```

If you enter incorrect SQL into the Where Clause field, the group is unable to perform searches.

---

**NOTE:** References to fields must be table-qualified, whether you are referring to the EDITORIAL table or another table. To indicate that a field is located in the EDITORIAL table, you can use *,editorial* or *,e*. For more information on where clauses, see [Section 9.5, "Use Where Clauses to Control User Access to Data," on page 111](#).

---

**Download Limit:** Specify the total size of assets that a user can download at one time, in bytes. You can apply a limit for the group and override it as necessary for specific users. In their download baskets, users' download limits are used to calculate whether they are permitted to download. The file size for each asset (or a calculated file size if named conversions are used) is added to the total and compared to the download limit. To set a download limit for the user, enter the total number of bytes that they can download at one time in the Download Limit field. A download limit of zero (0) means that downloads are unlimited.

**Order Entry:** If you want a user to be a fulfiller for Telescope order processing, select a fulfiller category from the list; otherwise, select *Not A Fulfiller*.

View Permissions:

**Thumbnails:** Allows the user to use the Thumbnail and Paragraph views in collections.

**Extended Views:** Gives users access to extended view images of assets from their Document Info views.

---

**NOTE:** Disabling Thumbnails or the Extended View can improve performance.

---

Select any of the following actions to allow users in the group to perform the actions without having to obtain approval:

Unrestricted Actions:

**Import:** Users can import assets into the Telescope database.

**Copy Files:** Users can copy documents from the database.

**Delete:** Users can delete documents from the database and original files.

**Move Files:** Users can move assets and re-orient the references in the database to the new locations.

**Change Multiple:** Users can make uniform changes to two or more documents at the same time.

**Check Out Files:** Users can download assets from the Telescope database. The assets are tracked for revisions, and multiple versions of assets are maintained.

**Template Maintenance:** Users can add and remove templates in the database.

**Create Shared Collections:** Users can save collections to the database that can be accessed by all users.

**Convert All Files:** Users can set their own conversion options when downloading files. If a group does not have this privilege, the user can only select named conversions when downloading files.

**See File Brokers From Import:** Users can view the contents of File Brokers when they are importing files.

**Synchronize Documents:** When an asset is synchronized, Telescope compares the modified date of the original asset with the date the asset was imported into the database. If the original asset has changed since that time, Telescope re-reads the thumbnail and extended view from the file, and updates the database.

**Locate Document Files:** Files that are tracked by Telescope can become lost when they are moved to a new location not on a Telescope File Broker. The Locate Document Files command allows users to update the Telescope database with the new locations of assets.

**Import With No Migration:** Users can import assets without using a migration policy.

**Place Orders:** Telescope users can place orders using the Order Processing functionality.

**Allow Find All:** Enables/disables the Find All search feature in Telescope.

#### Actions That Require Approval:

**Import:** Users must obtain approval from an authorized user to import assets.

**Copy:** Users must obtain approval from an authorized user before assets can be copied.

**Delete:** Users must obtain approval to delete documents from the database and to delete original assets.

**Approval Messages To:** Specifies which approver should be notified when a user requires approval to perform an import, copy, or delete action.

Click to choose from a list containing all visible users, not only those granted permission to approve actions. If a user requires approval to perform actions and no approver is specified here, when the user attempts to perform the action, a dialog appears prompting the user to select an approver.

#### Issue Approvals For

Use the following options to give users the ability to approve actions for other users:

**Import:** Users can approve documents that have been imported (uploaded) by other users who have the Import with Approval privilege.

**Copy:** Users can approve documents for downloading (copying) by other users who have the Copy with Approval privilege.

**Delete:** Users can approve documents for deleting by other users who have the Delete with Approval privilege.

---

**NOTE:** User groups with Approve Copy Files, Approve Deletes, and Approve Imports privileges cannot also have Copy with Approval, Delete with Approval, and Import with Approval privileges.

---

### 9.4.3 Configure User Preferences

- 1 Click the *View As Users* option in the Users/Groups page.
- 2 Select the user.
- 3 Click *Edit User Preferences*.

**Figure 9.5** *Edit User Preferences*

The screenshot shows the Telescope Administrator interface. The top navigation bar includes 'Telescope Administrator' and 'Users/Groups > Edit User Preferences'. A sidebar on the left lists various system settings. The main content area is divided into two panels: 'Edit Users' and 'Import File Handling'. The 'Edit Users' panel contains fields for 'User Name' (Jane), 'First Name' (Jane), 'Last Name' (Jones), 'Password', 'Member of' (Import), 'Maximum Allowed' (10), 'Acquired Count' (17), 'Type' (Concurrent User), 'User Pool' (Default), 'E-Mail', 'Phone', 'Address', and 'Remarks'. The 'Import File Handling' panel has two dropdown menus: 'Recognize Duplicates By' (set to File Name) and 'Resolve Duplicates By' (set to Update Existing). Buttons for 'Logout', 'Cancel', and 'Save' are visible in the top right corner.

- 4 Select *Recognize Duplicates By* and *Resolve Duplicates By* for the user.

**Resolve Duplicates By:** Select the criteria Telescope uses to determine what constitutes a duplicate file.

**File Name:** Telescope considers any two files with the same name as duplicates.

**File Name And Created Date:** Telescope considers any two files with the same name and creation date as duplicates.

**File Path:** Telescope considers any two files with the same name and location in the same directory as duplicates.

**MD5:** Telescope considers any two files with the same MD5 identifier as duplicates. Telescope uses the MD5 algorithm to generate a unique identifier for files when they are imported. When MD5 is selected as the criterion for identifying duplicate files. Telescope checks the database for an identical MD5 identifier when it imports a file.

**Resolve Duplicates:** Select an action to be performed when a duplicate file is detected.

**Updating Existing:** Whenever a duplicate file is identified, the original file is updated with the current information found in the duplicate file being imported.

**Insert New:** The new file is inserted into the database regardless of whether or not it is a duplicate of an existing file.

**Skip File:** Any duplicate file detected is skipped during import.

#### 9.4.4 Define User Permissions

Users automatically inherit the permissions assigned to their group. However, you can override the group permissions using the options on the Permissions and Preferences tabs. The options on the user Permissions and Preferences tabs are the same as those for groups.

If you change the permissions for a group, the new permissions overwrite any unique permissions you have assigned to users in the group. You must reassign any unique user permissions whenever you change the permissions for a group.

## 9.5 Use Where Clauses to Control User Access to Data

Where clauses filter the set of assets visible to a particular group of users when they search and request assets. For example, the Legal group may be set up to see a different set of assets than the Marketing group.

Where clauses can be set for each individual user group in the TSAdmin user interface. There are separate Where clauses for both the Telescope engine (which uses SQL), and for the Solr search engine—a wizard ensures these where clauses are kept consistent across both engines.

Where clauses query fields in the editorial table, which apply to all assets. Administrators must ensure there are appropriate columns in the editorial table to match their filtering requirements, and that all assets in the Telescope database have accurate metadata in these columns. If a some assets were ingested with a null value in these fields, they will be filtered out from view by any users with Where clauses.

### 9.5.1 The Where Clause Interface

In the TSAdmin Users/Groups settings, select a particular user group and go to the Permissions tab. This tab allows you to control what users in the selected group are permitted to see.

In the General Permissions section of this tab, the Where clauses help you tailor field-by-field data access for the particular user group.

From *Users/Groups > Permissions* tab, you will see two Where Clause fields:

**Where Clause:** Sets criteria for all data access (including the traditional SQL searches, visible fields, and so on).

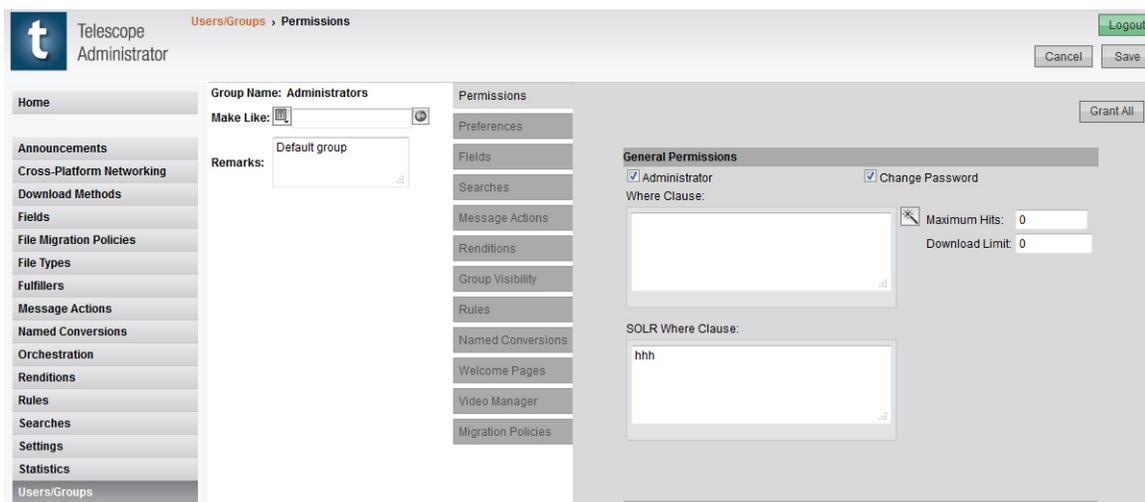
**Solr Where Clause:** Sets criteria particularly for the Solr search core, which requires its own unique syntax.

---

**NOTE:** If Solr search is not activated for your Telescope system, you will only see the *Where Clause* field.

---

**Figure 9.6** *Users/Groups Where Clauses (with Solr Search)*



The Where clause builder  helps you create access rules from existing fields, and creates syntax for both of the Where Clause field at once. You cannot edit the syntax of the where clause statements created by the builder, but you can use the builder to add, remove, or change particular where clause conditions.

---

**NOTE:** It is not possible to include a field in a Where clause that the user is not allowed to see. That is, for a group of users to be able to search a field, it must be set to be visible to them in the Fields tab.

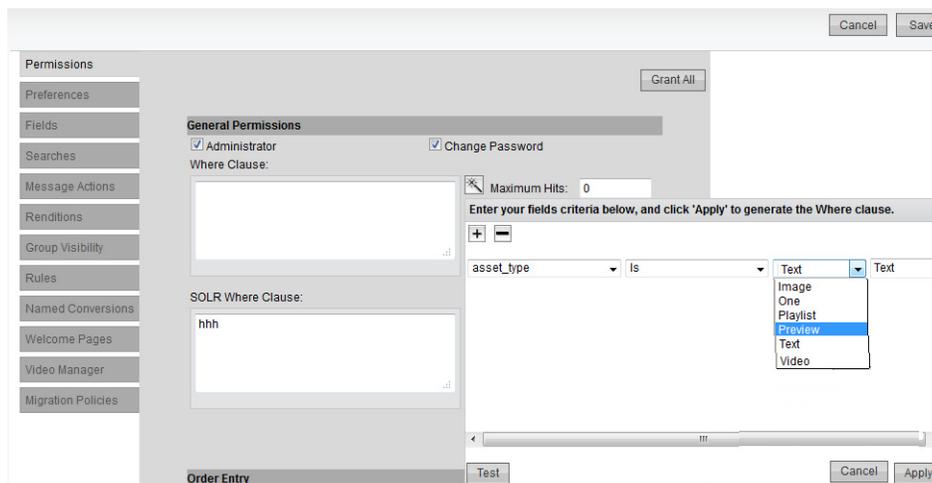
---

## 9.5.2 Create a Where Clause

To create a new Where clause:

- 1 From TSAdmin, go to the Users/Groups tab.
- 2 Select the user group you want the where clause to apply to.
- 3 Click the Permissions tab. The Where Clause interface will appear in the General Permissions section, near the top.
- 4 Click the  icon. The Where Clause builder appears.

**Figure 9.7** *Where Clause Builder*



- 5 Build the Where clause statement by selecting from the fields available:

---

**NOTE:** Go to the examples later in this chapter to find out more about how to construct where clauses.

---

- ◆ In the drop-down menu on the left, choose the display name for the editorial table column you want to use for your where clause restriction. Only fields available to this user group will be shown in the list.
- ◆ The middle drop-down provides available operators (for example, “Contains”).
- ◆ Use the field on the right to specify the value for the restriction. You can also use replacement parameters to tailor asset access based on user details; for a list of available replacement parameters and details on how to use them, see the following sections.

- ◆ To add another Where statement, click the + icon. You can specify Boolean (And/Or) logic for each statement you create.
  - ◆ To remove the latest added statement, click the - button.
  - ◆ To add parentheses to refine the logic of your search, place checkmarks below the open and close parenthesis symbols as required.
  - ◆ To test your results, click the *Test* button.
- 6 When you are finished, click the *Apply* button.
  - 7 Click the *Save* button in the upper right corner to save your changes.

### 9.5.3 Replacement Parameters for Where Clauses

Replacement parameters are available to tailor Where clauses to the particular characteristics of the user who is logged in. For example, replacement parameters can be used to determine the user group or country of the current TSWeb user and return only those assets that are specifically marked to be available to that user.

Before Telescope executes a Where clause, it replaces these replacement parameters with their actual values from the users table, and filters assets based on those values.

#### Available Replacement Parameters

The following replacement parameters are available to access the fields from the users table to establish information for the TSWeb user who is logged on. The replacement parameter must be typed into the Where clause builder exactly as shown (including the angle brackets and exclamation marks).

Parameter	Represents table.field	Description
<!un!>	users.user_name	User name.  <b>Note:</b> We do not recommend using this replacement parameter. A better practice is to apply where clause access via user groups.
<!ug!>	users.member_of	User group.
<!ut!>	users.usrclasss	User type.  Possible values: CP = Power User; CB = Browse and Download Users; CU = Concurrent User.
<!department!>	users.department	User department.
<!company!>	users.company	User company.  <b>Note:</b> We do not recommend using this replacement parameter. By default, users are able to change their company in their TSWeb User Preferences, so they could easily circumvent any company-based security restrictions imposed by the where clause.
<!city!>	users.city	The city of the user.
<!state!>	users.state	The state/province of the user.
<!country!>	users.country	The country of the user.

## Notes

- ◆ In order to filter assets in the editorial table using replacement parameters, administrators must add normalized repeating fields to the editorial table to associate the list of allowable entries with each asset.  
For example, to limit an asset to users from particular departments, that asset would need the list of permitted departments added to a field called e.nr\_vis\_department. (North Plains recommends and uses this particular convention to define these fields: “nr” for “non-repeating”, “vis” for “visible to”, “department” for the associated column in the users table.)
- ◆ Note that the set of replacement parameters for Where clauses differs from that for functional rules (as documented in [Section 14.4, "Replacement Parameters for Functional Rules,"](#) on page 196).

### 9.5.4 Where Clause Example 1 (Using Specific Metadata Field Values)

In the following example, we are restricting those users from the “Travellers” group to viewing only two asset types: documents and images. In addition, only those assets with an “Agency” metadata field specifically set to “AcmeTravel” will be exposed to this group of users.

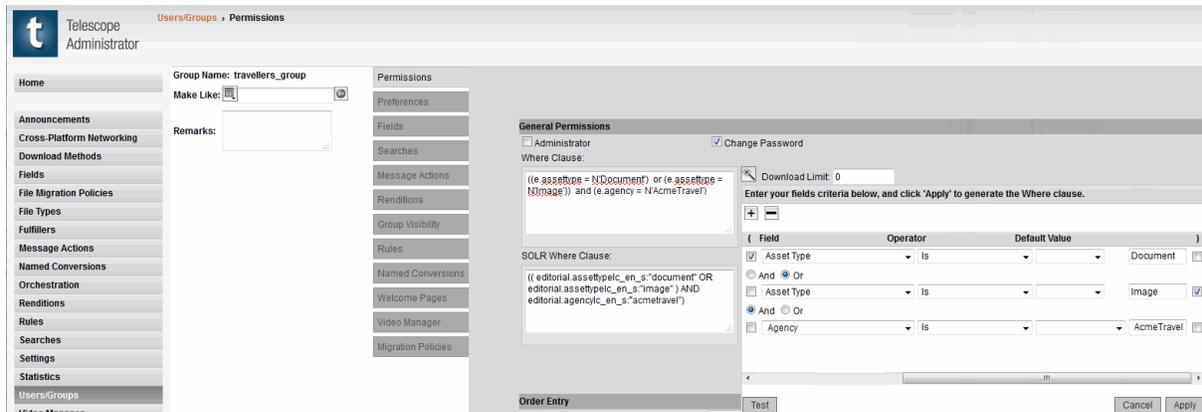
Notice the parentheses, applied by using the checkmarks below their respective open and close parenthesis symbols, are used to apply the correct logic.

**Figure 9.8** Where Clause Example 1 (Close Up View)

The screenshot shows a user interface for defining a Where Clause. At the top, there are checkboxes for 'Administrator' (unchecked) and 'Change Password' (checked). Below this is a 'Where Clause:' section with a text input field containing the SQL query: `((e.assettype = N'Document') or (e.assettype = N'Image')) and (e.agency = N'AcmeTravel')`. To the right of this field is a 'Download Limit: 0' field. Below the 'Where Clause:' section is a 'SOLR Where Clause:' section with a text input field containing the SOLR query: `(( editorial.assettypec_en_s:"document" OR editorial.assettypec_en_s:"image" ) AND editorial.agencyc_en_s:"acmetravel")`. To the right of the 'SOLR Where Clause:' section is a criteria builder table with columns for 'Field', 'Operator', and 'Default Value'. The table contains three rows: 1) 'Asset Type' with 'Is' operator and 'Document' default value, with a checked checkbox; 2) 'Asset Type' with 'Is' operator and 'Image' default value, with a checked checkbox; 3) 'Agency' with 'Is' operator and 'AcmeTravel' default value, with a checked checkbox. The table also includes radio buttons for 'And' and 'Or' logic, with 'Or' selected.

Field	Operator	Default Value
<input checked="" type="checkbox"/> Asset Type	Is	Document
<input type="radio"/> And <input checked="" type="radio"/> Or		
<input type="checkbox"/> Asset Type	Is	Image
<input checked="" type="radio"/> And <input type="radio"/> Or		
<input type="checkbox"/> Agency	Is	AcmeTravel

**Figure 9.9** Where Clause Example 1 (Full Interface View)



## Database View

This Where clause applies to the following group, as chosen in TSAdmin for setting these general permissions:

	Field	Display Name	Applies to these users:
<b>Applies to:</b>	users.member_of	Group Name	travellers_group

The where clause sets permissions for this group to access/view/search only those assets where all of the following conditions apply:

	Field	Display Name	Returns assets matching these values:
<b>Permissions: (both conditions must apply)</b>	editorial.assettype	Asset Type	Document OR Image
	editorial.agency	Agency	AcmeTravel

Any assets that do not match the above conditions are filtered out so that this user group cannot access/view/search them.

---

**NOTE:** For expected results, the Asset Type and Agency metadata fields must be filled out correctly for **all assets** in the Telescope system, or else the full set of intended assets will not be available to this group of users. For example, any assets ingested with null values for these metadata fields will not be visible.

---

## Where Clause Example 2 (Using Replacement Parameters)

In the following example, the <!department!> replacement parameter is used to query the user's department from the users table. This information is then used to query a non-repeating field in the editorial table that lists the departments permitted to view each asset.

Figure 9.10 Where Clause Example 2 (Close Up View)

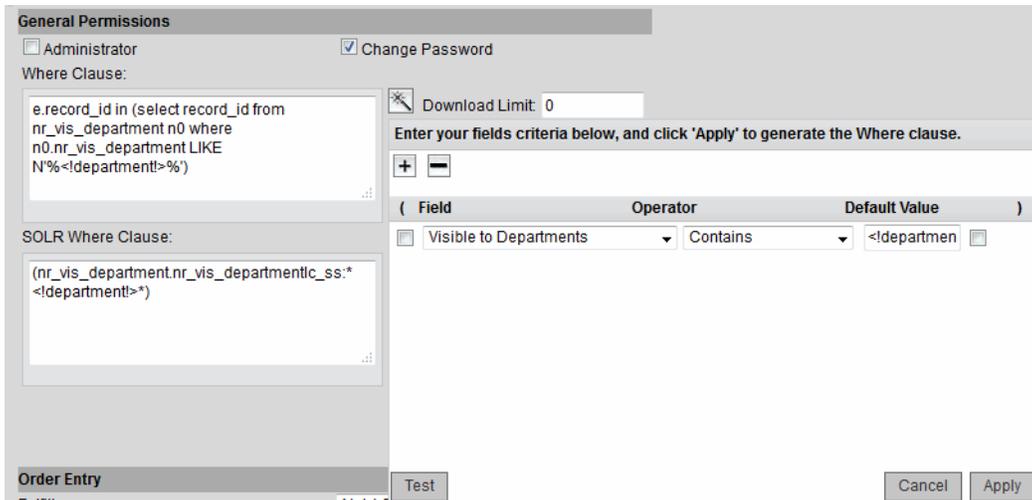
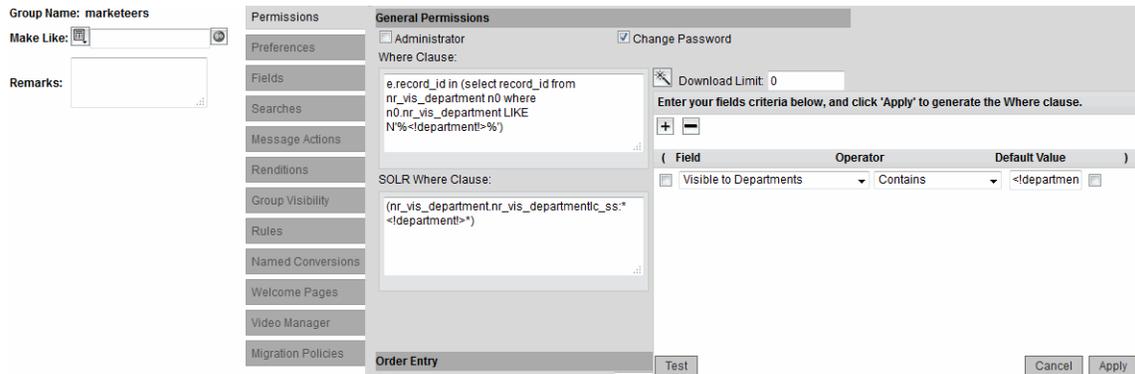


Figure 9.11 Where Clause Example 2 (Full View)



### Database view

This Where clause applies to the following group, as chosen in TSAdmin for setting general permissions:

	Field	Display Name	Applies to these users:
<b>Applies to:</b>	users.member_of	Group Name	marketeers

The <!department!> replacement parameter in the Where clause queries the users table to determine the department name for the current TSWeb user. For this example, assume the department name is “OnlineMarketing”

	Field	Display Name	Returns Value (Example)
<b>&lt;!department!&gt; queries:</b>	users.department	Department	OnlineMarketing

The where clause uses this information to return only those assets where department name “OnlineMarketing” is explicitly added to the editorial.nr\_vis\_department field.

	Field	Display Name	Returns any Assets with Value
Returns	editorial.nr_vis_department	Vis_Department	OnlineMarketing

Any assets that do not match the above condition are filtered out so that this user cannot access/view/search them. For example, Legal department documents that do not include “OnlineMarketing” in their “Vis\_Department” field will not be accessible to users from the OnlineMarketing department.

---

**NOTE:** For expected results, the nr\_vis\_department metadata field must be filled out correctly for **all assets** in the Telescope system, or else the full set of intended assets will not be available to this group of users. For example, any assets ingested with null values for this field will not be visible.

---

## 9.6 Assign Functional Rules to Limit User Actions

A functional rule is a script that executes when a user launches an action. Any number of rules (called a “rule set”) can be associated with a particular action, such as copying files or changing metadata. Different rule sets can be associated with each user group in the Telescope system.

### Prerequisite: Create Functional Rules

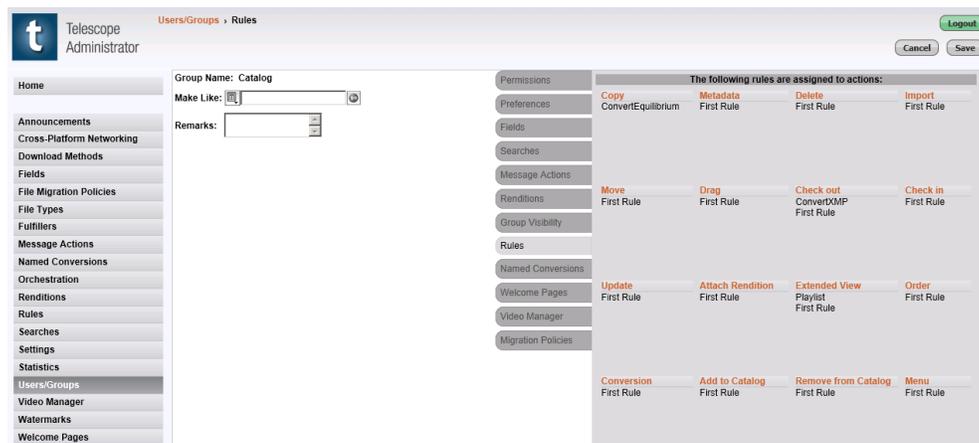
You need to first create functional rules. For detailed information, see [Section 14.](#), "Functional Rules," on page 187.

### Assign Functional Rules to Groups

After you have created functional rules, you can specify which functional rules are visible to the group you are adding:

- 1 Click the *Users/Groups* > *Rules* tab to display the Rule Set Assignments page.

**Figure 9.12** *Users/Groups Rules*



- 2 This page lists the actions to which rules can be assigned. When a rule is assigned to an action, its name is displayed below the action.

### Assign Functional Rules to Actions

To assign a rule to an action:

- 1 Click the action you wish to assign the rule to for the current group.
- 2 Click the *Assign* checkbox for each rule you wish to apply to the action for the group.
- 3 If you select more than one rule, you can specify the order in which they execute. Click and drag the rules to the required order.
- 4 Click *Apply*.
- 5 Click *Save*.

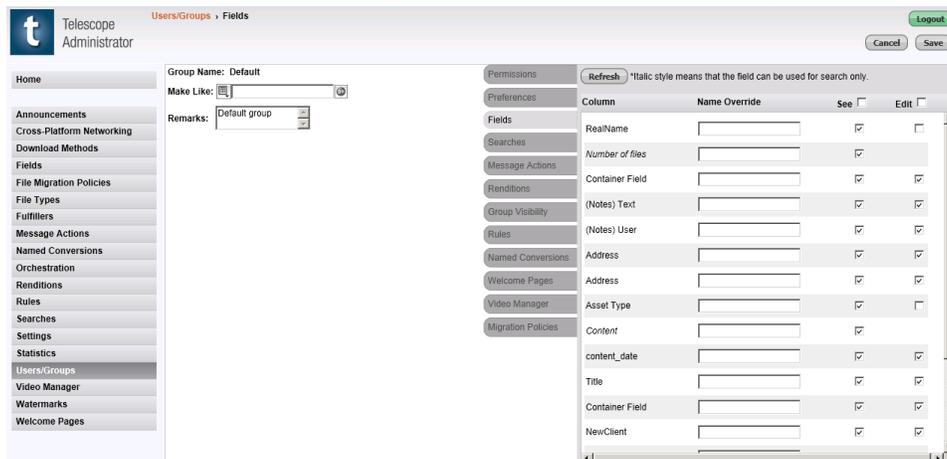
## 9.7 Set Visibility of Telescope Components by User

### 9.7.1 Specify the Visibility of Fields

You can specify which metadata fields users can view, edit, search, or facet on. You can also specify the order in which the fields appear in the Document Info view and the labels that identify the fields.

- 1 Click the *Fields* tab to display the metadata fields defined in the Telescope database and to specify access to them.

**Figure 9.13** *Users/Groups Fields*



- 2 Use the checkboxes in the columns beside each metadata field to specify the actions that can be performed by the current user group. (To toggle on or off all values in the column, click the checkbox at the top of the column.)
  - ◆ *See*: The metadata field will be visible to members of the group.
  - ◆ *Edit*: Group members will be able to add or change values in the metadata field.

When you change a field's position in the order, the positions of the other fields change automatically.

- 3 To change the display name of the field when it appears in the Document Info view and elsewhere, enter the new label in the *Name Override* text box.

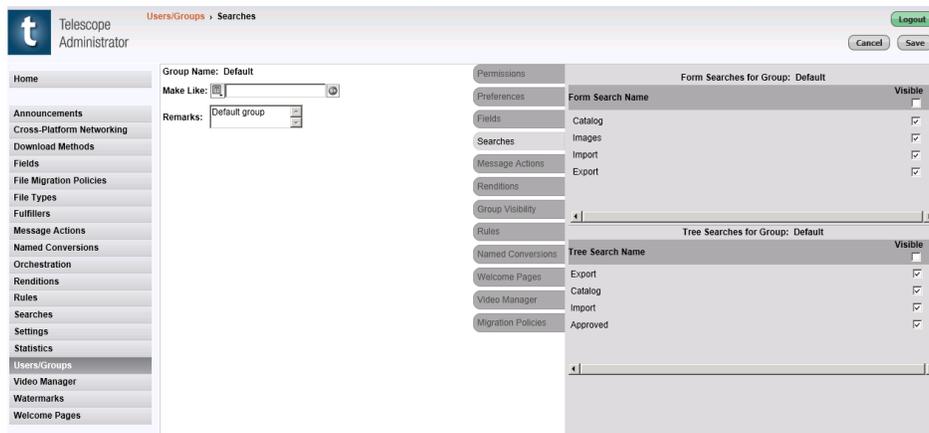
### 9.7.2 Specify the Visibility of Searches

Tree and Form searches are predefined searches you can set up for Telescope users. For information, See [“Set Up Searching” on page 225](#).

In the TSAAdmin Users/Groups settings, use the Searches tab to control access to these searches for the selected group.

- 1 Click the *Searches* tab.

**Figure 9.14** Users/Groups Searches



- 2 To make a search available, select the search’s checkbox. To select all of the searches, click the checkbox at the top of the *Visible* column.
- 3 Click *Save*.

### 9.7.3 Specify the Visibility of Message Actions

Message actions are functionality you can add to messages sent using the Telescope Messaging feature. The Message Actions tab displays the message action currently defined in Telescope.

- 1 Click the *Message Action* tab.

**Figure 9.15** Users/Groups Message Actions



- 2 To make a message action visible to a group, select the message action in the list. To select all message actions, select the checkbox next to the *Visible* label.
- 3 Click *Save*.

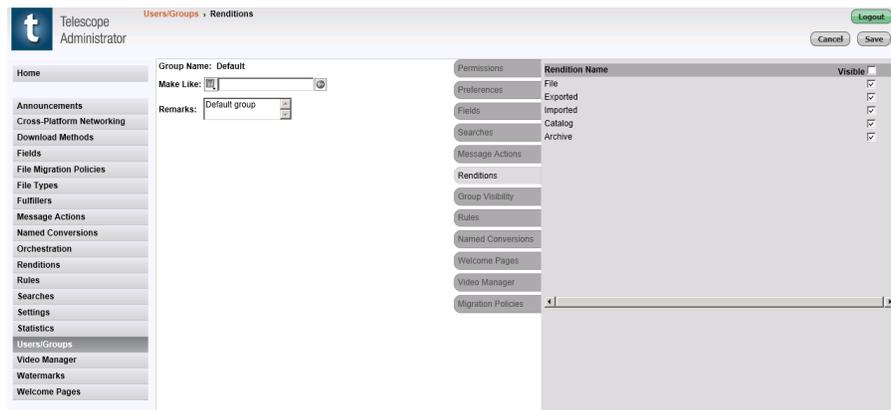
## 9.7.4 Specify the Visibility of Renditions

A rendition is a copy or version of a file, sometimes in a different file format. For example, suppose that a vector artwork file (such as .AI or .CDR) is imported into the Telescope system. A high-resolution GIF file could be imported as a rendition of the same image.

You can specify which renditions that members of the group can view, copy, and check out.

- 1 Click the *Renditions* tab.

**Figure 9.16** *Users/Groups Renditions*



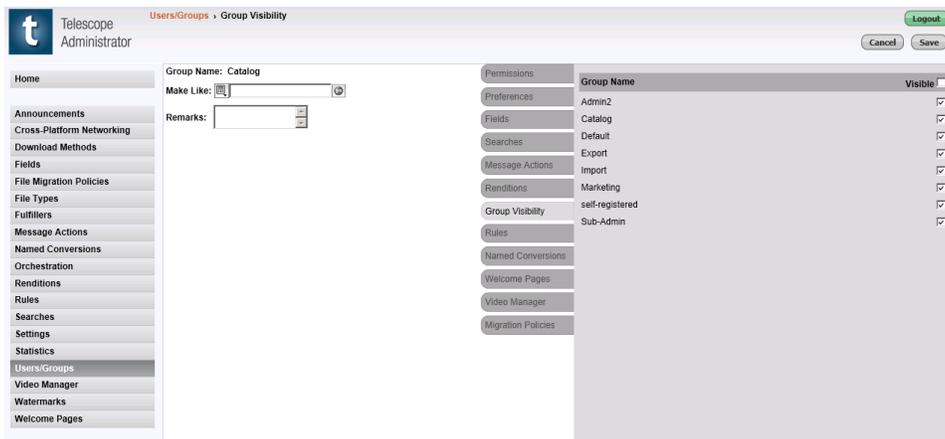
- 2 To make a rendition available to a group, select the rendition's checkbox. To select all of the renditions, click the checkbox at the top of the *Visible* column.
- 3 Click *Save*.

## 9.7.5 Specify the Visibility of User Groups

You can specify which groups are visible to the group you are assigning permissions to. Users can send messages to users in the groups you make visible to them and view their collections. At least one group must be defined as visible.

- 1 Click the *User Groups* tab to display the Group Visibility page.

**Figure 9.17** *Users/Groups Visibility*



- 2 To make a group visible, select it. To select all of the groups, click the checkbox at the top of the *Visible* column.
- 3 Click *Save*.

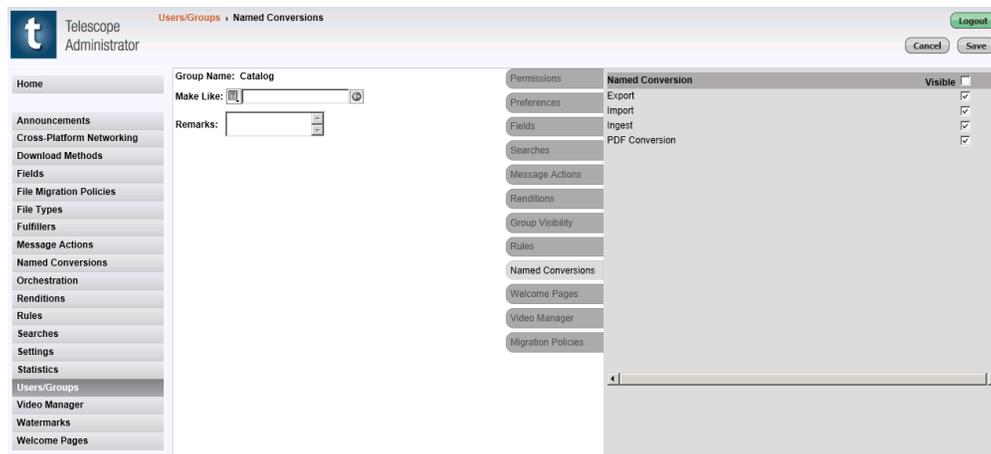
## 9.7.6 Specify the Visibility of Named Conversions

You can name groups of conversion settings so that Telescope users can easily select a predefined profile for the assets they download.

You can specify which named conversions is visible to the group you are adding.

- 1 Click the *Named Conversions* tab.

**Figure 9.18** *Named Conversions*



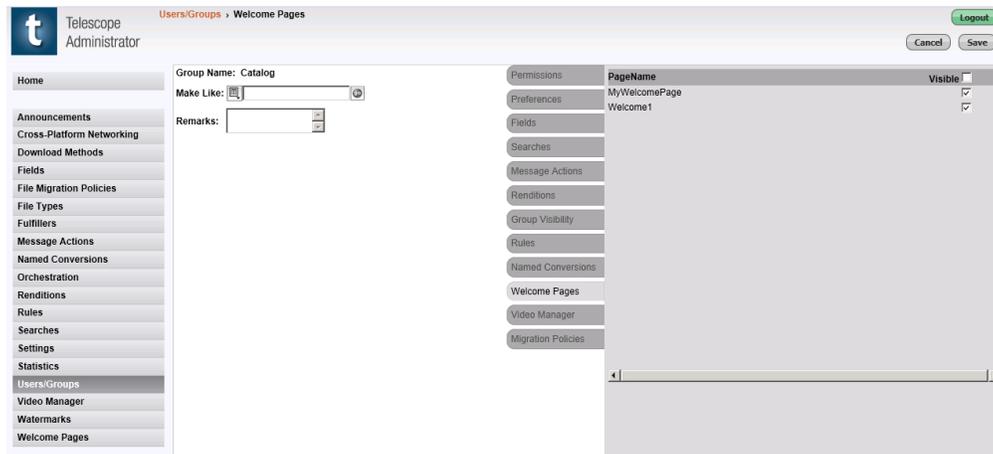
- 2 To make a named conversion available to a group, select its checkbox. To select all of the conversions, click the checkbox at the top of the *Visible* column. (Click the checkbox again to clear all of the checkboxes in the column.)
- 3 Click *Save*.

## 9.7.7 Specify the Visibility of Welcome Pages

You can specify the Welcome Pages available to a user or group on the Welcome Pages tab.

- 1 Click the *Welcome Pages* tab.

**Figure 9.19** *Users/Groups Welcome Pages*



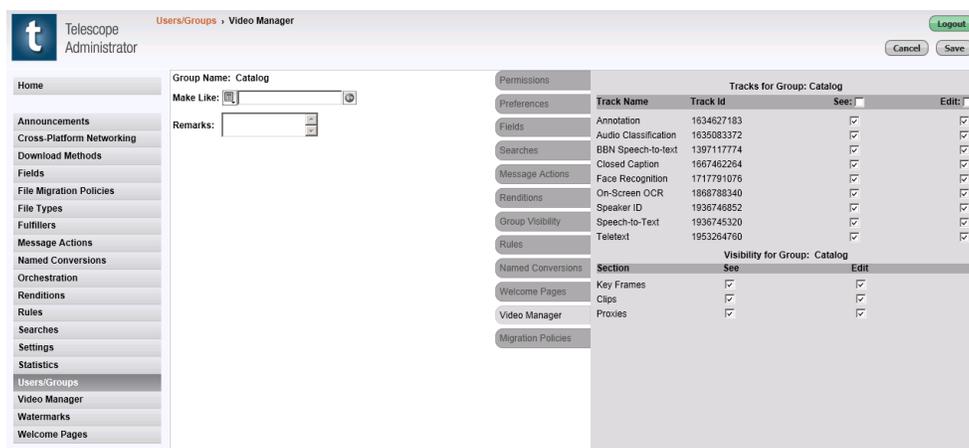
- 2 The Welcome Pages tab displays the Welcome Pages configured in Telescope. Select the Welcome Pages you want to make available to the user or group.
- 3 Click *Save*.

## 9.7.8 Specify Video Manager Options

The Video Manager I-Piece adds video manipulation functionality to Telescope. For more information about specifying Video Manager permissions, see the *Video Manager User's Guide*.

- 1 Click the *Video Manager* tab.

**Figure 9.20** *Video Manager*



- 2 To allow group members to add or change video content, select the appropriate checkboxes in the *Edit* column. To select all of the fields, click the checkbox at the top of the column.
- 3 To allow group members to view video content, select the appropriate checkboxes in the *See* column. To select all of the fields, click the checkbox at the top of the column.
- 4 To make a video available for the group, select either *See*, *Edit* or both for each video type.

- 5 Click *Save*.

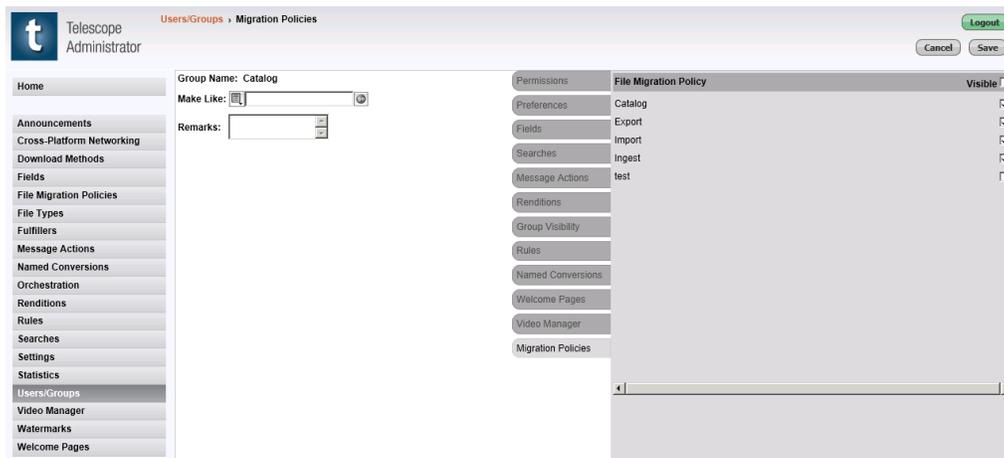
## 9.7.9 Specify the Visibility of File Migration Policies

A file migration policy is a set of rules that determines where a file is placed in the Telescope system when it is imported.

You can specify which policies apply to the group you are adding.

- 1 Click the *Migrations Policies* tab.

**Figure 9.21** *Users/Groups Migration Policies*



- 2 To make a file migration policy available to a group, select its checkbox. To select all of the policies, click the checkbox at the top of the *Visible* column. (Click the checkbox again to deselect all of the checkboxes in the column.)

# 10. Metadata Fields

This chapter provides information about creating and using metadata fields in Telescope database.

- ◆ [Section 10.1, "Overview," on page 126](#)
- ◆ [Section 10.2, "Manage Metadata Fields," on page 128](#)
- ◆ [Section 10.3, "Set Up Normalized Repeating Fields," on page 133](#)
- ◆ [Section 10.4, "Define Visibility That Depends on Another Field," on page 137](#)
- ◆ [Section 10.5, "Define Popup Menus," on page 138](#)
- ◆ [Section 10.6, "Define Cascading Popup Menus," on page 140](#)
- ◆ [Section 10.7, "Define URLs," on page 141](#)
- ◆ [Section 10.8, "Define Lookups," on page 142](#)
- ◆ [Section 10.9, "Delete a Metadata Field," on page 143](#)

## 10.1 Overview

Metadata is information about assets. When setting up a Telescope database, you can define the metadata fields to be used to record information about each asset. You can also:

- ◆ Control which fields are required to have information and which are optional.
- ◆ Control which fields can be edited.
- ◆ Make fields dependent on other fields for their visibility (cascading fields).
- ◆ Reference fields in tables in other databases, both Telescope tables and external tables.
- ◆ Set a controlled vocabulary list (popup) to assist and/or restrict data entry.
- ◆ Define what user groups can view individual fields.

Telescope users view this metadata in an asset's Document Info view and enter information when adding assets to the database. The following data types can be selected while creating database fields:

**Char:** Contains text (up to 255 characters).

**Longchar:** Text greater than 255 characters. Maximum length is datasource-dependent.

**Integer:** A 32-bit 2's complement integer.

**Short Integer:** A 16-bit 2's complement integer.

**Timestamp:** Can contain the date, time, or both.

**Boolean:** Valid values are true or false and are stored in the database as a "Y" or "N" char(1) field. If it's not specified as a required field, another valid value is NULL (not specified).

**Repeating:** A single field containing multiple values (an array), where each value can consist of anything, including but not limited to a number, a word, a phrase or a sentence. If there are n items in the array, n+1 characters are used as delimiters. For example, "|two items|three delimiters|", where the pipe (|) is the delimiter. The sum of the array data plus delimiters cannot exceed the maximum defined length (and the maximum field length cannot exceed 4000 characters).

**Normalized Repeating:** A multi-value field where each value can consist of anything, including but not limited to a number, a word, a phrase or a sentence. This is array (list) of values is then stored in a separate, normalized table. The individual values are retrieved from separate records in an external normalized table (which needs to be created externally). If there are n items in the array, there are n entries in the separate table. For more information, see [Section 10.3, "Set Up Normalized Repeating Fields," on page 133](#).

**Real:** 32-bit floating-point number.

**Container Field:** A number field that acts as a counter and placeholder linking child assets to a parent asset. The parent asset is linked to child assets by entries in the DOC\_LINKAGES table.

**URL:** See [Section 10.7, "Define URLs," on page 141](#)

### Iconic Fields

Iconic fields display as icons to the user. Each value defined for the field is represented by a different icon. The Telescope Administrator associates specific icons to specific fields. These fields are integers in the database. For example:

Value	Icon
0	☆☆☆☆
1	★☆☆☆
2	★★☆☆
3	★★★☆☆
4	★★★★

If the user has editing permission, the field values can be changed by selecting a new icon for the popup menu. For example:



### Separator Field

Separator Field allows you to group metadata fields together. For example, you can group together information pertaining to asset creation date, creator, owner, copyright information, and so on.

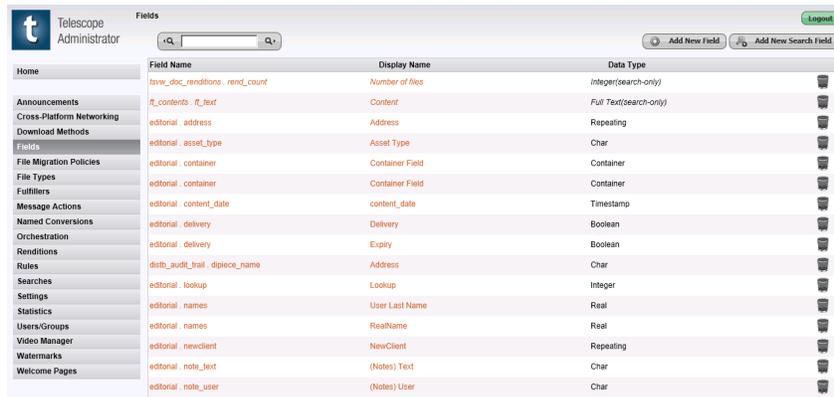
## 10.2 Manage Metadata Fields

Using the Fields page you can view, edit, and delete metadata fields that have been defined in the database.

### 10.2.1 View Metadata Fields

- ◆ Click *Fields* in the navigation pane.

Figure 10.1 Fields



Field Name	Display Name	Data Type
issue_doc_renditions_rend_count	Number of files	Integer(search-only)
ft_contents_ft_text	Content	Full Text(search-only)
editorial_address	Address	Repeating
editorial_asset_type	Asset Type	Char
editorial_container	Container Field	Container
editorial_content_date	content_date	Timestamp
editorial_delivery	Delivery	Boolean
editorial_expiry	Expiry	Boolean
dirb_auditi_trail_dipiece_name	Address	Char
editorial_lookup	Lookup	Integer
editorial_names	User Last Name	Real
editorial_names	RealName	Real
editorial_newclient	NewClient	Repeating
editorial_note_text	(Notes) Text	Char
editorial_note_user	(Notes) User	Char

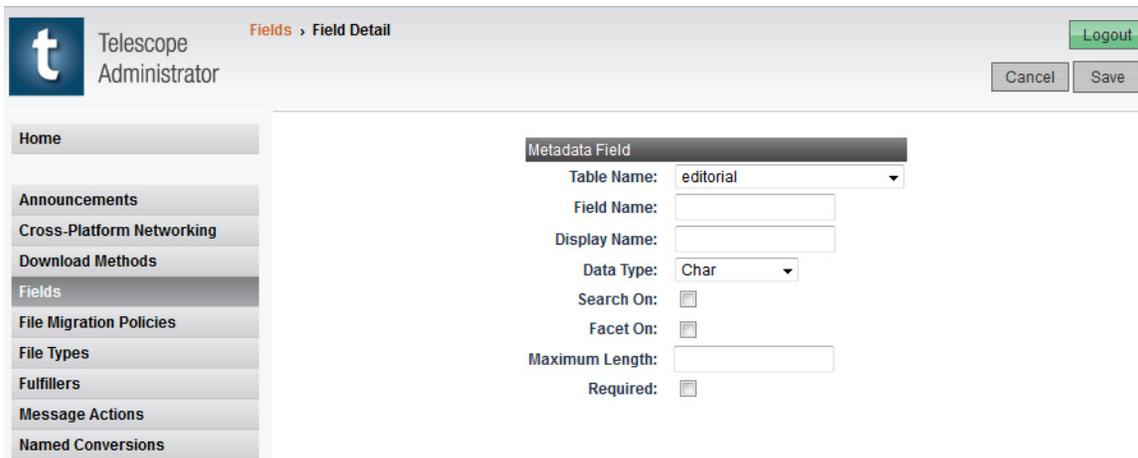
### 10.2.2 Add Metadata Fields

Setting up metadata fields involves providing a database column name and a display name for each field, as well as specifying its data type and other characteristics.

To add a field:

- 1 In the Fields page, click *Add New Field*.
- 2 Click *OK* on the Information dialog.

Figure 10.2 Add a metadata field



Telescope Administrator Fields > Field Detail

Cancel Save Logout

Home

Announcements

Cross-Platform Networking

Download Methods

Fields

File Migration Policies

File Types

Fulfillers

Message Actions

Named Conversions

Metadata Field

Table Name: editorial

Field Name:

Display Name:

Data Type: Char

Search On:

Facet On:

Maximum Length:

Required:

- 3 Specify the attributes. (They are explained in the table below.)

- 4 Click *Save*.

---

**NOTE:** You can configure the field properties later by editing the metadata field.

---

## Metadata Field Attributes

**Table 10.1** *Metadata Field Attributes*

Field	Explanation
<b>Table Name</b>	<p>Select the database table from the list.</p> <p>This table lists all the tables available in the schema that have two or more columns, with one of them being defined as RECORD_ID, as a number or integer data type.</p> <p>If a table name other than <i>editorial</i> is selected, the metadata field must be either a Referenced or Normalized Repeating field and must already exist. The Telescope Administrator only creates fields within the editorial table.</p>
<b>Field Name</b>	<p>Provide a field name for the column name used in the database. Standard database field naming conventions apply. For example, the first character of a column name must start with a letter. The name can contain letters, numbers and underscores but cannot begin with an uppercase letter and cannot contain spaces.</p> <hr/> <p><b>NOTE:</b> There are certain words that are considered to be reserved and should not be used as field names in Telescope. Examples are: category, description, id, name, order, short, text, value, copy. Consult your database documentation for a complete list of reserved words and column naming rules.</p> <hr/>
<b>Display Name</b>	<p>The field name (label) shown to Telescope users.</p>
<b>Data Type</b>	<p>Select a data type from the list.</p> <p>(For details, see <a href="#">Section 1.5.2, "Types of Metadata Fields,"</a> on page 14.)</p>
<b>Search On</b>	<p>Allows searching on the field.</p> <p>(If this check box is unchecked, this metadata field will be not indexed by the Indexing Broker, and will not be accessible to TSWeb users when they are searching.)</p>

**Table 10.1** *Metadata Field Attributes*

Field	Explanation
<b>Facet On</b>	<p>Allows faceting on the field. (TSWeb users will be able to filter their search results in the <b>Refine Search</b> panel by selecting values from the metadata field.)</p> <p><b>Bucket Type</b>—For particular data types, you can select the following types of bucketing:</p> <p><b>Values</b>—All values are presented for faceting by users.</p> <p><b>Ranges</b>—Values are grouped by ranges you specify.</p> <p>If “Ranges” is selected as the <b>Bucket Type</b>, the following additional controls are shown (depending on the data type) for you to specify these ranges:</p> <div style="display: flex; justify-content: space-around; margin: 10px 0;"> <div style="text-align: left;"> <p>Data Type: <input type="text" value="Timestamp"/></p> <p>Search On: <input checked="" type="checkbox"/></p> <p>Facet On: <input checked="" type="checkbox"/></p> <p>Format: <input checked="" type="checkbox"/></p> <p>Bucket Type: <input type="text" value="Ranges"/></p> <p>Bucket Size: <input type="text"/> <input type="text" value="Seconds"/></p> <p>Minimum Start: <input type="text" value="02/06/2014 14:53:57"/></p> <p>Maximum End: <input type="text" value="02/06/2014 14:53:57"/></p> </div> <div style="text-align: left;"> <p>Data Type: <input type="text" value="Integer"/></p> <p>Search On: <input checked="" type="checkbox"/></p> <p>Facet On: <input checked="" type="checkbox"/></p> <p>Maximum Length: <input type="text" value="0"/></p> <p>Bucket Type: <input type="text" value="Ranges"/></p> <p>Bucket Size: <input type="text" value="100"/></p> <p>Minimum Start: <input type="text" value="0"/></p> <p>Maximum End: <input type="text" value="1000"/></p> </div> </div> <p><b>Bucket Size:</b> Determines the size of each facet range.</p> <p><b>Minimum Start:</b> The minimum value shown. (Required field.)</p> <p><b>Maximum End:</b> The maximum value shown. (Required field.)</p> <p>For example, if the bucket size is 30, minimum start is 0, and maximum end is 90, the facets shown would be as follows: 0-29, 30-59, 60-90 (the maximum value is included in the last bucket).</p>
<b>Maximum Length</b>	This field is displayed for particular data types, and allows you to specify the maximum number of characters allowed in the field.
<b>Format</b>	If you select the Timestamp data type, these radio buttons let you specify whether the field contains the date, time, or both.
<b>Required</b>	<p>Specifies if the field must have a value when the asset is imported into the database.</p> <p>For Boolean fields, this attribute determines whether the Boolean field (if required) is displayed as a check mark in TSWeb, or (if not required) is displayed as a pull-down menu with YES, NO, and blank (not specified) values.</p>

### 10.2.3 Add Search Fields

For improved database maintenance, you may want to set up search fields on existing metadata fields to enable search without users seeing the original metadata fields.

To add search fields on existing metadata fields:

- 1 In the Fields page, click *Add New Search Field*.

The Search-only Field panel appears:

**Figure 10.3** Add a Search Field

The screenshot shows the 'Search-only Field' configuration panel in the Telescope Administrator. The panel is titled 'Search-only Field' and contains the following fields and options:

- Table Name: editorial (dropdown menu)
- Field Name: prod\_id (dropdown menu)
- Display Name: (text input field)
- Data Type: Char (dropdown menu)
- Search On:
- Facet On:
- Maximum Length: 16

- 2 Select the database table from the *Table Name* list. (“editorial” is recommended.)
- 3 Select which metadata field you want to associate with the search field (from the *Field Name* pulldown).
- 4 Specify the other attributes. (They are explained in the table in the previous section.)

## 10.2.4 Edit Metadata Fields

To edit the metadata field:

- 1 In the Fields page, click a field name.

**Figure 10.4** Edit Field Details

The screenshot shows the 'Metadata Field' configuration panel in the Telescope Administrator. The panel is titled 'Metadata Field' and contains the following fields and options:

- Table Name: editorial
- Field Name: asset\_type
- Display Name: Asset Type
- Data Type: Char
- Maximum Length: 50
- Required:
- Validate:

Below these fields are three sections:

- Pop-up Menu:** Field has Pop-up Menu:  [Define Pop-up](#)  
Pop-up Menu allows custom items to be added:
- Visibility:** Field's visibility depends on the value of another field:  [Define Visibility](#)
- URL Field:** Field is displayed as a URL:   
URL Format string: (text input field)

- 2 Change the *Display Name* property, if necessary.
- 3 Select the *Required* option to indicate whether the field is required.
- 4 Select the *Validate* option to indicate whether the field is to be validated against a list of controlled vocabulary, either in a predefined popup menu or a Lookup provided through the Lookup Broker.
- 5 Define a popup menu, if necessary, by clicking on the *Define Pop-up* button.
- 6 Define whether this field's visibility depends upon the value of another field by clicking the *Define Visibility* button.
- 7 If this field is to be displayed as a URL then click the check box and enter the *URL* format string.

- 8 Click *Save*.

## 10.2.5 Turn Off Selection Functionality for Metadata Fields

By default, Telescope users are able to select metadata text to copy and paste it to other fields or other applications.

To disable text selection functionality to conform to your organization's security requirements:

- 1 Go to the web server and open the following file with a text editor (this path assumes a default Telescope installation):

```
C:\inetpub\wwwroot\tsweb\default\javascript\docinfojson.js
```

- 2 Find the following line:

```
//tsjsDisableSelection();
```

- 3 By default, this line is commented out to enable selection. Remove the comment symbols to disable selection:

```
tsjsDisableSelection();
```

## 10.3 Set Up Normalized Repeating Fields

### 10.3.1 What are Normalized Repeating Fields?

A normalized repeating field is a "multi-value field" where each value can consist of anything, including but not limited to a number, a word, a phrase or a sentence. In more technical terms, this is an array (list) of values stored in a separate, normalized table. The individual values are retrieved from separate records in an external normalized table (which needs to be created externally). If there are n items in the array, there are n entries in the separate table. The length of each entry can be up to 255 characters.

Normalized repeating fields are recommended when you are going to have a variable number of possible entries for a particular popup metadata field (for example, departments in an organizational division, or offices in a country or region). In such situations, these fields are recommended over repeating fields.

For display purposes, these fields are shown in Telescope TSWeb as standard repeating fields.

There are two ways to create normalized repeating fields:

- ◆ [Section 10.3.2, "Create a Normalized Repeating Field: Through Database Command and TSWeb," on page 133](#)
- ◆ [Section 10.3.3, "Create a Normalized Repeating Field: Using the tsp\\_createNRtable Stored Procedure," on page 136](#)

### 10.3.2 Create a Normalized Repeating Field: Through Database Command and TSWeb

#### Create the Normalized Table in the Telescope Database

To create a normalized repeating field in Telescope, **you first must create a normalized database table** to house the data. To assist with troubleshooting and help with consistency, always use the prefix "nr\_" in the table name.

This table name should have only two columns:

- 1 `record_id` of type `int`.
  - ◆ This column should never be null.
  - ◆ Add a "FOREIGN KEY CONSTRAINT" for the Column "record\_id" related to "editorial.record\_id"
- 2 `[column_name]` of data type `nvarchar`, with a length from 1 to 255 (248 for Oracle)
  - ◆ This column should have the same name as the table (including the "nr\_" prefix)
  - ◆ Always use data type `nvarchar` for the second column, even if the normalized repeating field will contain a list of numbers. If you use data type `int`, users will not be able to open the metadata information for that asset in Telescope, and an error about not being able to parse the JSON data will appear. (To verify this is the issue, check in the TSWeb log for an entry stating that the system was unable to convert data type `int` to `char`.)
  - ◆ Create a "UNIQUE NONCLUSTERED INDEX"

## Example Query (Using SQL Server Management Studio)

```
CREATE TABLE [dbo].[@table_name] ([record_id] [int] NOT NULL, [@column_name]
[nvarchar](@length) NOT NULL);

CREATE UNIQUE NONCLUSTERED INDEX [ix_@column_name] ON [dbo].[@table_name] ([record_id]
ASC, [@column_name] ASC)
WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, SORT_IN_TEMPDB = OFF,
IGNORE_DUP_KEY = ON, DROP_EXISTING = OFF,
ONLINE = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON);

ALTER TABLE [dbo].[@table_name] WITH CHECK ADD CONSTRAINT [fk_@column_name] FOREIGN
KEY([record_id])
REFERENCES editorial ([record_id]) ON DELETE CASCADE;
```

### Notes:

- 1 Replace @table\_name with the name of table (for example, nr\_vis\_department)
- 2 Replace @column\_name with the name of column which is the same as table
- 3 Replace @length with the required length for the field in the range of 1 to 255

## Create the Field in TSAdmin

After the normalized table is created, you next need to use TSAdmin to add the normalized repeating field as a metadata field, based on the table you created.

- 1 Log in to TSAdmin for the specific database connection.
- 2 Go to the *Fields* tab.
- 3 Click *Add New Field*.



- 4 For *Table Name*, select the table that you created in the previous section.

Metadata Field	
Table Name:	nr_vis_department ▾
Field Name:	editorial ERROR_LOG
Display Name:	nr_vis_department
French (Canada) Display Name:	
Spanish (Spain) Display Name:	nr_vis_users
Data Type:	Char ▾
Search On:	<input type="checkbox"/>
Facet On:	<input type="checkbox"/>
Maximum Length:	150
Required:	<input type="checkbox"/>

- 5 Select the column name. The column name displayed should be the same as the table name.

Metadata Field	
Table Name:	nr_vis_departme ▾
Field Name:	nr_vis_depart ▾
Display Name:	nr_vis_department
French (Canada) Display Name:	
Spanish (Spain) Display Name:	
Data Type:	Char ▾
Search On:	<input type="checkbox"/>
Facet On:	<input type="checkbox"/>
Maximum Length:	150
Required:	<input type="checkbox"/>

- 6 Fill in the names for each of the display fields. (Fields for various other languages will appear if these languages were previously configured.)
- 7 Set the dataType to "Normalized Repeating"
- 8 Optionally select to turn Searching and Faceting on, and whether or not the field is required.

Metadata Field	
Table Name:	nr_vis_departme ▾
Field Name:	nr_vis_depart ▾
Display Name:	Visible to Departments
French (Canada) Display Name:	Visible aux ministères
Spanish (Spain) Display Name:	Visible a Departamentos
Data Type:	Normalized Repeating ▾
Search On:	<input checked="" type="checkbox"/>
Facet On:	<input type="checkbox"/>
Maximum Length:	255
Required:	<input checked="" type="checkbox"/>

- 9 Click *Save*.

### 10.3.3 Create a Normalized Repeating Field: Using the `tsp_createNRtable` Stored Procedure

An alternative to creating the normalized table and then using TSAAdmin to set up the normalized repeating field is to use the `tsp_createNRtable` stored procedure. Use the SQL Server Management Studio or equivalent SQL tool to run this stored procedure.

#### Command:

```
EXEC tsp_createNRtable column_name, column_display, length, isrequired, issearchon,  
isfaceton, isskip
```

#### Variables:

**Table 10.2** Variables for the stored procedure `tsp_createNRtable`, used to create a normalized repeating field

Variable	Details
<code>column_name</code>	The name of the Field, e.g.: ("nr_vis_department")
<code>column_display</code>	The Display Name and localization for that name (in XML format). For example: "<DISPLAYNAME><LOCAL NAME="default"> Visible to Departments</LOCAL></DISPLAYNAME>"
<code>length</code>	The length for the values. Should be in the range of 1 to 255
<code>isrequired</code>	If the field will be required, supported values: 'Y', 'N'
<code>issearchon</code>	If the field will be search on, supported values: 'Y', 'N'
<code>isfaceton</code>	If the field will be facet on, supported values: 'Y', 'N'
<code>isskip</code>	If the field already exists, it will be skipped. Supported values: 'Y', 'N'

#### Example:

```
exec tsp_createNRtable 'nr_vis_department', '<DISPLAYNAME><LOCAL NAME="default">Visible  
to Departments</LOCAL><LOCAL NAME="fr_CA">Visible aux ministères</LOCAL><LOCAL  
NAME="es_ES">Visible a Departamentos</LOCAL></DISPLAYNAME>', '150', 'N', 'Y', 'Y', '';
```

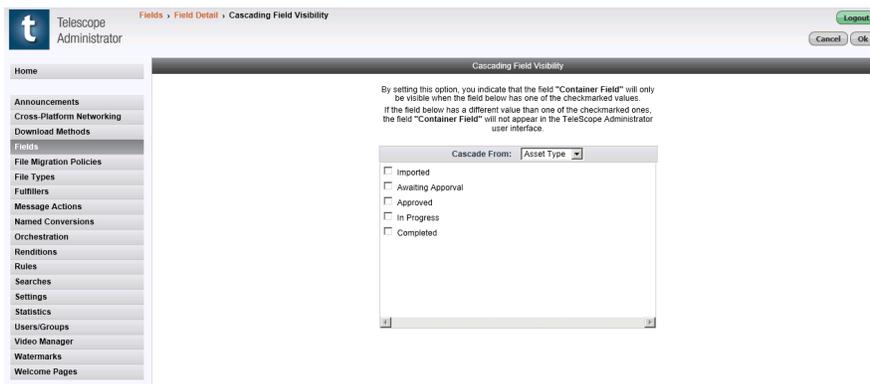
## 10.4 Define Visibility That Depends on Another Field

You can make a field's visibility dependent on the value in another field. The field that controls the visibility must already exist and must not itself be dependent on the value of another field.

The "parent" field must have popup values. The values can be of any data type which supports popups (container fields cannot have popups, therefore they can not be used in defining cascading visibility).

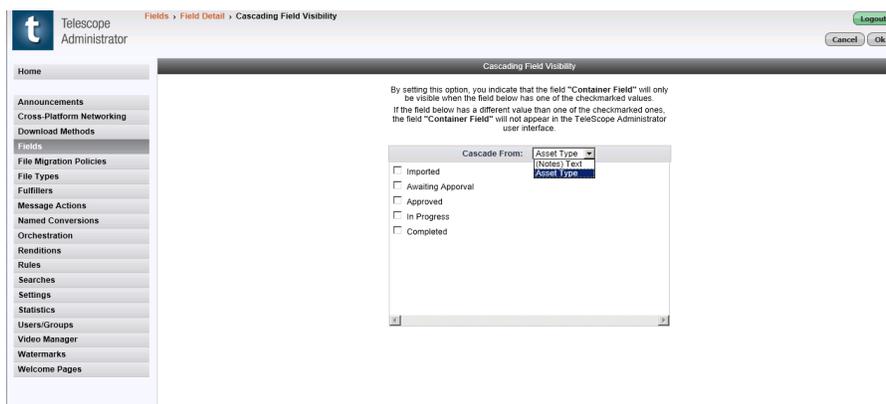
- 1 In the Field Detail page, select the *Field's Visibility Depends on the Value of Another Field* option.

**Figure 10.5** Cascading Field Visibility



- 2 From the *Cascade From* list, select the field that controls the visibility. The page changes to show the possible values for the field.

**Figure 10.6** Adding a Field Example



- 3 Select the value that must be in the field to make the current field visible. If you select more than one value, any of the selected values make the current field visible.
- 4 Click *OK*.
- 5 Click *Save*.

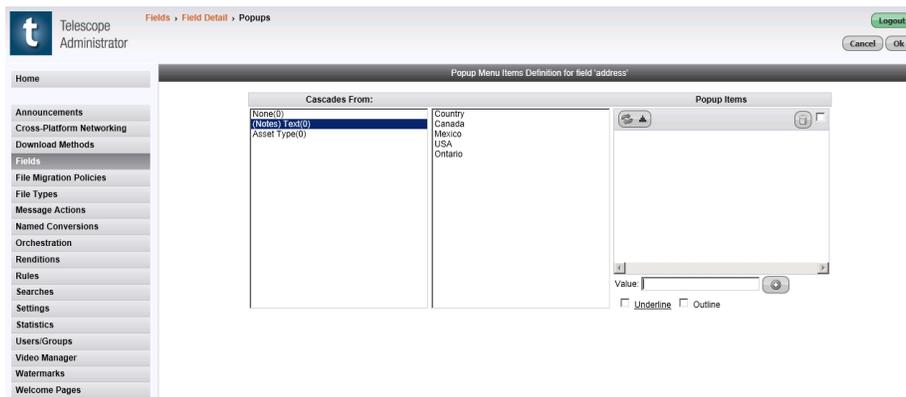
## 10.5 Define Popup Menus

A popup menu is a list of predefined options for a field's value. You can configure the field to force the user to select only from the options you define for the field, or you can allow users to add their own values to the list.

To define a popup menu for a field:

- 1 On the Field Detail page, select *Field has Popup Menu*.
- 2 Click *Define Popup*.

Figure 10.7 Popups



- 3 Enter a value in the *Value* field.
- 4 Click *Add*.
- 5 Repeat step 2 to step 4 until all the popup values have been entered.
- 6 You can use style options, such as Bold and Italics, to format items. Enter a "-" (hyphen) in the *Value* field then click *Add* to insert a Separator line into the menu to group or separate values.
- 7 To sort the list, click the *Sort* link, which toggles the sorting between ascending and descending. The default sort order is ascending. The list can also be manually reordered by pressing the up/down buttons attached to each position text field, or by directly editing the position text field.
- 8 Click *OK*.
- 9 Click *Save*.

---

**NOTE:** By default, popup fields can have up to 300 entries. If your popups may have more entries than 300, change the `maximumPopupItems` Telescope configuration parameter in the `Info.plist` file.

---

To delete one or more popup items:

- 1 Click the checkbox beside the popup item that you want to remove and then click *Delete Selected*.
- 2 To select or clear all popup items, click the checkbox in the blue-gray header.
- 3 To edit an existing popup item, click the "i" button on the left of the popup item. The "i" button changes into a "Pen" button and the value of the popup item, together with all its properties, populates the editing area underneath the popup item's pane. The "Add" button turns also into a "Pen". Make your changes and then click the "Pen" button at the right.

- 4 Click *OK*.
- 5 Click *Save*.

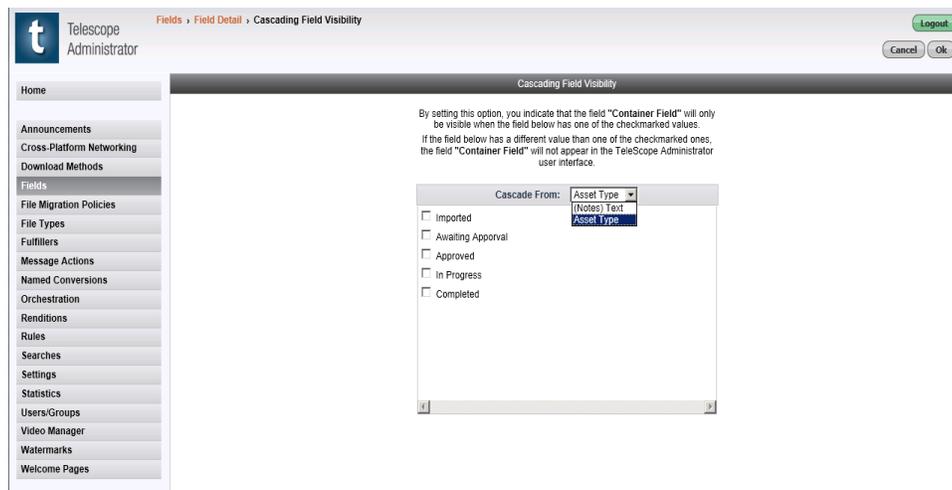
## 10.6 Define Cascading Popup Menus

Cascading popups are referred to as “cascading” because the visibility of their sub-fields depends on the value in another field. Define a field and its popup values, for example, Country with popup values: Canada, Mexico, USA.

To define a cascading popup:

- 1 On the Field Detail page, under Popup Menu, click *Define Popup*.

**Figure 10.8** Define Cascading Popups



- 2 Highlight a value from the field (such as Canada). Any popup items already associated with the value appear in the Popup Items table.
- 3 Enter a new value in the *Value* field (for example, Ontario) then Click *Add*. The new value appears on the Popup Items table.
- 4 Click *OK*.
- 5 Click *Save*.

## 10.7 Define URLs

If a char field is defined as a URL field, a link or button appears for that field within Telescope. When clicked, a new web browser window opens and the scripted URL is opened. The field appears as a link if the user does not have permission to edit the field, and as a text field with a "Go" button if they do have permission to edit the field.

### To create a URL metadata field:

- 1 When creating the metadata field, choose data type Char.
- 2 At the bottom of the screen, click *Field is displayed as a URL*.

**Figure 10.9** Define URL Metadata Field

The screenshot shows the Telescope Administrator interface. The main content area is titled 'Fields > Field Detail'. It contains several configuration sections: 'Metadata Field' (Table Name: editorial, Field Name: website, Display Name: Your website, Data Type: Char, Maximum Length: 50, Required: [ ], Validate: [ ]), 'Popup Menu' (Field has Popup Menu: [ ], Define Popup, Popup Menu allows custom items to be added: [ ]), 'Visibility' (Field's visibility depends on the value of another field: [ ], Define Visibility), and 'URL Field' (Field is displayed as a URL: [x]). The 'URL Field' section is highlighted with a red box and contains a text area for the 'URL Format string' with the value 'http://<val!>'. Below the text area are three columns: 'Field Value', 'Record ID', and 'User Name'. The sidebar on the left contains navigation options: Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers, Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages.

- 3 Type the URL format string. The format string is a URL with one or more Telescope s.

There are three supported s:

- <!val!> tag is replaced with the current value of the field
- <!id!> is replaced by the unique record\_id of the asset
- <!user!> is replaced with the current Telescope user's user name

A Format String may look like:

```
http://my.machine.com/script/action.php?id='<!val!>'&p_user='<!user!>'
```

For TSWeb users, when they are in the Document Info view of an asset, they will see a URL field with a button beside it. They can click this button to start their default web browser and open the URL constructed from the Format String and the value of the field. For example: [http://my.machine.com/scripts/action.php?id=25346&p\\_user=jdoe](http://my.machine.com/scripts/action.php?id=25346&p_user=jdoe)

If the browser is already open, the link opens in a new browser window.

## 10.8 Define Lookups

The following fields within the Telescope system can have lookup functionality applied to them:

- ◆ Char (< 255 characters)
- ◆ Repeating/Normalized Repeating
- ◆ Integer
- ◆ Date/Time

If the Lookup Broker is installed on your Telescope system (as indicated by its presence in the name service), the Lookup Enabled button appears on the Field Definition page for any field pre-configured within the Lookup Broker configuration file.

To define a lookup:

- 1 Select a field from the Fields page.
- 2 Select the checkbox to enable lookup functionality.
- 3 Click *Define Lookup*.
- 4 Select individual checkboxes to give a specific group access to a specific source, or use the “All” buttons at the bottom of each column, and the end of each row, to turn on or off all of the checkboxes in that row or column.
- 5 Click *Save*.

In the Document Info view, which appears in the Document Info window, the Change Multiple dialog, and the File Info and Constant Info dialogs during import, a field which is “lookup enabled” will have a lookup control next to the field.

The lookup control only appears if all of the following conditions are met:

- ◆ The field is lookup enabled.
- ◆ The Lookup Broker exists (verified by checking the name service and is pre-configured for the field in question).
- ◆ There are any sources visible to this user group (verified by checking in the view\_sources table).

If there is also a popup menu associated with the field, then both the popup button and the lookup control are displayed.

### Specify the Groups That Access the Field

Once fields have been created, you must determine which user groups can view and edit them. Use the Users/Group pages to specify who gets access to these fields.

## 10.9 Delete a Metadata Field

To delete a field:

- 1 Click the trash can icon next to the field to be deleted.
- 2 Click *OK* in the confirmation dialog box.

The field is no longer visible to users, although it remains in the underlying database until the database administrator removes it.



# 11. File Shares and File Migration

This chapter provides information about setting up external file shares, and creating the file migration policies required to coordinate the movement of assets to file shares.

- ◆ [Section 11.1, "External Storage of Data," on page 146](#)
- ◆ [Section 11.2, "File Migration Policies," on page 148](#)

## 11.1 External Storage of Data

Assets themselves are not stored inside the Telescope database. The physical asset might be located on individuals' computers, servers, or offline storage. However, for these assets to be secure and accessible to other Telescope users, they must be stored in a network drive that is accessible to the Telescope File Broker.

### For more information

- ◆ [Section 1.4, "Data Storage in Telescope," on page 13](#)

### 11.1.1 Storing Data on External Volumes

You can configure the File Broker to use a network storage device as the data repository. You will need to configure the File Broker with an account on the external drive, and to log in to that drive. (Be sure to restart the File Broker to have this take effect.)

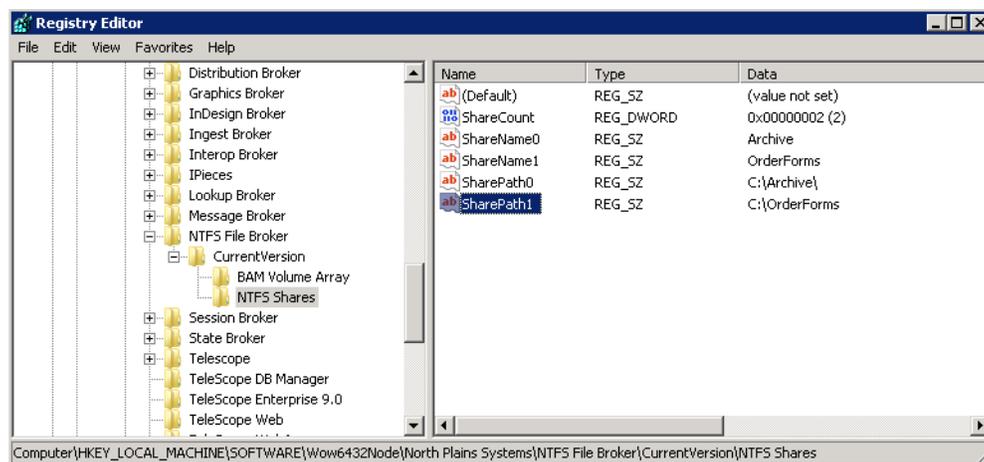
To configure the File Broker to use an external drive, when you install Telescope be sure to include the external drive in the `TS_ARCHIVE_DIR` property in the FileBroker.msi section of the installConfig file. You will also need to add the external drive login to Services.

### 11.1.2 Add a Shared NTFS Path to the System Registry

If you need to use a new shared NTFS path, follow these steps to add a shared NTFS path to the registry:

- 1 From a command line, type `regedit` to open the Registry Editor.
- 2 Navigate to `HKEY_LOCAL_MACHINE > SOFTWARE > Wow6432Node > North Plains Systems > NTFS File Broker > CurrentVersion > NTFS Shares`

**Figure 11.1** Location in the Registry Editor for Adding a Share Path



- 3 Increase the *ShareCount* value by 1. For example, if it is 2, increase it to 3.
- 4 Locate the *SharePath* keys and take note of *n*, the highest number being used as the last character in their names. Create a new key with the name, "SharePath*X*", where *X* is *n*+1. For example, if there is already a SharePath0 and a SharePath1, create a SharePath2.

In the value field for this new key, enter the full path for the folder to where the assets will be copied when placing an order. For example, C:\Orders.

- 5 Add another *ShareName* key with a name that ends with the same digit as the *SharePath* you created. (For the above example, you would create a key named “ShareName2”.)

In the value field for this new key, enter just the name of the folder to where the assets will be copied. For example, “Orders”.

- 6 Restart the File Broker.

## 11.2 File Migration Policies

### 11.2.1 Overview

When users import assets, Telescope coordinates the movement of assets to file shares (physically performed by the File Broker) and generates thumbnails and extended views (performed by the I-Pieces that are loaded in the Graphics Broker)—handled by the Ingest Broker, a Telescope server component. The Telescope administrator can set up File Migration Policies to control aspects of this process.

A *File Migration Policy* is a set of rules that determines where an asset is placed when it is imported into Telescope. Telescope moves the assets to a storage device, either directly or through the network, according to a File Migration Policy. It then calls the Ingest Broker to add asset metadata for the assets to the Telescope database.

File Migration Policies are assigned to user groups. An “Allow No Migration” user privilege is also available to specify whether the user is permitted to import assets from their original locations without moving them to a file (ingest in place).

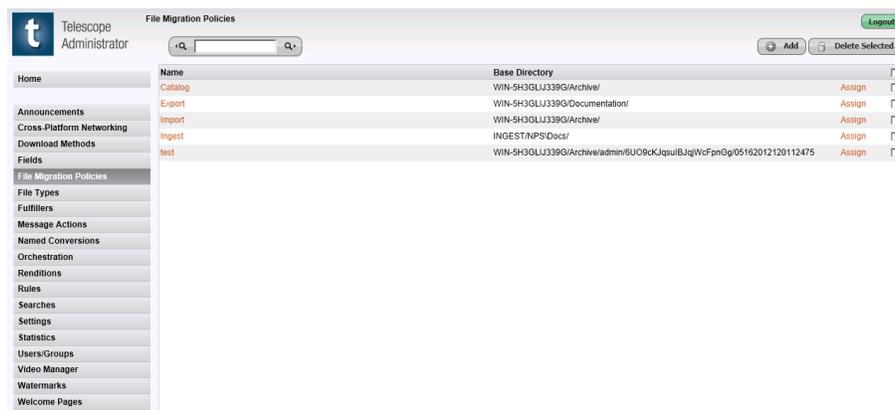
A policy can use an asset’s metadata values to create folders in the File Broker share where assets are to be placed. Also, a policy includes a collision resolution procedure that determines what happens when a file’s name duplicates another file name in the destination location.

### 11.2.2 View File Migration Policies

To view file migration policies:

- ◆ Click *File Migration Policies* in the navigation pane on the left.

**Figure 11.2** *File Migration Policies*



Using this page, you can:

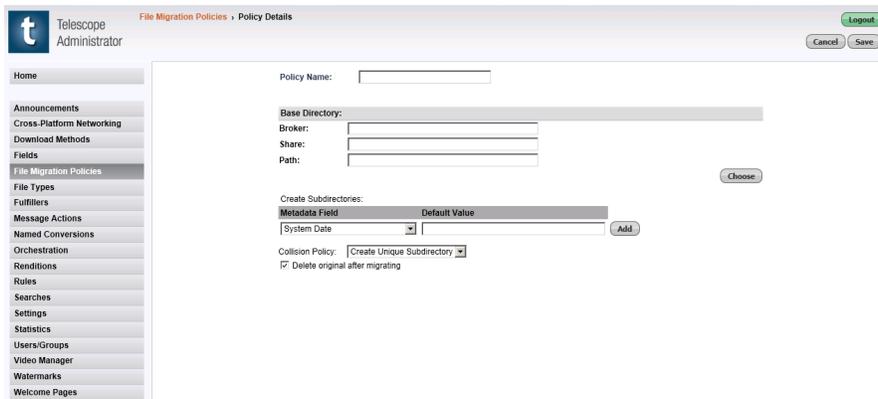
- ◆ View policies
- ◆ Add new policies
- ◆ Modify policies
- ◆ Assign policies to groups
- ◆ Delete policies

## 11.2.3 Add a File Migration Policy

To add a file migration policy:

- 1 In the File Migration Policies Administration page, click *Add*.

**Figure 11.3** Policy Details



The screenshot shows the 'Telescope Administrator' interface. The main content area is titled 'File Migration Policies > Policy Details'. On the left is a navigation menu with items like Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies (selected), File Types, Fulfillers, Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main form contains the following fields and options:

- Policy Name:** A text input field.
- Base Directory:** A large text area.
- Broker:** A text input field.
- Share:** A text input field.
- Path:** A text input field.
- Choose:** A button next to the Path field.
- Create Subdirectories:** A section with a table:

Metadata Field	Default Value
System Date	

An 'Add' button is located to the right of the table.
- Collision Policy:** A dropdown menu with 'Create Unique Subdirectory' selected.
- Delete original after migrating

- 2 In the *Policy Name* text box, enter a name for the policy.
- 3 In the *Base Directory* area, specify the base destination for the assets.
- 4 Click *Choose*.
- 5 In the Choose File dialog box, select the location of the File Migration Policy.

You must specify a File Broker, network share, and path for the location.

---

**NOTE:** A network share is a device or information on a server that can be remotely accessed, or shared, by a remote user. The share appears as if it were a resource in the local computer.

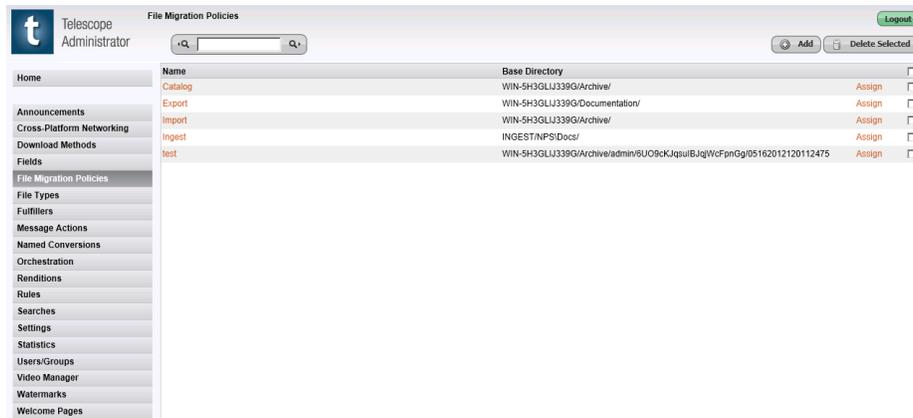
---

- 6 If required, specify that subdirectories be created and named. You can create as many levels of subdirectories in the base destination directory as required. Each preference specifies a metadata field, item of user information, or the current date and/or time. The appropriate value is extracted at import time to create subdirectories in the destination directory.

If, in the process of creating these directories, an existing subdirectory already exists with the same name, the Ingest Broker uses that directory. If one of the pieces of metadata being used does not exist or is empty, then a subdirectory with the name “(EMPTY)” is created.

To add a subdirectory, select the metadata field from the list, provide a default value if required, and click *Add*. The new subdirectory is added to the page. For example:

**Figure 11.4** File Migration Policy Example



- 7 Select an option in the *Collision Policy* menu. This preference determines what the Ingest Broker does in the event that an asset with the same name already exists in the final destination directory (after all the subdirectories have been created). The options are *Rename Uniquely* and *Create Unique Subdirectory*.
- 8 Select *Delete original after migrating* an asset if you wish to have the asset moved to its new location, rather than copied.
- 9 Click *Save*.

## 11.2.4 Modify File Migration Policies

To modify a file migration policy:

- 1 In the File Migration Policies page, click the name of the policy you want to change.
- 2 Change the characteristics as required.
- 3 Click *Save*.

## 11.2.5 Assign Policies to User Groups

To assign a file migration policy to a group:

- 1 In the File Migration Policies page, click *Assign* next to the name of the policy you wish to assign to groups.

**Figure 11.5** Assign a File Migration Policy



- 2 Select the checkboxes of groups that are to use the File Migration Policy when importing assets. To select all groups, click the checkbox at the top of the *Visibility* column. To clear the groups, click the checkbox again.
- 3 Click *Save*.

## 11.2.6 Delete File Migration Policies

To delete a file migration policy:

- 1 In the File Migration Policies page, select the checkboxes next to the policies you want to delete. To select all policies, click the checkbox at the top of the column.
- 2 Click *Delete Selected*.
- 3 In the confirmation dialog box that appears, click *OK*.



# 12. Configure Telescope Uploader

The Telescope Uploader is required for users to upload assets to Telescope. It is also required for extended download support.

## Contents:

- ◆ [Section 12.1, "Configure for Telescope Uploader," on page 154](#)
- ◆ [Section 12.2, "Enable Logging for Telescope Uploader," on page 157](#)
- ◆ [Section 12.3, "Add Download Methods," on page 159](#)
- ◆ [Section 12.4, "Change Download Behavior," on page 162](#)
- ◆ [Section 12.5, "Configure File Type Associations for Checkins," on page 165](#)
- ◆ [Section 12.6, "Use QuickLinks in your Organization," on page 166](#)
- ◆ [Section 12.7, "Create Unique Links to Assets," on page 170](#)

## 12.1 Configure for Telescope Uploader

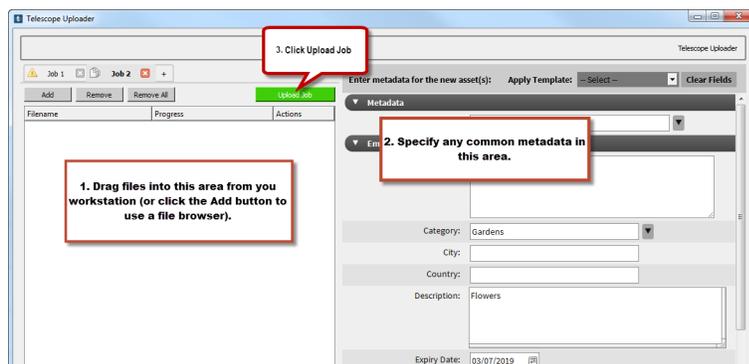
The Telescope Uploader appears when users click the Telescope Uploader icon in the Telescope interface. Users can use this interface to import selected assets from their client machine by dragging them directly into the interface and specifying common metadata values.

---

**NOTE:** The Telescope Uploader must be installed on the client machine from a local or domain administrator's account. This software is also required for users to access the full Download Cart functionality.

---

**Figure 12.1** *The Telescope Uploader*



### 12.1.1 Telescope Uploader Configuration

Administrators need to perform several steps to activate the Telescope Uploader for users:

- ◆ The Telescope Uploader will not provide import functionality if users do not have the necessary permissions. Log in to TSAdmin, select the Users/Groups tab on the left side, then ensure the appropriate users and/or groups have the appropriate import and export permissions (as determined by your organization's permissions policy). In particular:
  - ◆ Users must belong to groups with import permission and copy permission. If users belong to a group with copy permission but not import permission, they are not allowed to download the Telescope Uploader (but will still have access to a file browser for upload).
  - ◆ Users must belong to groups with "Allow Telescope Uploader" enabled. Otherwise, they will not be allowed to download the Telescope Uploader.

For more information on user permissions, see [Section 9.4.2, "Edit User Permissions," on page 107](#).

- ◆ The Telescope Uploader app must be installed on each machine used by TSWeb users. These instructions vary on Macintosh or Windows machines. Details on how users can do this themselves are provided in the *Telescope User Guide*. (Note that users may need to uninstall the application before reinstalling it; these instructions are also provided in the User Guide.)
- ◆ Uploader logging configuration is stored in the `telescope_logging_uploader.ini` file at (default installation location shown):  
C:\Users\`<windows user name>`\AppData\Roaming\North Plains Systems\TSUploader-940\TelescopeUploader  
(See Section 12.1, "Enable Logging," on page 157)

## 12.1.2 Troubleshooting TSWeb User Problems

If TSWeb users are not able to use the Telescope Uploader, check that:

- ◆ They have properly installed the Uploader and have accepted it as a trusted site (details are provided in the *Telescope User Guide* for each browser and platform).
- ◆ They have been granted permission to upload and use the Telescope Uploader. The Uploader must be installed from a local or domain administrator's account.
- ◆ If they receive an error when trying to install the Telescope Uploader, check that the IIS Handler is mapped correctly (details are provided in the *Telescope Installation and Configuration Guide*).
- ◆ If they are having trouble upgrading their 9.4.0 version of Telescope Uploader, instruct them (or help them) to remove all older versions, located in the following locations:

For Macintosh OS X Systems: Navigate to Applications (Finder > Go > Applications), find TelescopeUploader, right-click, and select *Move to Trash*. Then from the Finder, navigate from the hard drive to Macintosh HD > Library > Internet Plug-ins, find the file NPDragAndDropPlugin930.plugin and move it to Trash.

For Windows Systems: On Windows, launch *Control Panel > Uninstall a program*, and uninstall NPDragAndDrop930-FF (for Chrome and Firefox) and/or NPDragAndDrop930-IE (for Internet Explorer).

## 12.1.3 Telescope Uploader Performance Configuration

### Optimize Performance

Use the following TSWeb configuration settings to optimize Uploader performance.

- ◆ UploadMaxChunkSize—the maximum data chunk size that can be processed during the upload stream.
- ◆ NumberConcurrentUploads—the number of worker threads can be increased to allow concurrent uploads. (For example, if large graphics files are taking time to be processed in the Graphics Broker, this setting will allow for additional threads to be used to start processing other files.)

You can add these settings in the following file, located on the web application server:

```
..\Telescope\Applications\tswweb.woa\Contents\Resources\Config.plist
```

### Set the Maximum Upload Chunk Size (UploadMaxChunkSize)

The UploadMaxChunkSize configuration setting sets the maximum data chunk size that can be processed during upload stream. Tailor this setting to best suit your network requirements. If this parameter doesn't exist the default value is "1048576" (1MB).

Values must be in bytes, but it is recommended that you choose values that convert to whole megabyte values. That is, x MB \* 1024 \* 1024. For example:

- ◆ 2097152 (that is, 2 MB)
- ◆ 3145728 (that is, 3 MB)
- ◆ 5242880 (that is, 5 MB)
- ◆ 10485760 (that is, 10 MB)

### Example:

```
UploadMaxChunkSize = "1048576";
```

If you update this property, make sure that the File Broker can accept a data chunk of this size to write.

Also, make sure that the following regkey exists on the system running the File Broker, and its value is greater than or equal to the value `UploadMaxChunkSize` in the `config.plist` file:

`HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\omniORB\giopMaxMsgSize` (This is a string value.)

Restart your File Broker after you make this change.

## Set the Number of Concurrent Uploads (`NumberConcurrentUploads`)

The `NumberConcurrentUploads` configuration setting sets the number of parallel uploads for the Telescope Uploader. You may wish to increase the number of worker threads to allow concurrent uploads. (For example, if large graphics files are taking time to be processed in the Graphics Broker, this setting will allow for additional threads to be used to start processing other files.)

This value can be increased to a maximum of 15. If this value doesn't exist, the default value is 3.

### Example:

```
NumberConcurrentUploads = "3";
```

## Enable Multi-part Messages for Telescope Uploader

Communication protocols are available to support multi-part messages from TSWeb to the Telescope Uploader, up to 99 parts. This change may be necessary for some installations when Telescope Uploader uses URL requests that are longer than the typical limits imposed by browsers (which could be as small as 2k bytes).

To enable this feature, add the following new parameters to the TSWeb `config.plist` file at `Telescope\Applications\tsweb.woa\Contents\Resources\Config.plist`

```
IsSocketEnable = "true";  
SocketPort = "6164";  
SocketChunkSize = "500";
```

`IsSocketEnable` must be set to "true" to enable this feature. The other parameters can be left as is with their default values.

**Important Additional Requirement!** Due to limitations on communications between browsers and other applications, TSWeb users will need to configure their browsers so that they will not see a security alert with this feature. These instructions are provided in the *Telescope User Guide*.

## 12.2 Enable Logging for Telescope Uploader

Logging is supported for the Telescope Uploader and Download plugins. You may be requested to provide these logs when contacting North Plains Systems Support for assistance.

There are two logging output options:

- ◆ Logging output into a console window
- ◆ Logging output into a file.

Each of these options can be enabled independently from a text file placed in various locations on the TSWeb user's machine, depending on their browser and operating system. (See below for details.)

**Note:** These log files do not roll over, meaning they will keep growing until they are deleted. When users do not need to use logging for debugging, be sure that they disable it on their machines. (See below for details.)

### 12.2.1 Enable Logging

To log Telescope Uploader activities:

- 1 Open a text editor that will not add line breaks or other extra characters. For example, use Notepad (with wordwrap disabled) or a source code editor. **DO NOT USE** WordPad or Microsoft Word.
- 2 Add lines as in the following examples.

- ◆ For Windows:

```
file=C:\Users\myusername\Desktop\telescope_uploader.log  
console=true
```

- ◆ For Macintosh OS X:

```
file=/Users/myusername/Desktop/telescope_uploader.log  
console=true
```

The settings in this configuration file determine if Telescope Uploader logs activities:

- ◆ 'file' specifies the full path and name of a file where the logs will be placed. This log file will be a text file, and it is not necessary for this file to exist beforehand. The paths in the examples above store the log file on your Desktop; adjust the path if you want to store it elsewhere.
- ◆ 'console' specifies if the console log window will appear or not. The examples above assume you want to see a console. Change it to "console=false" to hide the console. It is recommended that the console only be enabled when debugging an issue.
- ◆ Place a "#" character in front of either or both lines to disable the respective logging method.

- 3 Save the file.

Name it `telescope_logging_uploader.ini`

Store it at (default installation locations are shown):

- ◆ For Windows:

```
C:\Users\<windows user name>\AppData\Roaming\North Plains Systems\TSUploader-  
940\TelescopeUploader\Telescope_logging_uploader.ini
```

- ◆ For Mac:

```
/Applications/Telescope Uploader 940.app/Contents/MacOS/telescope_logging_uploader.ini
```

## 12.2.2 Disable Logging

The log files do not roll over, meaning they will keep growing until they are deleted. Delete them often to avoid large files.

When you do not need to use logging, be sure to disable it to ensure memory usage is minimized.

To disable logging, place a “#” character in front of both lines in the configuration file to disable the respective logging method. Be sure to do this for every file you have saved in every path (as listed above).

### Examples:

On Windows:

```
#file=C:\Users\myusername\Desktop\telescope_uploader.log  
#console=true
```

On Macintosh OS X:

```
#file=/Users/myusername/Desktop/telescope_uploader.log  
#console=true
```

## 12.3 Add Download Methods

---

**NOTE:** The Telescope Download plugin must be installed on the client machine from a local or domain administrator's account for users to access the full Download Cart functionality. A message is shown in the Download Cart to remind users to install and update this plugin. Details are provided in the *Telescope User's Guide*.

---

Telescope allows users to select a download method as an alternative to the default Download Via HTTP. The download method ensures that the assets are downloaded to a folder on the computer where Telescope is installed. The folder is specified in the method's definition.

The Download Methods page lists the currently defined download methods for this connection.

---

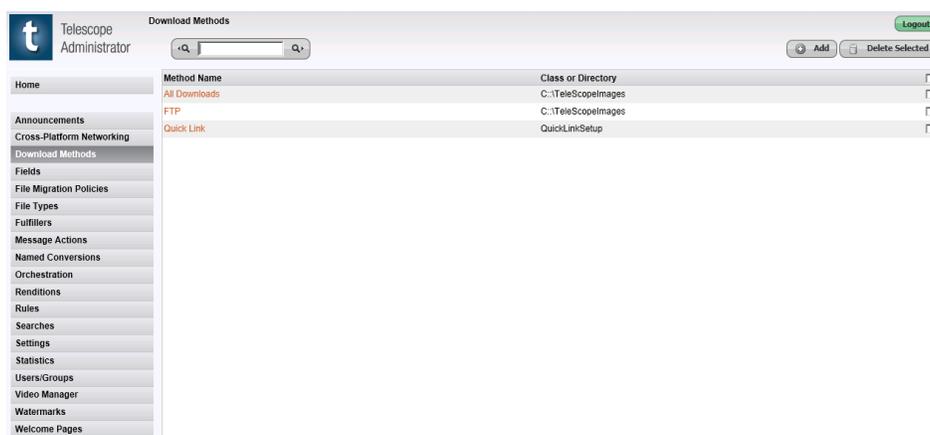
**NOTE:** The download methods available depend on the Conversion I-Pieces (C-Pieces) installed and licensed. For details, see the *Supported Applications* manual.

---

### 12.3.1 Add a Download Method

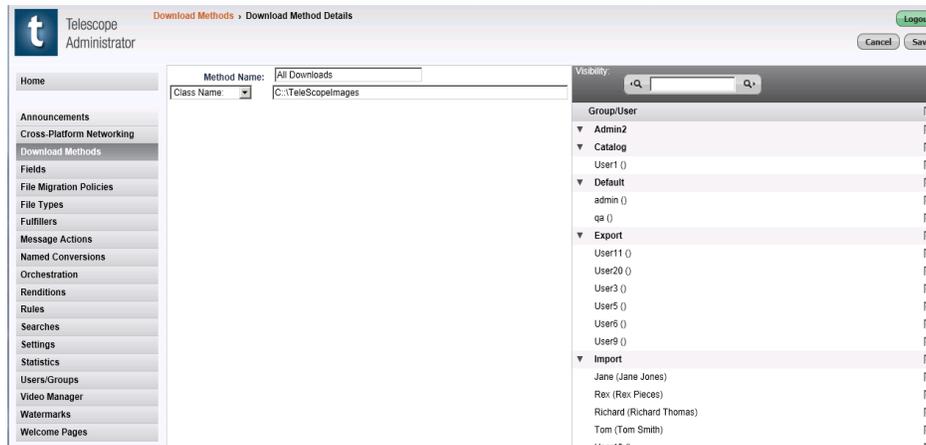
- 1 Click *Download Methods* in the left navigation pane.

**Figure 12.2** *Download Methods*



- 2 Click *Add*.

Figure 12.3 Download Methods Details



- 3 In the *Method Name* field, enter a name for this download method.
- 4 Select one of the following options from the *Method Type* menu and enter the appropriate information for your choice in the field:

**Class Name:** If you have defined a class to control the download behavior, select this option and enter the class name in the text box. By default, Telescope comes with the QuickLinkSetup class already defined. For more information about QuickLinks see [Section 12.6, "Use QuickLinks in your Organization,"](#) on page 166.

You can also create custom classes to handle downloads using the Telescope SDK, or North Plains Systems professional services can create custom classes for you.

**Directory Name:** Select this option and enter a path in the field to define the download location. If this folder does not exist Telescope will create it the first time this download method is used.

- 5 Select the groups or individual users you want this download method to be visible to. If necessary, use the page navigation controls to scroll through the groups and users.
- 6 Click *Save*.

## 12.3.2 Edit a Download Method

To edit a download method:

- 1 Click *Download Methods* in the left navigation pane.
- 2 Click a method name.
- 3 Make the required changes.
- 4 Click *Save*.

## 12.3.3 Delete a Download Method

To delete one or more download methods:

- 1 Select the checkbox to the right of the method(s) you want to delete.
- 2 Click *Delete Selected*.

- 3 Click *OK* in the confirmation dialog.

## 12.4 Change Download Behavior

---

**NOTE:** The Telescope Uploader must be installed on the client machine from a local or domain administrator's account for users to access the full Download Cart functionality.

---

### 12.4.1 Change Zipping Options

#### To remove the zipping option:

From the Download Cart, users have the option to choose whether to zip multiple files.

To change the functionality so this option is not available:

- 1 On the web application server, browse to the following file:  
`...\\TeleScope\\Applications\\tswab.woa\\Contents\\Resources\\Config.plist`
- 2 Open this file with a text editor.
- 3 Find the following line in this file:  
`downloadNonZippedAssets=TRUE`
- 4 Change the line to read as follows:  
`downloadNonZippedAssets=FALSE`
- 5 Restart TSWeb from the WebObjects Monitor.

#### To set automatic zipping at download:

To configure whether files are downloaded zipped or unzipped:

- 1 Go to the web application server running each DLManager instance.
- 2 Open the TSWeb `info.plist` file, by default at:  
`C:\\TeleScope\\Applications\\dlmanager.woa\\Contents\\info.plist`
- 3 In this file, use the `shouldCompressFiles` key to indicate whether to zip (Y) or not zip (N) files:  
`<key>shouldCompressFiles</key> <string>Y</string>`

#### To control which file types are zipped or not zipped:

With the `NoZipFileTypes` setting, single files are not zipped on download for the specified file types. This setting is not used in typical customer sites.

- 1 On the web application server, find the DLManager `config.plist` file (typically located at `C:\\TeleScope\\Applications\\dlmanager.woa\\Contents\\Resources`).
- 2 Ensure the `NoZipFileTypes` variable contains only file types you do not want to be zipped (or is commented out if you want all file types zipped).

<b>Example</b>	
NoZipFileTypes = "ZIP,JPEG,PNG,PNGF,TIF,TIFF";	Any of the file types listed will not be zipped.
NoZipFileTypes = "ZIP"; (or just comment out the line)	Only zip files will not be zipped (recommended)

### Change the zipping threshold value:

Archiving (zipping) functionality is enforced to improve robustness and performance when users try to download a large number of files as individual files.

By default, the zipping threshold value is set to 50. If the Download Cart contains more files than this value and a download is requested for all of these files, then the files will all be zipped into one download.zip file, rather being downloaded individually.

To change this value,

- 1 Edit the following file:  

```
... \Telescope \Applications \dlmanager.woa \Contents \Resources \Config.plist
```
- 2 Add the following configuration parameter to the file:  

```
zipThresholdNumber = 50;
```
- 3 Change the number to the maximum threshold value you want. It is strongly recommended that you not use a value higher than the default value of 50.

## 12.4.2 Change Behavior for Mac OS X Downloads

From the Download Cart, users have the option to choose whether to download multiple files in Mac OS compatible BinHex format. However, if users are downloading single files from browsers running on Mac OS X, these files are downloaded in their native file format by default.

To change the functionality so that single files are always downloaded in the native Mac OS X BinHex format by default:

- 1 On the web application server, browse to the following file:  

```
... \TeleScope \Applications \tsweb.woa \Contents \Resources \Config.plist
```
- 2 Open this file with a text editor.
- 3 Add the following line to this file:  

```
downloadBinForMac=true;
```
- 4 Restart TSWeb from the WebObjects Monitor.

## 12.4.3 Limit the Number of Items in the Download Cart (MaxDownloadCartAssets)

The `MaxDownloadCartAssets` configuration setting enforces a limit for the number of items in the Download Cart. When users try to add items exceeding this limit, they are warned that the limit is exceeded and they cannot add any more items to the Download Cart. The default limit is 600.

Add this setting to the TSWeb `config.plist` file, located on the Web Application Server at the default path of `C:\Telescope\Applications\tswb.woa\Contents\Resources\config.plist`

Example: `MaxDownloadCartAssets = 300;`

If this property is missing from the `config.plist` file, then the default limit of 600 is applied. Values higher than 600 can be used, but are not recommended and may result in unpredictable results (including delays), depending on your environment.

## 12.5 Configure File Type Associations for Checkins

When TSWeb users are checking in files and use the *Add* button, file types are verified to ensure they are the same (otherwise, InDesign and similar workflows may be broken).

You can configure file type associations to account for situations where there are several file extensions for the same type of file (for example, DOC and DOCX).

Edit the `RelatedFileTypeList` parameter in the  
`\Telescope\Applications\tswb.woa\Contents\Resources\config.plist` file.

## 12.6 Use QuickLinks in your Organization

The Telescope QuickLink download method allows people who are not Telescope users to access and download assets.

When a Telescope user (the sender) selects the QuickLink download method from their Download Cart, they are presented with a form that allows them to enter the email address of the person (or people) they want to provide access to the assets (the recipients). Telescope sends two emails to the recipients: one with a link to a web page where the recipient can download the assets, and one with an access key that enables the download to take place. The QuickLink expires after a configurable number of days or downloads.

---

**NOTE:** An alternative to a QuickLink is a permalink. Like QuickLinks, permalinks are links to assets in Telescope which can be accessed by non-Telescope users. Unlike QuickLinks, they never expire. Typically, they provide read-only access to assets. Any changes made outside of Telescope is not reflected when accessing the asset within Telescope. For more information about creating permalinks, see [Section 12.7, "Create Unique Links to Assets," on page 170](#).

---

### Set Up QuickLinks (Summary)

Follow these steps to set up QuickLinks:

- 1 [Section 12.6.1, "Configure the SMTP Server," on page 166](#)
- 2 [Section 12.6.3, "Enable QuickLinks in TSAdmin," on page 168](#)
- 3 [Section 12.6.4, "Assign QuickLinks as a Download Method," on page 168](#)
- 4 [Section 12.6.5, "Set up Challenge Forms to Recipients by using Functional Rules \(Optional\)," on page 168](#)

See also:

- ◆ [Section 12.6.7, "QuickLinks Troubleshooting," on page 169](#)

### 12.6.1 Configure the SMTP Server

SMTP is the Internet standard for email across the network.

To configure SMTP to send and receive email messages:

- 1 In Telescope Administrator, in the navigation pane, click *Settings*.
- 2 Scroll down to the *SMTP Server Configuration* section.

For details on the settings in this section, see [Section 8.5, "SMTP Server Configuration Settings," on page 88](#).

- 3 After you finish updating the settings, be sure to click *Save* at the top of the page.

### 12.6.2 Enable QuickLinks in SiteManager

Before users can download files using QuickLinks, a QuickLinks site must be added to the `site.plist` file. You can do this either through the Site Manager application, or by editing the `site.plist` file and adding it manually. In either case, you will need to stop all TSWeb instances first.

## Add QuickLinks using SiteManager

- 1 Stop all TSWeb instances.
- 2 On SiteManager application, click on the *Add Site* button
- 3 Set the *Site Name* field with a value of "QuickLinks"—it is case sensitive.
- 4 Check the connections available for this site.
- 5 Click on *Save Changes*.
- 6 Start the TSWeb instances

## Add QuickLinks Manually to the site.plist file

- 1 Stop all TSWeb instances.
- 2 Go to your Telescope installation directory. For example, C:\Telescope\Applications
- 3 Create a backup of the `site.plist` file.
- 4 Edit the file and copy the following Site array example to the Site dictionary. The connections list should contain your connection IDs.

```
{  
    "sitename" = "QuickLinks";  
    "customMenuA" = ();  
    "customMenuB" = ();  
    "connections" = (  
        "1",  
        "3",  
        "2"  
    );  
}
```

This example should be placed just before the `hubHost` entry as shown in the image below.

```
        "REQUIRED" = "Y";  
    },  
    {  
        "REG_EXP" = "[\\-\\|\\!\\$\\%\\^\\&\\+\\|\\[\\]\\\\\\{\\}\\?";  
        "NAME" = "META_CHARACTER";  
        "REQUIRED" = "N";  
    }  
);  
}  
{  
    "sitename" = "QuickLinks";  
    "customMenuA" = ();  
    "customMenuB" = ();  
    "connections" = (  
        "1",  
        "3",  
        "2"  
    );  
}  
);  
"hubHost" = "DevSyncTS01";  
"hubPort" = "12345";
```

- 5 Save the `site.plist` file. It should look similar to the sample below. (The new QuickLinks section is shown highlighted.)
- 6 Start the TSWeb instances again.

### 12.6.3 Enable QuickLinks in TSAdmin

To enable QuickLinks, go to the TSAdmin Users/Groups settings for the relevant users or groups of users and verify that the *Hide QuickLinks* check box is **NOT** selected in the Unrestricted Access section of the Permissions tab. See [Section 9.2, "Manage Groups and Users," on page 97](#).

---

**NOTE:** It is strongly recommended to enable QuickLinks only for a specific subset of users who are authorized to send assets to people outside of your organization.

---

### 12.6.4 Assign QuickLinks as a Download Method

---

**NOTE:** Ensure you have set up the SMTP server and enabled QuickLinks (see the previous sections).

---

To allow Telescope users to email Quicklinks to external recipients, you need to configure the QuickLinks Download Method and then assign it to those users:

- 1 In Telescope Administrator click *Download Methods* in the navigation bar.
- 2 Click *Add* to add a new QuickLink download method or click on an existing QuickLink method to edit it.
- 3 Enter a *Method Name*. This appears as an available download method when a user views their cart in Telescope.
- 4 In the Method Type menu, select *Class Name*.
- 5 Enter the *Class Name*. This must be "QuickLinkSetup" (without the quotes and exact case).
- 6 Select the users and/or groups you want to make this QuickLink available to.
- 7 Click *Save*.

---

**NOTE:** It is strongly recommended to assign the QuickLinks Download Method to a single user group that includes the specific subset of users who you are authorizing to send assets to people outside of your organization

---

### 12.6.5 Set up Challenge Forms to Recipients by using Functional Rules (Optional)

You may wish to set up a QuickLinks Functional Rule so that recipients outside your organization are presented with challenge forms when they attempt to download the assets (for example, to ask them to confirm they have read your terms and agreements, or to provide their email address).

For information on setting up and assigning QuickLinks functional rules, see [Section 14.7.21, "QuickLinks Functional Rule Action," on page 218](#).

## 12.6.6 Enable Custom Login Pages for QuickLinks

Quicklinks can work for custom login pages, if you alter the text in the `DeliveryMessage` string within the `QuickLinkDeliveryclassic.strings` file in the `...\\tsweb.woa\\Contents\\Resources\\Sites\\classic\\Resources\\Language\\default` folder. The new text appears on the Quicklinks Delivery login page.

If you update this strings file for a custom site, the name of the strings file must be altered to include the file name of the site. For example, if the name of the site is "Site2", then the `QuickLinkDeliveryclassic.strings` file must be renamed to `QuickLinkDeliverySite2.strings`.

## 12.6.7 QuickLinks Troubleshooting

### Multiple files are not being zipped and downloaded

Quicklinks will not zip and download multiple files as expected if the `DLManager NoZipFileTypes` setting happens to include one of the file types that are being downloaded.

#### Workaround:

Go to the Web Application server, and find the `DLManager config.plist` file (typically located at `C:\\Telescope\\Applications\\dlmanager.woa\\Contents\\Resources`). Ensure the `NoZipFileTypes` variable does not include any of the file types used at your site. For example, change:

```
NoZipFileTypes = "ZIP, JPEG, PNG, PNGF, TIF, TIFF";
```

to the following:

```
NoZipFileTypes = "ZIP";
```

(or just comment out the line).

With the `NoZipFileTypes` setting, single files are not zipped on download for the specified file types. This setting is not used in typical customer sites.

## 12.7 Create Unique Links to Assets

Unique links to assets can be created, based on asset record IDs or saved Advanced Search names. For example, clickable links can be included in emails or embedded in other applications. Viewers launching these links need to be logged in to Telescope before the assets are shown.

### 12.7.1 Create a URL to a Unique Asset

To create a URL to a particular asset, follow these steps:

- 1 From the Telescope database, query to find the primary key of the requested asset. The primary key is the `Record_id` key in the Editorial (`dbo.editorial`) table. For the next steps, assume this key is: 2345

- 2 Add the following prefix before this key:

```
/wa/services/uIService?action=5&cmddata=2345
```

- 3 Convert this string into percent-encoded URL text using readily available URL encoders (for example, at <http://meyerweb.com/eric/tools/dencoder/>):

```
%2Fwa%2Fservices%2FuIService%3Faction%3D5%26cmddata%3D2345
```

- 4 Precede this string with the root of your TSWeb URL followed by “?redirect=”. For example,

```
http://<mywebserver.com>/Scripts/WebObjects.dll/TSWeb.woa/  
?redirect=%2Fwa%2Fservices%2FuIService%3Faction%3D5%26cmddata%3D2345
```

---

**NOTE:** In most cases, you can use the string in the previous step and substitute `<mywebserver.com>` with your web server name, and replace “2345” with the primary key you identified in step 1.

---

### 12.7.2 Create a URL to a Saved Advanced Search

To create a URL to a saved Advanced Search, follow these steps:

- 1 Find the name of the Advanced Search you want to use to create the URL. For the next steps, assume this key is: `my_search`.

- 2 Add the following prefix before this key:

```
/wa/services/uIService?action=11&cmddata=my_search
```

- 3 Convert this string into percent-encoded URL text using readily available URL encoders (for example, at <http://meyerweb.com/eric/tools/dencoder/>):

```
%2Fwa%2Fservices%2FuIService%3Faction%3D11%26cmddata%3Dmy_search
```

- 4 Precede this string with the root of your TSWeb URL followed by “?redirect=”. For example,

```
http://<mywebserver.com>/Scripts/WebObjects.dll/TSWeb.woa/  
?redirect=%2Fwa%2Fservices%2FuIService%3Faction%3D11%26cmddata%3Dmy_search
```

---

**NOTE:** In most cases, you can use the string in the previous step and substitute <mywebserver.com> with your web server name, and replace “my\_search” with the Advanced Search name you identified in step 1.

---

### 12.7.3 Create a URL to a Smart Collection

To create a URL to a smart collection, follow these steps:

- 1 Find the name of the smart collection you want to use to create the URL. For the next steps, assume this key is: my\_collection.

- 2 Add the following prefix before this key:

```
/wa/services/uIService?action=12&cmddata=my_collection
```

- 3 Convert this string into percent-encoded URL text using readily available URL encoders (for example, at <http://meyerweb.com/eric/tools/dencoder/>):

```
%2Fwa%2Fservices%2FuiService%3Faction%3D12%26cmddata%3Dmy_collection
```

- 4 Precede this string with the root of your TSWeb URL followed by “?redirect=”. For example,

```
http://<mywebserver.com>/Scripts/WebObjects.dll/TSWeb.woa/  
?redirect=%2Fwa%2Fservices%2FuiService%3Faction%3D12%26cmddata%3Dmy_collection
```

---

**NOTE:** In most cases, you can use the string in the previous step and substitute <mywebserver.com> with your web server name, and replace “my\_collection” with the Advanced Search name you identified in step 1.

---



# 13. Configure Auto-Ingestion via Hot Folders

This chapter provides details on configuring hot folders for automatic ingestion of files as assets into Telescope.

## In this Chapter:

- ◆ [Section 13.1, "Overview," on page 174](#)
- ◆ [Section 13.2, "Configure Auto-Ingestion," on page 175](#)
- ◆ [Section 13.3, "Manifest Ingests," on page 182](#)
- ◆ [Section 13.4, "The Graphics Broker Test Utility," on page 183](#)

## 13.1 Overview

The Ingest Broker can be configured to watch one or more “hot” folders and automatically import files placed in these folders. A single Ingest Broker can monitor multiple folders.

### About Auto-Ingestion

Ingest Broker auto-ingest folders (*hot folders*) were originally designed for performing background ingests in order to introduce minimal load impact on the Telescope system. Performance at that time was not a factor, because the original design assumed a small number of smaller-sized files coming in; now, users are tasking the auto-ingest process with much larger files and have expressed a desire to push more load onto the system in order to improve performance for hot folders.

To address these changing needs, the following Ingest Broker improvements were introduced:

- ◆ Higher throughput of asset ingestion by ingesting multiple assets simultaneously from a given hot folder.  
The amount of load on the system can be tuned with configurable parameters that affect the performance and can be adjusted, per hot folder, to meet the needs of different use cases.
- ◆ Better memory management and smoother pacing of ingests through controlled batch sizes.
- ◆ Improved robustness of large ingests and ingest broker restarts.  
If the Ingest Broker needs to be shut down in the middle of a large auto-ingest operation, the broker will wait for active, in-progress operations to finish before shutting down. Pending files will be put on hold and auto-resume when the broker resumes.
- ◆ For certain, specific use cases, high-performance ingests can be performed with the option to ingest files already copied to the final destination file broker share through the use of a “manifest” hot folder that will ingest files itemized in a provided list.  
In the cases where this applies, it eliminates the “double-copy” ingest delay, where users copy files to the hot folder, and then the Ingest Broker copies from the hot folder to the final file broker share.
- ◆ Greater awareness of ingest failure cases.  
Failed ingests will be moved aside into a designated holding sub-folder inside the hot folder. Notifications will be sent to a configured list of users in the case of such failures.

To address these requirements, four parameters were introduced: *workers*, *batchsize*, *batchthreshold*, and *errors*.

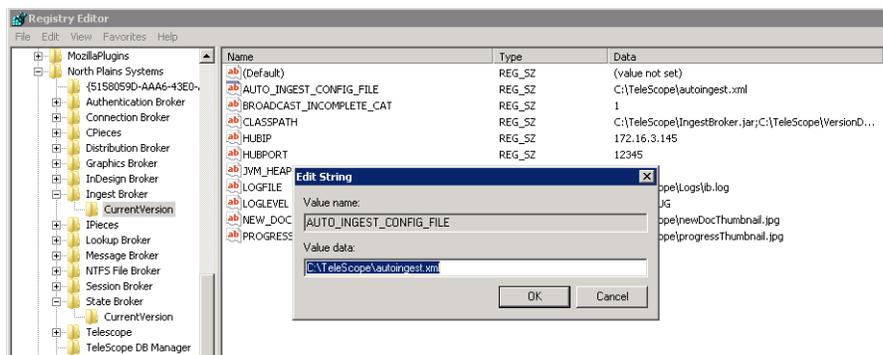
## 13.2 Configure Auto-Ingestion

### 13.2.1 Enable Auto-Ingestion

To enable auto-ingestion:

- 1 Create a hot folder where the ingest will take place. The system user running the Ingest Broker service, and the server running the Ingest Broker, must have read/write permissions to the folder and all its sub-folders.
- 2 Create an XML configuration file containing the auto-ingest preferences. By default, this file is located in `C:\Telescope\autoingest.xml`. (See the next section for details.)
- 3 From the command prompt, type `regedit` to open the Registry editor.
- 4 Go to `SOFTWARE > Wow6432Node > North Plains Systems > Ingest Broker > Current Version`.
- 5 Create the `AUTO_INGEST_CONFIG_FILE` value (of type string). Set it to the XML configuration file you created.

**Figure 13.1** Set the auto-ingestion configuration file location



### 13.2.2 Sample Auto-Ingestion XML

The `autoIngest.xml` file defines the auto-ingestion preferences. Typically you need to create this file. A good location to store it is in the Telescope installation at `C:\Telescope\autoingest.xml`.

There can be any number of preferences under the “autoingest” elements. A single Ingest Broker can monitor multiple folders. (To do this, create multiple `<preference>` tags, each one corresponding to a single folder to monitor.)

#### The XML DTD

```
<?xml version='1.0' encoding='us-ascii'?>

<!--
  DTD for Northplain Auto Ingest configuration file "autoingest.xml".
-->
<!ELEMENT autoingest ((preference)*)>
<!ELEMENT preference (altdatastream*)>
<!ELEMENT altdatastream EMPTY>
```

```

<!ATTLIST preference
  directory CDATA #REQUIRED
  sleepinterval CDATA #REQUIRED
  includesubdirectory (Y|N) "Y"
  dbconnection CDATA #REQUIRED
  username CDATA #REQUIRED
  metadata CDATA #REQUIRED
  migrationpolicy CDATA #REQUIRED
  filebrokername CDATA #IMPLIED
  looktimes CDATA #IMPLIED
  workers CDATA #IMPLIED
  batchsize CDATA #IMPLIED
  batchthreshold CDATA #IMPLIED
  errors CDATA #IMPLIED
>
<!ATTLIST altdatastream
  name CDATA #REQUIRED

```

## XML Example: Standard hot folder

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE autoingest SYSTEM 'autoingest.dtd'>
<autoingest>
  <preference
    directory="C:\hotfolder"
    sleepinterval="10"
    includesubdirectory="Y"
    dbconnection="DB_CONN"
    username="hotfolderuser"
    metadata="C:\TeleScope\mimix.xml"
    migrationpolicy="migrate-and-delete"
    filebrokername="TS_FILEBROKER"
    looktimes="2"
    workers="6"
    batchsize = "10"
    batchthreshold = "10"
    errors = "admin, user1"
  />
</autoingest>

```

## XML Example: Manifest style hot folder

For details on manifest style hot folders, see [Section 13.3, "Manifest Ingests,"](#) on page 182.

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE autoingest SYSTEM 'autoingest.dtd'>
<autoingest>
  <preference
    directory="C:\hot_manifest"
    sleepinterval="10"
    includesubdirectory="N"
    dbconnection="DB_CONN"
    username="hotfolderuser"

```

```

metadata="C:\TeleScope\mimix.xml"
migrationpolicy=""
filebrokername="MANIFEST"
looktimes="2"
workers="6"
batchsize = "10"
batchthreshold = "0"
errors = "admin, user1"
/>
</autoingest>

```

## 13.2.3 Auto-Ingestion Preferences (Descriptions)

### altdatastream

This is an optional parameter for the Windows Ingest Broker to handle the Macintosh pure resource fork files, used by older Macintosh systems to handle older-style font files and so on. Resource fork files have content in the resource fork, but have zero bytes in the data fork.

By default, zero-byte files copied into a hot folder are ignored. To monitor and include resource fork data stored in the NTFS Alternate Data Stream, you need to specify the stream name for each hot folder definition. These folders must be on an NTFS file system, because they require Alternate Data Stream support (a feature only supported by NTFS).

If you are one of the small number of customers who:

- ◆ Use older Macintosh systems,
- ◆ Rely on resource fork files being copied over the network (copied using Mac OS X 10.6+ systems or ExtremeZ-IP AFP server for Windows), and
- ◆ Auto-ingest these files from hot folders

Then you will need to update your `autoingest.xml` config files by adding `<altdatastream>` sub-node tags after the preferences options (but before the preferences end tag), as shown in the following example:

```

<autoingest>
  <preference
    directory="C:\auto-ingest-folder"
    sleepinterval="60"
    includesubdirectory="Y"
    dbconnection="DB_CONN"
    username="INGEST_USER"
    metadata="C:\Program Files\Telescope\mimix.xml"
    looktimes="3"
    migrationpolicy="auto-ingest-policy"
    filebrokername="FBROKER"
  >
    <altdatastream name="AFP_Resource" />
    <altdatastream name="AFP_Info" />
  </preference>
</autoingest>

```

The `altdatastream` tag directs the Ingest Broker to monitor the data size of the named alternate streams in addition to the primary file size when determining if a file is ready for ingest. In the above example, the following data streams are specified: "AFP\_Resource," which is commonly used to store the Resource fork

information for a file coming from the Macintosh, and “AFP\_Info”, which contains metadata about the files. Check with your system administrator to determine if these or other data streams may be required.

### **batchsize**

Default: 10

Defines the maximum number of files submitted for processing in a given job request (as opposed to the `workers` setting, which defines the maximum number of concurrent job requests). A higher batch size decreases the overhead for the total set of ingest operations for a large number of incoming files, but also increases memory usage. This setting is ideal when there are large numbers of small files. If you are occasionally ingesting smaller numbers of large files, consider using the `batchthreshold` parameter in addition to ensure large files are distributed one by one.

### **batchthreshold**

Default: 0

In cases where a small number of large files are dropped into the hot folder, the benefits of increasing the number of workers may not be realized if the large files are batched up and sent to only one or two workers. The `batchthreshold` value sets the minimum number of pending files that must be in the queue before files are batched. If there are fewer files than this threshold in the incoming queue, those files are distributed to workers one by one to maximize processing concurrency.

### **dbconnection**

Specifies the database connection name. The Ingest Broker uses this name to get the connection information from the Telescope Connection Broker. This parameter is case sensitive.

### **directory**

Defines the absolute full path to the hot folder. The user running the Ingest Broker service must have read/write permissions to the hot folder.

### **errors**

A comma-delimited list of Telescope users who will receive notifications of any file that completely fails to ingest. If this list is empty, no notification will be sent to any user (not even the user assigned as the importing user).

### **filebrokername**

An optional preference that only applies when there is a File Broker running on the same machine as the Ingest Broker. The value should be the name of the machine running the File Broker (**not** the File Broker IP address). This name must be in all capital letters; for example, `filebrokername="FBROKER"`. If not specified, the host name of the machine running the Ingest Broker is assumed.

If there is a binding name for the File Broker (the one running on the same host as the Ingest Broker), the `filebrokername` preference should be set to that binding name (rather than to the machine name). The File Broker binding name is set by the Telescope registry key `BINDING_NAME` (see the Registry keys appendix).

### **includesubdirectory**

Specifies whether the Ingest Broker needs to scan the subdirectories of the hot folder. This parameter configuration is either “Y” or “N”.

### **looktimes**

When a change to a file is identified (for example, a different file size or different time stamp), this setting determines the number of sleep interval cycles that will pass, without any further changes to the file, before ingestion occurs. This setting is useful for ensuring changes to large files are completed before the files are ingested, thereby optimizing performance. If your environment requires quick ingestion updates and performance is less critical, you may consider lowering this setting from the default of 2.

#### **metadata**

Defines the location of the MIMix file that contains the metadata values that are assigned to the asset during ingestion from the hot folder. For example:

```
<MIMIX>
<ASSET>
<FIELD DISPLAYNAME="record_id" NAME="editorial.record_id" TYPE="char">Test Record
ID</FIELD>
<FIELD DISPLAYNAME="Author" NAME="editorial.author" TYPE="char">Test Author</
FIELD>
<FIELD DISPLAYNAME="Project Name" NAME="editorial.pname" TYPE="char">Test
Project</FIELD>
</ASSET>
</MIMIX>
```

#### **migrationpolicy**

Specifies the default migration policy that is applied to assets ingested from the hot folder. The group to which the username belongs must have view permission to the migration policy specified.

#### **sleepinterval**

Ingest Broker periodically scans the hot folder for new files or changes to existing files. The `sleepinterval` attribute specifies the scan interval time in seconds. When a new file is detected, or a file is detected with a different file size or different time stamp, the changed file is not ingested until after a number of sleep interval cycles (as determined by the `looktimes` option) have passed without further changes being detected.

#### **username**

Specifies the valid Telescope user name used to add access history information. The Migration Policy must be visible to the group to which this user belongs.

#### **workers**

Default value: 2. Maximum value tested: 10. (In releases before 9.2.1, this setting was fixed at "1".)

This setting defines the number of ingest workers that can be used by this hot folder. Increasing this number will increase the number of concurrent ingest requests submitted to the Ingest Broker (but will also increase memory usage). Increasing the number has shown progressive improvement in throughput for ingesting large numbers of smaller files, even by a modest amount (say to 4).

There is an Ingest Broker registry setting that caps the number of workers available for processing (`MAX_NUMBER_OF_WORKERS`). (See "Telescope Registry Keys" in the *Telescope Installation and Configuration Guide*.) This setting would need to be at least as large as the expected number of active worker requests from all configured hot folders to avoid a bottleneck. (The default for that maximum is unbounded.)

## **13.2.4 Concurrency Scenarios**

To illustrate how the different concurrency parameters impact performance and load, consider the following scenarios showing various settings, and how they will be processed.

Number of incoming Files	Number of Workers	Batch Size (batchsize)	Batch Threshold (batchthreshold)	Ingest Behavior
100	5	10	0	10 files will be pulled at a time and submitted per job until all 5 worker jobs are full. The first 10 files will go to the first worker, the second 10 to the second worker, and so on. As each worker finishes, another 10 will be submitted to a worker until all files are processed
100	5	1	0	Files will be pulled one at a time, each submitted as its own job, with up to 5 jobs processed concurrently. As each job finishes, one more file will be submitted. Overhead is greater than the prior configuration, and performance will be poor for files that are not very large.
10	5	10	0	All 10 files will be pulled in and submitted as one job, each processed serially, leaving the other 4 workers idle.
10	10	1	0	One file will be submitted individually to each worker All 10 files will be processed simultaneously by all 10 workers.
10	5	10	10	Because the number of files is not past the threshold, each of the files will be processed in individual jobs, with up to 5 files processed concurrently. Better for large files.
100	5	10	10	10 files will be pulled at a time and processed in batches of 10 to each of the 5 workers. As workers get freed, new batches of 10 will be submitted until the incoming queue drops below the threshold, at which point the files will then be submitted individually per worker.

### 13.2.5 Failure Cases

There is a new hot folder setting called *errors* to which can be assigned a comma-delimited list of users which will receive notifications of any file that completely fails to ingest. If this list is empty, no notification will be sent to any user (not even the user assigned as the importing user).

Files that fail ingest will be moved into the following location for holding until someone can address the issue:

```
\Your_hot-folder\.Ingest Folder\FAILED\
```

## 13.2.6 Broker Shutdown / Resume

If a set of hot folder ingests are in progress, the following actions will happen if the Ingest Broker is cleanly shut down:

- ◆ Any files that have not been moved into processing and are still sitting in the top-level hot folder will be scanned again on restart as before, and ingested normally.
- ◆ Any files that have been moved into processing (moved into the Ingest Folder) and have already been submitted for Ingest will finish ingesting and hold up the shutdown process until they are done.

Larger batch sizes and workers configured will mean that the time it takes for a shutdown to finish may be longer as it waits for active requests to complete.

- ◆ Any files that have been moved into processing, but have not yet been submitted into active ingest will be put on hold and resume after the Ingest Broker restarts.

As a technical note, in part to support the that last point for on-hold files, customers may notice a new subfolder inside of the Ingest Folder called “ProcessQueue”. The data contained in this subfolder represents the pending jobs and should not be removed if there are pending files. If there are no pending files and the Ingest Broker is shut down, this subfolder can be safely removed. (It will be re-created next time.)

## 13.2.7 Enable Long Asset Filename Support During Ingestion

Telescope enables ingestion of files with names longer than 64 characters. This functionality is useful for clients who may require a fully-qualified path name for asset names on ingestion.

The maximum filename length allowed depends on the operating system of the File Broker. This filename length can be configured by the administrator to prevent users from ingesting files that could not be stored on the File Broker due to operating system limitations.

To change the filename length, log on to the web application server and use a text editor to edit the following options in the `Telescope\Applications\tweb.woa\Contents\Resources\Properties` file.

### **ts\_file\_import\_root\_location\_required=false**

(False by default. Set to False if property not included.) When set to True, the full file directory structure is preserved when importing files using drag and drop or the batch navigator to the Ingest Broker. The full path may be required, for example, by an import functional rule to consistently extract information from a known folder structure.

### **ts\_file\_import\_root\_location\_length\_for\_windows=128**

(128 by default. Set to 128 if property not included.) The maximum filename length for asset file locations. It is recommended that this value not be increased above 128 due to Windows operating system restrictions, which limit file location strings to 260 characters. The additional characters are required by Telescope for other web staging information (such as File Broker name, Share name, user name, Session ID, and timestamp).

---

**NOTE:** When you upgrade to a new version of Telescope, the changes you make to the `Properties` file are not preserved. Be sure to back up this file before you upgrade, so that you can refer to it.

---

## 13.3 Manifest Ingests

Manifest ingests allow you to copy files to the final destination on the File Broker and ingest them in-place (avoiding the intervening hot folder step).

A "manifest" hot folder can be configured to only look for a special manifest file. This file is not a file to be directly ingested, but contains a list of files that should already exist on a File Broker and can simply be ingested from there into the Telescope database.

Manifest folders can be configured like other hot folders, with the following values set to trigger the behavior:

```
migrationpolicy=""  
filebrokername="MANIFEST"
```

In this case, the hot folder only looks for names like "manifest\*.txt," such as "manifest.txt" or "manifest1.txt."

The contents of this file need to include the File Broker name and the share name where the files are located, followed by a list of the file names, as follows:

```
#optional comment lines to be ignored start with #  
FILE-BROKER-NAME  
SHARE-NAME  
File1.jpg  
File2.gif  
Sub-folder1/file3.tiff  
Folder2\sub-folder3\file4.psd  
Etc...
```

Where the files are listed in their location relative to the File Broke Share folder. Both forward (/) and backward (\) slashes are acceptable as path separators. The file should be encoded in UTF-8.

## 13.4 The Graphics Broker Test Utility

### 13.4.1 Overview

GBTest (Graphics Broker Test) is a stand-alone console application available for testing functionalities of the Telescope Graphics Broker. It is useful tool for testing hot folder ingestion.

This tool invokes the Graphics Broker's GBWorker daemon to perform operations specified in a script file. These operations include generating an image preview of a specified asset, getting the properties of a specified asset, or checking if a specified file extension is supported by the Graphics Broker.

For the preview function, an I-Piece (PDF, ImageMagick, and so on) is invoked to create an image preview; in this case, the asset has its properties updated in the Telescope database.

### 13.4.2 System Requirements

You can run `gbtest.exe` on any Microsoft Windows machine with the following configuration:

- ◆ It must be located within the firewall so it can access the Graphics Broker.  
If you run it on a server different from the Graphics Broker server, you need to copy the following files to that server from the Telescope hub install directory:

```
OMNIORB416_VC10_RT.DLL
```

```
OMNITHREAD34_VC10_RT.DLL
```

- ◆ You need to install the Visual C++ 2010 IDE (VC10) redistributable, if it is not already installed on the machine (there is no harm in installing it multiple times if you are not sure).

This redistributable can be found in a Telescope installer bundle, here:

```
....\Resources\vc10redist_x86.exe
```

- ◆ There is no need to have the I-Pieces running concurrently with this tool.

### 13.4.3 How to Use GBTest

- 1 Create the script file. See [Section 13.4.4, "Create the GBTest Script File," on page 184](#)
- 2 Go to a Windows command line.
- 3 In the command dialog, change the directory to the one that contains the GBTest executable.
- 4 Enter `GBTest` followed by the location and name of the script file. For example:

```
GBTest TestScript.txt
```

- 5 Specify additional parameters as necessary, as described below.
- 6 Run the command.

The output will appear on the screen (unless you use the `Log_file` parameter). Alternatively, you can redirect the output to a file:

```
GBTest TestScript.txt > Output.txt
```

## GBTest Parameters

- ◆ If you run GBTest without specifying any parameters, you will see a list of possible parameters.
- ◆ The script file parameter is mandatory. See [Section 13.4.4, "Create the GBTest Script File," on page 184](#) to find out how to create a script file.
- ◆ `thread` (integer) — The number of threads. If this value is not specified, one thread will be used.
- ◆ `Loop#` (integer) — Number of times the script will run. If this value is not specified, the script will run once.
- ◆ `log_file` (file name) — File name and path to the log file. If no path is specified, the file is placed in the same folder as the GBTest command. If this parameter is missing, the output is displayed on the screen only.

---

**NOTE:** If you decide to use them, you must include both the `thread` and the `Loop#` parameters (so that the numbers you specify can be matched to the correct parameter):

---

## GBTest Command Example

In the following example, GBTest will read the script file named `gbtest.script`, which is located in the same location as the executable is being run. Two (2) threads will be used, and the script will be run once (1). It will store the results in a file called `log_txt`, also in the same location as the executable.

```
gbtest.exe gbtest.script 2 1 log_txt
```

## 13.4.4 Create the GBTest Script File

The script file is a list of commands that are executed against the Graphics Broker when you run the GBTest utility.

### Script File Commands

The script file should begin with the `servicing_host` line (to identify the Graphics Broker):

- ◆ `servicing_host`: The name of the Graphics Broker. Required as the first line of the script file.

Then you can include any of the following commands in any order or combination:

- ◆ `configuration`: Returns some basic configuration information, including the version number, a subset of supported file types, maximum number of workers, timeouts. Note that not all supported file types may be shown.
- ◆ `gbping`: Calls the `GBPing()` method on the Graphics Broker and returns a test string to indicate the Broker is running.
- ◆ `getstatus`: Returns some basic status information, including worker status, time the Broker was started, number of files processed.
- ◆ `ping`: Calls the `Ping()` method on the Graphics Broker and returns a test string to indicate the Broker is running.
- ◆ `preview`: Generates an image preview of a specified asset. You need to use all of the following to identify the exact asset: `record_id`, `rendition_id`, `connection_name`.

Syntax:

```
preview: record_id rendition_id connection_name
```

- ◆ `property`: Gets the properties of a specified asset. `Host name`, `share_name` and `path` must match the settings in Telescope Administrator. `Metadata` indicates if MIMiX metadata is to be returned (0 for no, or 1 for yes).

This command does not support files with spaces in names or directory names.

Syntax:

```
property: host@share_name@@@path+file connection_name metadata
```

- ◆ `support`: Checks if a specified file type extension is supported by the Graphics Broker.

## Usage Notes

- ◆ If you don't want to include a line in a script file, for instance for temporary testing purposes or just for adding comments, you can comment it out by adding `#` at the beginning of the line. For example:

```
#support: xdoc
#This is a comment
```

- ◆ For commands with no parameters, a space must follow the colon ("`_`" means a space in the example below):

```
ping:_
```

- ◆ The Hub used is the one specified by the `omniORB` global `initRef` value.

## Script File Example

```
serving_host=DEV-TS90-001 gb_instance=*
# --- supported file type ---
support: JPEG
gbping:
getstatus:
ping:
configuration:
# --- create preview ---
#preview: rec_id rend_id conn_name
# Example:
preview: 2568 3 fed_72
# --- get file property ---
#property: file_loc conn_name metadata?[0|1]
# Example:
property: SUN01@samples@@@/xkevin.gif fed_72 1
```



# 14. Functional Rules

This chapter provides information about creating and using functional rules in Telescope.

- ◆ [Section 14.1, "Introduction to Functional Rules," on page 188](#)
- ◆ [Section 14.2, "Create Functional Rules," on page 191](#)
- ◆ [Section 14.3, "Define Test and Response Functions," on page 193](#)
- ◆ [Section 14.4, "Replacement Parameters for Functional Rules," on page 196](#)
- ◆ [Section 14.5, "Challenge Forms," on page 202](#)
- ◆ [Section 14.6, "Error Messages," on page 208](#)
- ◆ [Section 14.7, "Apply Functional Rules to Actions," on page 209](#)
- ◆ [Section 14.8, "Logging Errors from Functional Rules and Customizations," on page 221](#)

# 14.1 Introduction to Functional Rules

## 14.1.1 Overview

Functional Rules provide Telescope Administrators with the ability to add custom logic that is triggered based on an “action” (event) that occurs within Telescope. They are a means to set rules about actions and who can see data. Typically, functional rules are used to verify if the user can perform the action. An exception is the Menu functional rule, which has no action associated with it (rather, it’s the execution of a procedure behind the scenes).

There are 18 separate actions in Telescope that can be configured with a Functional Rule. (For a list, see [Section 14.7, "Apply Functional Rules to Actions,"](#) on page 209.)

When a functional rule is triggered, data is passed to custom logic for processing. This logic can include any number of rules or scripts (called a “rule set”) associated with a particular action. In most cases, the custom logic has the ability to display messages to the user, request information from the user, and even prevent the triggering action from being performed

When the user attempts to perform the action, the rules are executed in sequential order. Different rule sets can be associated with each user group in the Telescope system.

### Uses of Functional Rules

A few examples of how functional rules can be used are to:

- ◆ Enforce asset security
- ◆ Enable workflows / asset lifecycles
- ◆ Perform complex data validations
- ◆ Facilitate system integrations
- ◆ Carry out file distribution
- ◆ Enable asset re-use tracking
- ◆ Produce custom reporting
- ◆ Enable batch processing
- ◆ Force conversions on download
- ◆ Send notifications and alerts

Through replacement tags, functional rules can handle user batch actions such as:

- ◆ Ingestion of multiple files at once
- ◆ Updating multiple assets
- ◆ Deletion of multiple assets

## 14.1.2 Types of Rules

Functional rules can be one of the following types:

- ◆ **Metadata:** These functional rules check whether metadata updates are appropriate and allowed. They are used to validate metadata entered and/or modified and/or deleted from the environment.

- ◆ **User/group:** These rules verify that the requesting user has the appropriate permissions to execute the action. They are applied via either user IDs and/or group IDs.
- ◆ **Assets:** These rules verify if a particular asset can have the action performed on it. This verification takes place by using a stored procedure to query the database and applying business logic to the asset's record ID, then returning a return code indicating if the action can be performed or not.
- ◆ **Menu:** These rules execute a procedure behind the scenes.

### 14.1.3 Components of Functional Rules

Functional rules are made up with the following components:

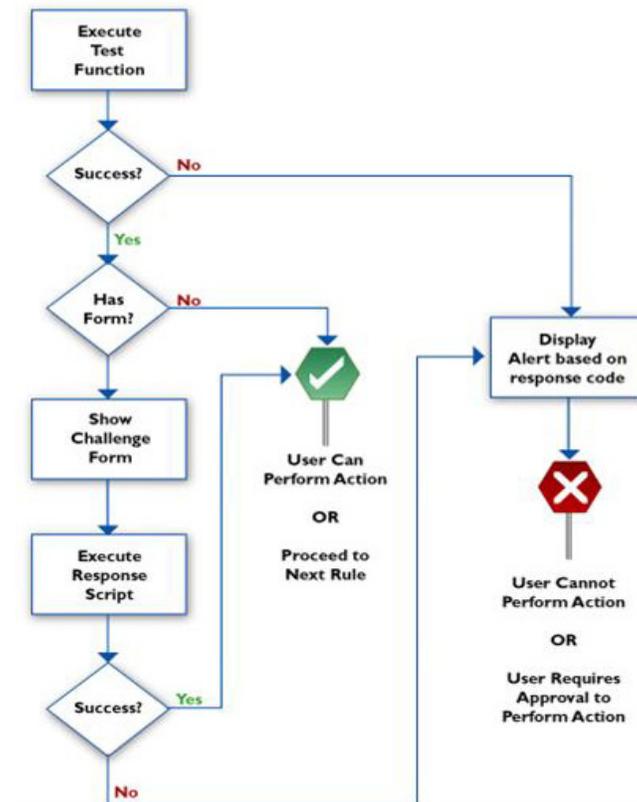
- ◆ A *test function* is the foundation of the functional rule. It is the execution of a query or a stored procedure on the Telescope RDMS to test whether or not the Telescope action can be performed. It returns a code that is evaluated (tested) by Telescope to determine whether or not the requested action is performed. See [Section 14.3, "Define Test and Response Functions," on page 193](#).
- ◆ A rule may contain a *challenge form* that can be presented to the user to obtain more information, depending on the return value of the test function. See [Section 14.5, "Challenge Forms," on page 202](#).
- ◆ A *response function* takes the values returned from the challenge form and determines whether or not the action can continue to be performed. See [Section 14.3, "Define Test and Response Functions," on page 193](#).
- ◆ A *default error message* is presented to the user if the rule fails and no other messages are associated with the returned error code. See [Section 14.6, "Error Messages," on page 208](#).

Additional error messages can be associated with various return codes from the functions. Different return codes permit a single rule to return different error messages depending on the situation.

Every rule must have a Test Function and Default Error Message at a minimum. If a rule has a Challenge Form, then it must have a Response Function as well.

### 14.1.4 Functional Rule Flow

The execution of a rule always has the following flow. Note that the user/group will already have been verified as having access to the rule prior to this flow occurring.



### 14.1.5 Recommended Order of Rules

We recommend you write rulesets that perform actions in the following order:

- 1 Any interactions that require input from users that may prevent the users from accessing the assets
- 2 Any actions that may prevent the interactions from completing (for example, checking the status of assets).
- 3 Any interactions that require input from users that will not affect processing
- 4 Any automated tasks that will always succeed (including messaging)

## 14.2 Create Functional Rules

### 14.2.1 Add Functional Rules

To add a new rule to the Telescope system:

- 1 In TSAdmin, click the *Rules* tab.
- 2 In the Functional Rules page click the *Add* button. The Rule Definition page appears.

**Figure 14.1** Add Functional Rule

- 3 Fill out each rule box (see the table below for more information).

If you click the arrows below each rule box, you will see a list of parameter tags. Clicking on a value will embed a replacement tag within the body of the text area

**Figure 14.2** Example of Parameter Tags for the Test Function.

- 4 Fill out each rule box, then click *Save*.
- 5 When you finish defining a rule, you can implement it by assigning it to one or more functions and user groups. For more information, see [Section 14.7.1, "Assign Rules to Actions and User Groups,"](#) on page 209.

**Table 14.1** *Rule Boxes and Fields in the Functional Rule Definition Panel (and where to find more information)*

Field/Rule Box	Required?	Description
Rule name	Yes	Name the new rule. A name is required and can consist of any alphanumeric characters, including spaces.
Test Function	Yes	Write the SQL query for the test function. The SQL query must conform to the function descriptions explained in Defining Test and Response Functions. See <a href="#">Section 14.3, "Define Test and Response Functions," on page 193.</a>
Challenge Form	No	If a challenge form is required, provide the XML that manages the form. See <a href="#">Section 14.5, "Challenge Forms," on page 202.</a>
Response Function	Yes, if there is a challenge form.	If you use a challenge form, provide the SQL code that determines what Telescope does with the results returned from the challenge form. See <a href="#">Section 14.3, "Define Test and Response Functions," on page 193.</a>
Default Error Message	Yes	Provide a default error message, which is displayed to the user if the rule fails (and no further messages are associated with the returned error code). Provide additional error messages, if required, that can appear in response to particular return codes. See <a href="#">Section 14.6, "Error Messages," on page 208</a>
Save	Yes	Save the rule by clicking <i>Save</i> . The rule is validated and saved to the database. The functions are test-validated and, if a challenge form has been defined, its XML is parsed for validity.

## 14.2.2 Delete Functional Rules

To delete a functional rule:

- 1 Select the checkboxes next to the rules you wish to delete in the Functional Rules page. To select all of the rules on the page, select the checkbox at the top of the column.
- 2 Click *Delete Selected*.  
Click *OK* in the confirmation dialog.

## 14.3 Define Test and Response Functions

### 14.3.1 Constructing Test and Response Functions

The test function and response functions both take the form of a Select SQL statement that must return a single integer value (*return code*). A return value of zero is considered “success”. A return value other than zero (with the exception of -5) is considered “failed”.

The statements must be constructed so that they can be parsed correctly by your Telescope DBMS (that is, as either MS SQL Server or Oracle statements).

A simple test function could be (for SQL Server): `SELECT 0` (This Test Function would always “succeed”). Conversely, the following Test Function would always “fail”: `SELECT -11`

Other than these simple examples, typically Test and Response SQL scripts are executed by Telescope on the DBMS. For example (for SQL Server):

```
select count(*) from doc_renditions where file_name like 'blah%'
```

This is a Select statement that returns an integer value. In this case, only one row is returned, but if the Select statement were written to return more than one row, Telescope would only fetch the first row and the fetched integer value would be used as the return code from the function. Note that returning more than one row can result in strange behavior within Telescope. (If there are multiple rules in a rule set, the next rule might pull the next value in the buffer that was returned by the previous rule.) It is best to ensure that only one row is returned at all times.

More often, a stored function (or stored procedure in some DBMS brands) is used to generate the return code. For example (for Oracle):

```
select check_approval(<!record_id!>,<!asstat!>,<!users.user_name!>) from dual
```

This is an SQL statement that uses the stored function `check_approval` to check the asset’s status (a metadata field, defined by the Telescope administrator) and the user’s privileges, and returns an integer value that is used as the return code.

### 14.3.2 Return Codes

Each test script should return a single integer value as a result of the Select statement. This value governs what happens as a result of the script’s execution. The following return values are possible:

Return Code	Description
0	The function succeeded. If it’s a Test function, the challenge form, if there is one, is shown. If there is no challenge form or if it’s a Response function, the rule is successful and control passes to the next rule in the rule set. If there are no more rules, the user is allowed to perform the requested action.

Return Code	Description
-1	<p>The function failed.</p> <p>When handling rule sets of one asset, processing of the rule and the rule set halts, and the user is presented with the default message text for the rule, and the user is not permitted to perform the requested action.</p> <p>This return code is designed for rule sets defined as individual assets, not as batches. For handling batches, use -4 instead. (If -1 is used for batches, the function will fail for the first asset but will continue for the rest of the assets in the batch.)</p>
-2	<p>The function fails, and the user is informed that approval is required before the requested action can be attempted again.</p> <p>Processing of the rule is directed to the Import/Copy/Delete approval process, and the appropriate approval dialog box is shown.</p> <p>If there are other rules assigned to fire after this rule (for the same event), those rules are not fired and all rule processing stops.</p>
-3	<p>This return code could be returned by test or response functions, and is also returned if the user clicks 'Skip' on the challenge form. It indicates that the function has failed, but no error message is displayed at all. If this is a batch action (multiple assets being affected), the system moves on and fires the rules for the next asset in the batch</p>
-4	<p>This return code is returned by test or response functions, and is also returned if the user clicks 'Abort' on the challenge form. It indicates that the function has failed, but no error message is displayed.</p> <p>If this is a batch action (multiple assets being affected), the remainder of the batch of files being processed fail immediately, so this return code has the effect of canceling the entire batch.</p> <p>Designers of functional rules are cautioned that returning this result code from a test or response function causes confusion for the user because the entire batch of files beyond the current one is canceled, but no message is displayed.</p>
-5	<p>This return code, when returned from a test function, indicates that the rule should immediately succeed (as though the test function returned 0) and permit the user to perform the desired action without displaying the challenge form, if there is one.</p> <p>One use for this return code is in the situation where a challenge form has been displayed for the first item in a batch download. With authorization already established for all subsequent items, no further challenge forms are needed.</p> <p>This return code should not ever be returned from a response function, but if it is, it is treated as a standard failure, with appropriate error message handling.</p>
Any Other Value	<p>The function failed. Processing of the rule and the rule set halts, and the user is presented with an appropriate error message (depending on the value), and the user is not permitted to perform the requested action. If there is no specific error message to match the function's return value, the default error message is shown.</p> <p>You can associate error messages with additional result codes by clicking the More Error Messages button. For details, see <a href="#">Section 14.6.1, "Add Additional Error Messages," on page 208</a>.</p>

### 14.3.3 Stored Procedures

Stored procedures are created within the Telescope DBMS, and perform a piece of “logic” that can be used over and over again to query the database. As with test functions, stored procedures must return an integer value.

Advanced stored procedures can perform evaluations, lookups, queries, and calculations far more complicated than the examples presented here. For help with setting up advanced stored procedures for your Telescope system, contact North Plains Professional Services.

#### Simple Stored Procedure Example

The following stored procedure (`my_procedure`) returns a value of -11:

```
create procedure my_procedure as
begin
return -11
end
```

#### Test Function with Stored Procedure

The structure of the Test Function calling the above stored procedure would be the following. The select statement will return a value of -11 (meaning an error message will be shown to the user, assuming an error message has been defined for return code -11).

```
set nocount on
declare @x int
exec @x=my_procedure
select @x
set nocount off
```

## 14.4 Replacement Parameters for Functional Rules

Use replacement parameters (also called tags or placeholders) to pass variable data to functional rules. Before a functional rule is executed, the replacement parameters in the script are replaced with their actual values. Replacement parameters can also be used in the definition of the challenge form to customize the form.

---

**NOTE:** The set of replacement parameters for functional rules differs from those for Where clauses, which are described in [Section 9.5.3, "Replacement Parameters for Where Clauses,"](#) on page 113.

---

### 14.4.1 Replacement Parameter Syntax

#### Basic Syntax

Normal parameters are available as a part of most section of the functional rule creation. The various types of replacement parameters are described in later sections. Example of syntax (for a field in the editorial table):

```
<!fieldname!>
```

---

**NOTE:** Special replacement parameters are used for variables created within challenge forms, and are only used by response functions. An example of their syntax is: <!#name#!> For more information, see [Section 14.5.1, "XML Tags for Challenge Forms,"](#) on page 202.

---

#### References to Fields not in the Editorial Table

If your organization uses additional field names to define users and they have been added to any table registered in Telescope with a record\_id column, you can include them in the rules using the following syntax:

- ◆ <!fieldname!> - takes the fieldname from the editorial table
- ◆ <!users.fieldname!> - takes the fieldname from the users table
- ◆ <!tablename.fieldname!> - takes the fieldname from any external table that is registered in Telescope with a record\_id column

---

**NOTE:** Prior to Version 9.3.0, parameter names did not include table names, and assumed that all user, group, and other names came from the users table. If you configured a functional rule to pass user name or user group, be aware that you need to explicitly add the table name prefix. For example, <!users.user\_name!> rather than <!user\_name!>.

---

#### Array Notation

An “array” notation can be used in the parameter replacement to obtain file-related data. For example, to get the file type of the file for rendition ID 1, the replacement parameter used would be <!file\_type[1]!>. The array notation can be omitted, in which case, the default rendition is used, which is defined as either the rendition that is being acted on by the user or the lowest numbered visible rendition, depending on the situation.

---

**NOTE:** If you choose to use array notations, you may need to remove square brackets ( [ ] ) from the list of blacklisted characters. Edit the file `\Telescope\Applications\tsadmin.woa\Contents\Resources\Config.plist` and in the "blackListForExpressions" section, remove the square brackets from the META\_CHARACTER line.

---

## 14.4.2 Replacement Parameter Use

Replacement tags are populated differently depending on the type of functional rule being executed. The following table lists replacement parameters that are specifically used by particular functional rule types. They are not required for these rule types, but if used they are relevant only to that functional rule type.

The order of the functional rule types listed below is based on the Rule Group Assignment page in TSAdmin. For details on these functional rule types, see [Section 14.7, "Apply Functional Rules to Actions," on page 209](#).

Functional Rule Type	Replacement Parameters Relevant Only to this Type	Notes
Metadata	Replacement parameters for all metadata fields	Updated fields are populated. <ul style="list-style-type: none"> <li>◆ If the field was cleared, a single space is passed.</li> <li>◆ If there is new data, the new value is passed.</li> <li>◆ If fields have not been changed, they are passed as empty strings. The rule designer is expected to go to the database to retrieve existing values.</li> </ul>
Import (Pre-flight) Import (Post-flight)	Replacement parameters for all metadata fields	All fields are populated from imported data and specified metadata fields.
Order	<!order_id!>	The order ID is passed, based on the order request. The user/group is also passed for authorization checks.
Conversion	<!file_type!>	The file type is passed for the file type to be downloaded, based on the conversion request of the user. The user/group is also passed for authorization checks.
Add to Collection Remove from Collection Access Collection	<!catalog_id!>	The collection (catalog) ID is passed, based on which collection was chosen by the user.
Menu	<!selected_ids!>	The record IDs selected from the menu are passed. The user/group is also passed for authorization checks.
Login	<!site_name!>	The site name is passed.

### Notes

- ◆ Functional rule types not listed above do not have any replacement parameters that are specific to their rule type. They can access relevant information about the asset or the user directly from the RDMS using replacement parameters such as <!user\_class!>, <!record\_id!>, <!rend\_id!>, <!user\_name!>, <!user\_group!>, and so on.

- ◆ Parameter replacement is completed before the script is executed. For the Test and Response scripts, parameters are replaced before the SQL is sent to the server for execution. When parameter replacement tags appear in the challenge form definition (which is in XML), the parameter replacements are performed before the XML is parsed to create the form.
- ◆ In the event that a field with the given name cannot be found (either because it does not exist or because the user does not have permission to see the field), the replacement parameter is replaced by an empty string.

### 14.4.3 General Information Parameters

The following replacement parameters provide general information about the user, the user's session, and what the user is doing within the environment at the time:

**Table 14.2** *General Information Parameters*

Syntax	Description	Details
<!users.user_name!>	User name	Replaced by the user's user name (located in the users table).
<!users.user_group!>	User group	Replaced by the name of the user's group (located in the users table). Note: this field is named "member_of" in the users table in the Telescope database, although it appears as "user_group" in the TSAdmin interface.
<!users.user_type!>	User type	Replaced by the user's user type, which is actually the contents of the userclass field in the user's record in the users table, as follows: CP = Power User CB = Browse and Download User CU = Concurrent User
<!ts_site!>	Site name	Signed-in site name
<!catalog_id!>	Collection ID	This replacement tag is only valid for the Add To Collection (Catalog) functional rule and is the unique ID field from the m_lightboxes table of the collection to which the asset is being added.
<!selected_ids!>	Select IDs	Array of the record ID selected by the user  Used for the Menu functional rule only. This tag passes a comma delimited list of record_id's that have been selected by the user when the Menu functional rule is called.

### 14.4.4 Metadata Parameters

There is a set of standard fields that are always working in a <!name!> parameter replacement, regardless of the metadata model. They are file-specific information tags that can be used with the array representation (for example, <!file\_name[1]!>). These parameters represent aspects of asset metadata, and are built into the Telescope system.

**Table 14.3** *Built-in Metadata Parameters*

Syntax	Description	Details
<!record_id!>	Record ID	Replaced by the numeric record_id value of the document that the user is working on.
<!rend_id!>	Rendition ID	The rendition ID.
<!file_name!>	File Name	The name of the file, without directory information.
<!long_name!>	File Path	The path to the file. This path is in a platform-specific format and should be used only for display purposes, not for locating the physical file.
<!file_size!>	File Size	The size, in bytes, of the physical file.
<!file_type!>	File Type	The four-character file type code for the file.
<!file_info!>	File Info field	The contents of the document's file_info field, which is typically set by the I-Piece itself when the file is acquired. The format of this text string is I-Piece-dependent.
<!create_date!>	Creation Date	The date and time when the file was created, according to the native file system.
<!mod_date!>	Modification Date	The date and time when the file was last modified, according to the native file system.
<!doc_open_timestamp!>	Timestamp	The time the file was opened, available for the Change Metadata actions (including Change Multiple). It has the same format as a standard date/time field (typically, a string). Note that in "preflight" methods, the timestamp returned is before any metadata changes occur.

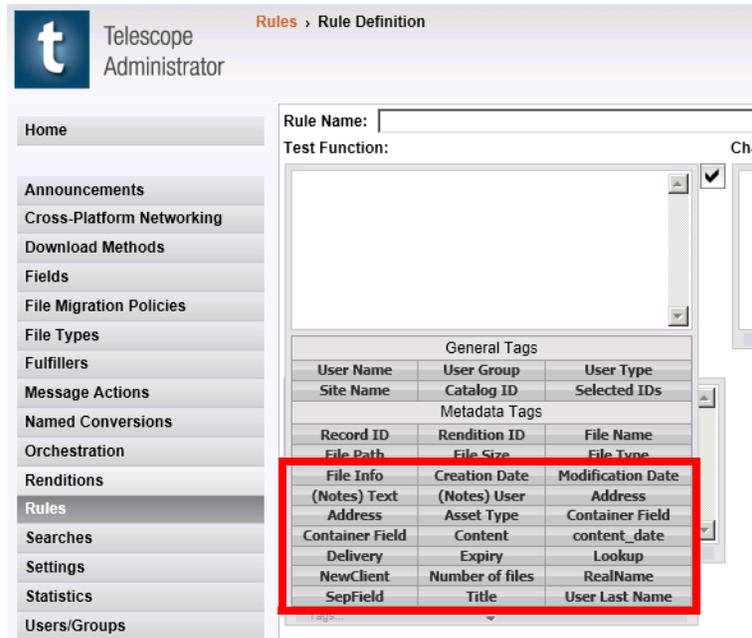
### Customer-Defined Metadata Fields

Customer-defined metadata fields can also be used as replacement parameters, as long as they are defined in the Telescope editorial and extra\_columns tables. Some examples of customer-defined metadata fields could include:

- ◆ Asset Owner <!asset\_owner!>
- ◆ Test Date <!test\_date!>
- ◆ Country <!department\_country!>

These metadata fields appear automatically in TSAdmin Rules interface, under Metadata Tags, as shown in the following image.

**Figure 14.3** Example of Customer-Defined Metadata Tags Available in TAdmin



### 14.4.5 Process Control Replacement Parameters

Process control functions occur when batch files are being processed. The following replacement parameters are available:

**Table 14.4** Process Control Parameters

Syntax	Description	Details
<!batch_count!>		Replaced by the number of files in the current batch. This tag is replaced by a numeric value, and is always greater than zero. This indicates the number of times the functional rule is called by the client. For example, if a user updates two assets, the <!batch_count!> is "2" and the functional rule is called twice.  Note: If a user copies three assets and they have their 'copy/move/checkout' rendition setting set to both renditions 1 and 2, it would be logical to assume that <!batch_count!> would be 6 (3 assets * 2 renditions), however, if one of the assets does not have an entry for rendition 2, the 'copy files' Functional Rule is only called five times (once for each file actually copied), so <!batch_count!> should be 5 for this batch, not 6. In general, the value of <!batch_count!> is the number of times the Functional Rule(s) are actually called during the processing of the batch.
<!batch_id!>		Replaced by an unique ID for the batch action executed by the user. All actions are considered to be a batch even if the user only executes an action against a single asset. In this case, the action is considered to be a batch action of one.

Syntax	Description	Details
<!batch_index!>		Replaced by the index of the current file in the batch. This tag is replaced by a numeric value, and is in the range of 1 ... n, where n is the value obtained with the <!batch_count!> tag. When files are processed in a batch and a functional rule is called, the files are processed in order with respect to the <!batch_index!> value. That is, if 3 files are selected in a batch operation then the functional rule is called three times with <!batch_index!> values of 1, 2, 3... in that order.

---

**IMPORTANT:** When executed in a batch, a Functional Rule assumes that for a given <!batch\_id!>, the values for <!batch\_index!> begin at 1, and are increased until <!batch\_index!> = <!batch\_count!>. Care is taken to ensure that the values calculated for <!batch\_index!> and <!batch\_count!> adhere to this property.

---

## 14.5 Challenge Forms

A challenge form is presented to users to obtain more information from them. The contents of the challenge form may vary depending on the return code of the functional rule's test function.

To define a challenge form, add the code presented in this section into the Challenge Form section of the Rule Definition page.

The challenge form is defined by and stored in the database in static XML, which can be parsed by both the native and web clients to produce appropriate displays on their respective platforms. The length of the XML text cannot exceed 4000 characters for a single form, and only one form can be configured per rule.

### 14.5.1 XML Tags for Challenge Forms

The following XML tags are available for building a challenge form.

**Table 14.5** *Process Control Parameters*

Syntax	Description	Details
	Challenge Form	Apply challenge form start and ending.
displayattrs	Display attributes	Define header and response buttons.
caption_fld	Caption	Apply tags to present text captions for defined challenge form fields (display only).
txtfld	Text	Create a text field.
popupfld	Popup	Create a popup field.
checkboxfld	Check Box	Create a checkbox field.
pwdfld	Password	A special kind of text field to hide the password as it is typed into the challenge form.
<!#field#!>	Replacement Parameters	Special Replacement Parameters for Challenge Forms are only used by the response function and defined by the customer with the Text, Popup and Check Box definitions from above. See the next section for examples.

### 14.5.2 Special Replacement Parameters for Challenge Forms

Special replacement parameters are used for variables created within challenge forms. Challenge form output parameters can only be used by response functions. Because they are defined in the challenge form, they do not necessarily need to be defined in the Telescope DBMS.

Syntactically, these parameters contain a pound sign (#) in addition to bang signs (!). For example, <!#name#!> For this example, the user enters values into named fields in the challenge form and these values are then passed into the response function. In the event that a form field with the given name does not exist in the challenge form, the replacement parameter is replaced by an empty string.

Other examples of fields that might be created in a challenge form:

- ◆ <#!#purpose#!> Defined in the challenge form as a text field to capture the purpose of an action.
- ◆ <#!#billable#!> Defined in the Challenge Form as a check box to capture if the action is billable.
- ◆ <#!#Password#!> Defined in the Challenge Form and contains the contents of the password field

### 14.5.3 XML DTD for the Challenge Form

The following XML DTD represents the challenge form definition:

```
<!ELEMENT challengeform (displayattrs?, txtfld*, popupfld*, chkboxfld*, captionfld*, html*)>
<!ELEMENT displayattrs EMPTY>
<!ATTLIST displayattrs
    heading CDATA #IMPLIED -- optional display heading text
    submit CDATA #IMPLIED -- optional submit button text
    skip CDATA #IMPLIED -- optional skip button text
    abort CDATA #IMPLIED -- optional abort button text
>
<!ELEMENT txtfld EMPTY>
<!ATTLIST pwdfld
    name CDATA #REQUIRED -- name for replacement
    title CDATA #REQUIRED -- displayed name
    length CDATA #IMPLIED -- opt number of characters
    filter CDATA #IMPLIED -- optional filter string
    initval CDATA #IMPLIED -- optional initial value
    <property name="encrypt" xmlTag="encrypt"/>
</entity>

<!ATTLIST txtfld
    name CDATA #REQUIRED -- name for replacement
    title CDATA #REQUIRED -- displayed name
    length CDATA #IMPLIED -- opt number of characters
    filter CDATA #IMPLIED -- optional filter string
    initval CDATA #IMPLIED -- optional initial value
    title CDATA #REQUIRED -- displayed name
    length CDATA #IMPLIED -- opt number of characters
    filter CDATA #IMPLIED -- optional filter string
    encrypt CDATA #IMPLIED -- optional initial value
>
<!ELEMENT popupfld (popupvalue+)>
<!ATTLIST popupfld
    name CDATA #REQUIRED -- name for replacement
    title CDATA #REQUIRED -- displayed name
    initval CDATA #IMPLIED -- optional initial value
```

```

>
<!ELEMENT popupvalue EMPTY>
<!ATTLIST popupvalue
    name CDATA #REQUIRED -- displayed name
    value CDATA #IMPLIED -- value if different
>
<!ELEMENT chkboxfld EMPTY>
<!ATTLIST chkboxfld
    name CDATA #REQUIRED -- name for replacement
    title CDATA #REQUIRED -- displayed name
    initval (0|1) "0" -- optional initial value
>
<!ELEMENT captionfld (#PCDATA)>
<!ELEMENT html (#PCDATA)>

```

## Example Challenge Form Definition in XML

A valid challenge form definition in XML would look like this:

```

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<challengeform>
    <displayattrs heading="For asset '<!file_name!>', please answer the following questions
before downloading:" submit="OK" skip="Cancel" abort=""/>
    <txtfld name="purpose" title="Purpose of Download:" length="255"/>
    <popupfld name="project" title="For Project:" initval="Some Title">
        <popupvalue name="YourCompany." value="YC"/>
        <popupvalue name="CompanyName" value="CompanyName"/>
        <popupvalue name="AcmeCo" value="ACO"/>
        <popupvalue name="WidgetThings" value="WT"/>
    </popupfld>
    <chkboxfld name="billable" title="Billable?"/>
</challengeform>

```

This challenge form contains the `<!file_name!>` parameter replacement tag in the `<displayattrs/>` heading attribute. Telescope performs this parameter replacement in the text before attempting to parse the XML.

An example of this challenge form would look like this:

For asset 'TorontoCanadaHarbor.JPG', please answer the following questions before downloading:

Purpose of Download:

For Project:

Billable?

Cancel OK

## 14.5.4 Challenge Forms in HTML

HTML is supported within the XML shell, with the following requirements/limitations:

- ◆ The HTML code has to be placed inside an `<html>...</html>` container.
- ◆ The following HTML tags are supported: `div`, `span`, `pre`, `img`, `br`, `a`.
- ◆ Styles, classes, IDs and names are supported.
- ◆ Any possible properties including JavaScript are supported.
- ◆ Other tags (inputs, tables, etc.) are not supported.
- ◆ Ensure `escapeHTML = false;` in the following file:  
C:\TeleScope\Applications\tswb.woa\Contents\Resources\ChallengeForm.wo\ChallengeForm.wod  
(otherwise, the HTML tags will be presented to the user as text).  
Example:

```
HTML: WOString {
    value = getHTML;
    escapeHTML = false;
}
```

### Example Challenge Form in HTML

The following example shows some of the various HTML coding options available. Image placement (commented out here) is also available.

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<challengeform>
    <displayattrs heading="You need to accept the Confidentiality Agreement" submit="Accept"
    skip="" abort="Cancel"/>
    <html>
        <div style="text-align: left;">
            <pre>Plain preformatted text is here
            With line breaks</pre>
            <?img src="http://www.companyname.com/templates/assets/img/header.png"?>
            <div style="background-color:green;"><a href="http://companyname.com"
            target="_blank">Click here to read the Confidentiality Agreement</a></div>
            <div><span style="font-weight: bold">Bold text</span></div>
            <br/>Formatted text<br/>with line breaks<br/>
        </div>
    </html>
    <checkboxfld name="accept" title="I accept the Agreement"/>
</challengeform>
```

This challenge form would appear like this, showing Cancel and Accept buttons:

You need to accept the Confidentiality Agreement

Plain preformatted text is here  
With line breaks

[Click here to read the Confidentiality Agreement](#)

**Bold text**

Formatted text  
with line breaks

I accept the Agreement

Cancel Accept

### 14.5.5 Use Buttons in Challenge Forms

You can specify the text that appears on the buttons in the challenge form, or hide buttons if they are not relevant to your form.

**To hide a button**, include the attribute, but give it an empty value. In the example above, the abort attribute is set to "" so the Abort button does not appear on the challenge form.

**To specify the text for a button**, set the button's attribute value to the text you want to display. In the example above, the skip attribute is set to "Cancel", which appears as the button text on the challenge form.

**To use the default button text**, omit the attribute for the button in the challenge form XML. For example, this `<displayattrs/>` element:

```
<displayattrs heading="For asset '<!file_name!>', please answer the following questions before downloading:"/>
```

would not use the Accept and Cancel button replacements as shown in the previous example, and instead provide the default set of buttons (Abort, Skip, Continue) as shown in the following challenge form:

For asset 'TorontoCanadaHarbor.JPG', please answer the following questions before downloading:

Purpose of Download:

For Project: YourCompany.

Billable?

Abort Skip Continue

### 14.5.6 Include a Password Field in Challenge Forms

To include password fields in a Telescope functional rule challenge form, use the following XML definition:

```
<entity name="com.northplains.web.tsweb.funrules.FRPasswordField" xmlTag="pwdfld">  
  <property name="name" xmlTag="name"/>  
  <property name="title" xmlTag="title"/>  
  <property name="length" xmlTag="length"/>  
  <property name="filter" xmlTag="filter"/>  
</entity>
```

```
<property name="initval" xmlTag="initval"/>
<property name="encrypt" xmlTag="encrypt"/>
</entity>
```

### Example:

```
<pwdfld name="new_pwd1" title="New Password:" length="255" />
```

### Note on Encryption:

If you use the `pwdfld` option, the passed data to the response function is **encrypted**. If the `encrypt` flag is set to "0", then the value used is the Telescope encryption in the `tsweb.jar` file. If the flag is set to "1", the encryption algorithm from the Telescope Session Broker is used. If nothing is defined or the value is invalid, "0" is used.

Note that the encrypted value is obfuscated or padded out to the defined length for the field. If you are planning to use this customization, for example to reset a user's password, you need to set `encrypt="0"` and `length="32"` to ensure a correct value.

For example,

```
<pwdfld name="new_pwd1" title="New Password:" length="32" encrypt="0"/>
```

## 14.5.7 Limiting the Display of Challenge Forms in a Batch

Each Functional Rule, configured for a specific action, fires once for each asset affected by that action. In the case of downloads, the rule fires once for each asset. This could lead to displaying the challenge form multiple times for each asset, unless precautions are taken

Assume that for a single batch download, that the user will use the chosen assets for the same purpose so it is desirable to only show the Challenge Form once per batch.

Modify the Download Reason rule to only show the form once per batch:

- 1 Use the `<!batch_index!>` and `<!batch_count!>` replacement tags:
- 2 `<!batch_index!>` is replaced at run-time with the total number of assets in the batch so it remains the same each time the a rule fires within a batch
- 3 `<!batch_count!>` is replaced at run-time with a value, starting at 1 and incrementing by 1 for each asset in the batch
- 4 For example, if there are 10 assets in the batch, the rule is fired 10 times. The first asset processed will have a `<!batch_count!>` of 1, the second will have a value of 2, ..., and the last will have a value of 10
- 5 When `<!batch_count!>` is 1, it is the first asset in the batch
- 6 When `<!batch_count!>` is equal to `<!batch_index!>`, it is the last asset in the batch

You could also take advantage of the -5 return code to bypass future challenge form displays.

## 14.6 Error Messages

### 14.6.1 Add Additional Error Messages

You can add additional error messages to a functional rule to respond to specific functional return codes. To view, add, and maintain these messages, click the *More Error Messages* button on the Rule Definition page. The Additional Messages page appears, listing all of the currently defined messages.

**Figure 14.4** *Additional Messages*



This page has many of the features that the Functional Rules page has. In addition to using this page to view the list of current messages, you can use it to add new messages or to select current messages and delete them:

#### Add Messages

To add a message:

- 1 Click the *More Error Messages* button on the Rule Definition page.
- 2 Click the *Add Error Message* button. The Message Definition page appears.
- 3 Specify a return code in the *Script Return Code* field. (For more information on return codes, see [Section 14.3.2, "Return Codes," on page 193.](#))
- 4 In the *Error Message* text box, enter the text of the message.
- 5 Click *Done*.

To edit existing messages:

- 1 Click on the link in the message's *Code* column.
- 2 Update the text in the *Error Message* field.

To delete a message:

- 1 Click the checkbox to the right of the message to select it.
- 2 Click the *Delete Error Message* button.

## 14.7 Apply Functional Rules to Actions

The execution of a rule set is triggered when a user attempts to perform an action in Telescope. You can assign rule sets to any of the actions explained below and you can apply different rule sets to each user group.

### 14.7.1 Assign Rules to Actions and User Groups

After rules are defined, you can assign them to actions and user groups. For a description of the actions, see [Section 14.7, "Apply Functional Rules to Actions,"](#) on page 209.

There are two ways to assign rules to actions and user groups:

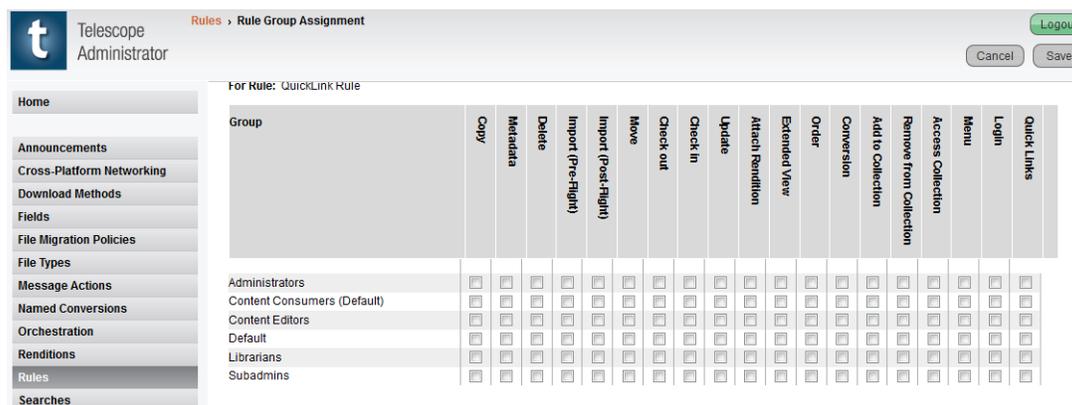
- ◆ For a specific rule, you can specify the actions and user groups to which it applies.
- ◆ For a specific user group, you can assign rules to actions and specify the order in which rules execute.

To assign a specific rule to user groups and actions:

- 1 Open the *Rules* page. Click *Assign* beside a rule.

All of the actions are displayed in a row at the top of the table, while the user groups are shown in the left hand column. Each checkbox represents the rule's assignment to a particular action for a particular group.

**Figure 14.5** Assign Functional Rule



- 2 Assign the rule to an action and group by selecting individual checkboxes or use the checkboxes in the All row to select or deselect a rule for all groups.

To access detailed information on each action, see the next section, [Section 14.7.2, "Actions Available for Functional Rule Assignment,"](#) on page 209

- 3 Click *Save*.

### 14.7.2 Actions Available for Functional Rule Assignment

Functional rules can be assigned to the following actions from the Assign Functional Rule panel:

- ◆ [Section 14.7.3, "Copy Files \(Copy\),"](#) on page 210
- ◆ [Section 14.7.4, "Change Metadata \(Metadata\),"](#) on page 211
- ◆ [Section 14.7.5, "Delete Document \(Delete\),"](#) on page 212

- ◆ Section 14.7.6, "Import (Pre-Flight)," on page 212
- ◆ Section 14.7.7, "Import (Post-Flight)," on page 213
- ◆ Section 14.7.8, "Move Files (Move)," on page 213
- ◆ Section 14.7.9, "Check Out," on page 213
- ◆ Section 14.7.10, "Check In," on page 213
- ◆ Section 14.7.11, "Update," on page 214
- ◆ Section 14.7.12, "Attach Rendition," on page 214
- ◆ Section 14.7.13, "Extended View," on page 214  
(See also Section 18.1.5, "Apply a Watermark," on page 284)
- ◆ Section 14.7.14, "Order," on page 215
- ◆ Section 14.7.15, "Conversion," on page 215
- ◆ Section 14.7.16, "Add to Collection," on page 215
- ◆ Section 14.7.17, "Remove from Collection," on page 216
- ◆ Section 14.7.18, "Access Collection," on page 216
- ◆ Section 14.7.19, "Menu," on page 217
- ◆ Section 14.7.20, "Login," on page 218
- ◆ Section 14.7.21, "QuickLinks Functional Rule Action," on page 218  
(See also Section 12.6.3, "Enable QuickLinks in TSAdmin," on page 168)

### 14.7.3 Copy Files (Copy)

Copy Files rules are triggered when users attempt to copy files (for example, to download them). Copy Files rules are executed as a group post-flight, but before the other checks are done (for example, name space collisions, approvals for download). Copy Files rules are triggered once for each file to be copied. All of the metadata parameter replacements, including the batch tags, produce the current values of fields from the database, provided the field name specified is valid. If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name[1]>`), the assumed default rendition is the rendition that gets copied.

Any file whose Copy Files rule fails with a -2 result code is removed from the list and added to another approval list, which is then displayed in an approval dialog after all the files have their rules executed.

**Figure 14.6** Request Approval

**Your functional rules have determined that you require approval before you can Copy the following files:**

TorontoLighthouse.JPG

**Request Approval From** admin (Ad Min)  
AgencySupervisor (Agency Supervisor)

**Sort By:**  First Name  Last Name  User Name

You can click the 'Cancel' button to stop the current process with no changes, or 'Continue' to proceed with the Copy process, without affecting the listed assets.

Cancel Continue

The Request Approval From menu contains only the names of those approvers who are visible to the user. If the user has the Copy Files with Approval privilege with an approver specified in the *Approval Messages To* field, this name is loaded into the name text and the button is disabled.

If a Copy Files rule fails with any other result code, the affected file is also removed from the download list and added to an error list for display after all the Copy Files rules have executed.

The error message shown for each failed rule execution is based on the response code returned from the Test script.

#### 14.7.4 Change Metadata (Metadata)

A common requirement is to have rules triggered when metadata on assets is updated. A metadata update rule can be used for data validation, notifications, auditing and much more.

The Change Metadata rules are executed whenever the user attempts to change document metadata in any of the following scenarios. When a metadata update rule fires, it is triggered BEFORE the metadata is updated in the database. Any metadata fields that are passed to the functional rule are the updated values entered by the user. This allows the rule to have access to both the updated metadata (passed in) as well as the existing metadata (selected from the database).

#### Save Document Info View

When the user saves changes to the document metadata from the Document Info view, the Change Metadata rules are executed for the document being saved. The metadata parameter replacements only produce values for metadata fields that have changed.

- ◆ If the user makes a change to a metadata field, and that field is being used as a replacement tag in a functional rule, the value passed is the new value entered by the user.
- ◆ Any fields that the user did not change have their parameter replacement tags replaced by empty (null) strings in the script.
- ◆ If the user updates a previously populated field and blanks it out (no data), the value passed is a single white space instead of a null string.
- ◆ Rendition-based parameter replacements (either with or without the array representation) are replaced by empty strings in the script because saving a Document Info view never modifies file information.

- ◆ If the script requires “old” values (that is, values in place before the user changed them), the `<!record_id!>` tag is used to query the editorial (or other) table to get this information because this script is executed before the update is made in the database.

## Change Multiple Documents

When the user fills in the Change Multiple dialog, the Change Metadata rules are executed for each document modified in the batch. The metadata parameter replacements only produce values for metadata fields that have changed. Any fields that the user did not change have their parameter replacement tags replaced by empty strings in the script. If the user updates a previously populated field and blanks it out (no data), the value passed is a single white space instead of a null string.

Rendition-based parameter replacements (either with or without the array representation) are replaced by empty strings in the script because saving a Document Info view never modifies file information. If the script requires “old” values (that is, values in place before the user changed them), the `<!record_id!>` tag is used to query the editorial (or other) table to get this information because this script is executed before the update is made in the database.

### 14.7.5 Delete Document (Delete)

Delete rules are executed before the delete begins and before other preliminary operations (such as approvals) are performed. Each document being deleted has its rule executed individually. All of the metadata parameter replacements, including batch tags, produce the current values of fields from the database, provided the field name specified is valid. If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name[1]>`), the assumed default rendition is the lowest numbered rendition that the user has permission to see.

As with [Section 14.7.3, "Copy Files \(Copy\)," on page 210](#), any file whose Delete Document rule fails with a -2 result code displays a Request Approval form.

As with the previous actions, rules that fail or indicate that approval is required are gathered into two lists and presented after all the rules have been executed. If the user has the Delete with Approval privilege and an approver is specified in the *Approval Messages To* field, a Request Approval form is presented (similar to that shown above for Copy Files) showing the approver’s name. The Delete button is disabled.

### 14.7.6 Import (Pre-Flight)

Pre-flight import functional rules are executed before files are physically uploaded to the File Broker. They can be used when an asset’s metadata needs to be validated to verify if the asset should be ingested. For example, to check if ISBN numbers are valid.

If the validation fails, the file is not uploaded—saving time and network resources, and preventing the aggravation caused when users wait for large files to be uploaded to the server, only to find out the files cannot be ingested.

---

**NOTE:** Prior to Version 9.3.1, this functional rule was called “Import”. It was executed pre-flight by the Telescope Uploader, and post-flight by any other import method (Browse for Import, hot folder ingest, check in, etc.).

---

If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name[1]>`), the assumed default rendition is the rendition that has been imported.

Any rules that return an approval-required result code (-2) have their `approvalpend` flag in the editorial table set to “Y”, and they are gathered into a list for display in an approval dialog after the entire import process is complete. In this

dialog, the Request Approval From list contains the names of any approvers visible to the user. If the rule succeeds, the `approvpend` flag is set to “N”.

### 14.7.7 Import (Post-Flight)

Post-flight import functional rules are executed after a file is uploaded and all its file properties are extracted.

They are useful for validations against manipulations of metadata that can only take place after a file is uploaded to the File Broker and all its properties (XMP metadata and so on) are extracted. If validations fail at this point, the file ingest is canceled and the file removed from the Telescope database.

---

**NOTE:** If only file properties (`doc_rendition`) metadata values need to be updated (and no verification needs to take place), then it is recommended to assign the functional rule as a post-flight import action.

---

The Import rules for a particular document are executed after the document information (file name, file size, etc.) has been imported into the database and the transaction committed because the SQL script might need to access or modify this data. All of the metadata parameter replacements, including the batch tags, produce the current values of fields from the database, provided the field name specified is valid.

If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name [1]>`), the assumed default rendition is the rendition that has been imported.

Any rules that return an approval-required result code (-2) have their `approvpend` flag in the editorial table set to “Y”, and they are gathered into a list for display in an approval dialog after the entire import process is complete. In this dialog, the Request Approval From list contains the names of any approvers visible to the user. If the rule succeeds, the `approvpend` flag is set to “N”.

If a rule returns a failure result code, the record is deleted from the database (all entries in all tables are removed with that record ID), and the file name and error message is stored in another list for display in a standard error list dialog when the import process is complete.

### 14.7.8 Move Files (Move)

Move Files rules are executed before the Move operation and instead of the Copy Files rules. In every respect except one, Move Files rules operate in the same way as Copy Files rules. The one difference is that, in the dialogs, the words “Copy Files” are replaced by “Move Files”.

### 14.7.9 Check Out

Check Out rules are executed before the checkout operation and instead of the [Copy Files \(Copy\)](#) rule. In every respect except one, Check Out rules operate in the same way as Copy Files rules. The one difference is that in the dialogs, the words “Copy Files” are replaced with “Check Out”.

### 14.7.10 Check In

Check In rules are executed before each individual file is checked in. Only Check In functional rules are run for check-ins, and no other ingest rules (such as pre-flight or post-flight, for example).

The `<!record_id!>` parameter replacement tag is replaced with the record ID of the document being checked in. The metadata replacement tags reference fields from this record (before the check in has occurred).

If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name[1]>`), the assumed default rendition is the rendition that is being checked in.

Because the Check In action is always done with user interaction on each file, failures are presented to the user immediately.

### 14.7.11 Update

The Update rule is executed when a file is updated, rather than when it is inserted into the database during an import (because of the user's "Duplicate Files" setting). The rule is executed immediately before the record in the database is updated. The `<!record_id!>` parameter replacement tag is replaced by the record id of the document in the database being updated. The metadata tags are always replaced by an empty string in this rule because no metadata is updated in this operation. However, the rendition-based tags, if used without array representation (that is, `<file_name>` rather than `<file_name[1]>`), are replaced with information about the new file that is updating the database record.

Error and approval return codes are gathered into the same lists as are used for the Import rules and displayed at the end of the batch.

---

**NOTE:** The use of challenge forms in Update rules are discouraged, because they can disrupt the processing of a batch, forcing Telescope to wait for user input. Use of batch replacement tags can help reduce this impact.

---

### 14.7.12 Attach Rendition

The Attach Rendition rules are executed when a file is being attached as a rendition to an existing asset, rather than inserted into the database during an import. The rule is executed immediately before the record in the database is updated with the new rendition. The `<!record_id!>` parameter replacement tag is replaced by the record id of the document in the database being updated. The metadata tags are always replaced by an empty string in this rule, because no metadata is updated in this operation. However, the rendition-based tags, if used without array representation (that is, `<file_name>` rather than `<file_name[1]>`) are replaced with information about the new file that is being attached to the database record.

Error and approval return codes are gathered into the same lists as are used for the Import functional rules and are displayed at the end of the batch.

### 14.7.13 Extended View

The Extended View rules are executed when the user opens the extended view for a document. The rules are executed once for each extended view being opened, just before the extended view window opens. All of the metadata parameter replacements produce the current values of fields from the database, provided the field name specified is valid. If rendition-based parameter replacements are used without the array representation (that is, `<file_name>` rather than `<file_name[1]>`), the assumed default rendition is the lowest numbered visible rendition for the user.

If the rule fails or returns an approval code, the appropriate dialog is shown to the user immediately and the extended view window does not open.

Positive result code values ( $> 0$ ) are interpreted to mean "permit view, with a specific watermark".

The functional rule definition specifies which watermark graphic to apply to the preview image. Watermark graphics are stored in the `fn_watermarks` table in the database. The graphics are numbered with IDs that are greater than zero.

When the View Extended View functional rule returns a positive return code, Telescope applies the appropriate watermark graphic to the extended view image (only for extended views that have a `data_type` of JPEG or COV).

When the View Extended View functional rule indicates that a watermark should be applied (by returning a result code greater than zero), the Telescope client software looks for the watermark image with the indicated ID in the database. If it does not exist, then the extended view is displayed normally, without a watermark. If the extended view is COV, then the watermark is applied to each page of the COV extended view before display. If the data\_type value for the extended view is neither of these values, then the extended view is displayed normally.

If the specified watermark graphic is found, it is applied on top of the existing extended view, using standard “alpha channel” compositing. The watermark image is always centered in the extended view image. If the watermark image is larger in pixel dimensions than the extended view image, then it will “bleed” right to the edge of the extended view image. The composite extended view will then be displayed to the user.

For COV extended views, the watermark is applied to each page image, exactly the same as for JPEG extended views.

For more information on watermarks, see [Section 18.1.5, "Apply a Watermark," on page 284](#).

## 14.7.14 Order

The Ordering rules are executed when a user, using Telescope, clicks the *Order* button in their download basket to place an order for fulfillment using the Telescope order processing function. The rules are executed once for each file being ordered, in a batch immediately after the user clicks on the Order button, and before the order form page appears.

As the rules are being executed against the list of files being ordered, any which fail because of a “requires approval” result code is removed from the list, and placed into a “requires approval” list. Any which fail because of any other result code is removed from the list and placed into a third, “errors” list.

Before the order form page is displayed, any files in the “requires approval” list are displayed using a standard approvals page, which permits the sending of an approval message. The users list contains everyone the current user has permission to see. After that, any files in the “errors” list is displayed using the standard functional rules error page.

Finally, any files left in the original list (and only those files) are passed through to the order form page so the user can complete the order.

## 14.7.15 Conversion

The conversion functional rule type is triggered just before the file is downloaded, after the user has specified their desired conversion string (if any).

## 14.7.16 Add to Collection

This Functional Rule is triggered when a user attempts to add an asset to a collection (formerly known as “catalog”). The rule is called once per asset (with appropriate batch replacement values set up if the user is adding multiple assets to the collection at once), and in addition to the standard asset and user parameter substitution tags, this rule accepts one additional tag; <!catalog\_id!> which is the unique id field of the m\_lightboxes table (the unique collection) the asset is being added to.

Before each asset is added, the Add to Collection rule(s) for the user are executed, and a failure (including ‘require approval’ - return code -2) means that the asset should not be added to the collection. The rules are executed for all assets as a batch, and any error messages are gathered up and shown once at the end of the process.

If the user is making use of Telescope and “drags and drops” assets into a new collection, the functional rule(s) is not called until the user saves the collection. If the collection already exists (has been saved) and the user drags and drops assets into it, the functional rule(s) triggers immediately.

**Important:** Because, in Telescope, the possibility exists that the user will add assets to a collection (even an existing one, in the first scenario above), and then choose not to save the collection afterwards, the Add to Collection rule should not be used to attempt to perform collection synchronization, but only as a method of validating permissions for this action.

### 14.7.17 Remove from Collection

This Functional Rule is triggered when a user attempts to remove an asset from a collection. Like the Add to Collection rule, this rule is triggered once per asset being removed, with appropriate batch parameters set up, because the user can select multiple assets, and remove them all at once. In addition to the asset and user parameter replacements, this rule can use the following parameter replacement tag; `<!catalog_id!>` which is the unique id field of the `m_lightboxes` table (the unique collection) the asset is being removed from.

The Remove from Collection function rule starts immediately unless the user has removed items from a “new collection” that has not been saved and does not exist yet in the database. In this case, the functional rule will not start at all.

**Important!** Because, in Telescope, the possibility exists that the user will remove assets from a collection and then choose not to save the collection afterwards, the Remove from Collection rule should not be used to attempt to perform collection synchronization, but only as a method of validating permissions for this action.

### 14.7.18 Access Collection

This Functional Rule determines collection activity, and is triggered whenever a user accesses a collection (regardless of whether or not they update the collection content).

Collections may be accessed frequently but seldom updated with added or deleted assets. This rule is useful for any actions that attempt to remove dated collections, in that they will not mistakenly identify frequently accessed collections as deprecated because of there being no historical updates.

#### Example Functions:

Test Function:

```
update [m_lightboxes] set [mod_date]=SYSDATETIME() where [id]=<Unable to render
embedded object: File (catalog_id) not found.>;select 0
```

Challenge Form:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<challengeform>
<displayattrs heading="Access Collection Challenge Form"/>
</challengeform>
```

Response function:

```
select 0
```

## 14.7.19 Menu

Menu Functional Rules add an additional layer of flexibility to Telescope. Defined and assigned the same way as any other functional rule, they appear as a button in the navigation pane in Telescope. A user can click this button to execute the rule. Each menu rule can have its own custom graphic for the button.

### Activation & Graphics

In Telescope, the button graphic is a default image called `btnbar_unknown.png` (typically located in `wwwroot\tswab\default\CatalogViewWrapper`). You can override this image by creating your own. The name of the image file name must start with “task\_” and end with “.png”. The rest of the file name must match the name of the functional rule for which it is to appear. For example, a rule saved with the name “Generate Report” looks for an image called “task\_generate\_report.png”. Note that the spaces in the name are replaced with underscores.

Spaces in the functional rule name are replaced with underscores where quotes and single quotes and other special characters are ignored (removed). For example, “Sent to ‘John & Sons’ Report” would look for an image called “task\_send\_to\_john\_sons\_report.png” (note the double underscore between “john” and “sons” since the ampersand is ignored). The hover state image for the button must include “\_hover” at the end of the file name. For example, “task\_generate\_report\_hover.png”.

### Replacement Tags & Execution

Users with Menu functional rules defined and assigned to their user group are able to select one or more assets then manually trigger the rule by clicking the task or rule button within the task palette in Telescope.

When the user selects the Functional Rule’s menu item (or clicks on its button in the task palette in Telescope), the Functional Rule is executed by the client. As with other rules, the test function is executed first, and if this succeeds, the rule’s challenge form is displayed if it has one, and the response function is executed.

In addition to the standard user parameter replacements, there is a special parameter replacement tag that can be used by menu functional rules to obtain the list of `record_id` values from the current result set that the user has selected:

```
<!selected_ids!>
```

None of the asset-specific parameter replacements work for Menu Functional Rules, because the rule is not executed per asset, but once only when the user selects the rule’s menu item (or clicks on its button in Telescope).

### Return Results and Actions

Menu functional rules can return a “string” instead of an integer from either their test or response functions. If a string is returned, it is interpreted to be a URL. The user’s default web browser is opened (or a new browser window if the browser is already open) to this URL.

Through URLs, the menu Functional Rule can act as a ‘gateway’ to a third-party HTML user interface. If the menu rule returns a string as the result for its test function, the rule is considered to have succeeded, the URL is displayed immediately, and if the rule has a challenge form and response function, those are ignored. In essence, if the rule wants to display its challenge form, it must return ‘0’ from the test function, and return the URL string from the response function.

For menu Functional Rules, the concept of ‘success’ and ‘failure’ is a little different, because there is no Telescope action being performed to allow (or disallow), and the rules are always executed singly (i.e. unlike other rule sets, there is no ‘chain’ of Functional Rules that can be affected by the returned result codes). The only difference between success and failure for the menu Functional Rule is that, if a rule returns a non-zero failure result code (from either the test or response function), the Telescope client displays the appropriate message (from the Functional Rule messages table) to the user in an alert.

Menu Functional Rules can cause an approval workflow to be kicked off, just like other Functional Rules. In the event that the test or response function for a menu Functional Rule returns “-2” (needs approval), the standard approval dialog is shown to allow the user to choose a recipient for the approval message.

An additional replacement tag exists for Menu Rules: `<!selected_ids!>` is replaced at run time with a comma delimited list of RECORD\_ID values of all assets selected in the interface by the user. In the case of an approval dialog, all of these selected record IDs can be attached to the message sent for approval with the use of the `<!selected_ids!>` replacement tag.

## 14.7.20 Login

Rules of this type are started immediately after the user successfully logs in to Telescope. Only the user-level parameter replacements works for this type of Functional Rule (as there is no ‘asset’ being dealt with here). If the user’s login Functional Rules fail, the user is prevented from logging into Telescope. If a login Functional Rule returns “-2” (needs approval) as its result code, the user is permitted to send the approval message before being logged out. No assets are attached to the message sent to the approver. The user is unable to log into the system until the approving user has given their approval.

## 14.7.21 QuickLinks Functional Rule Action

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**NOTE:** For additional information on setting up QuickLinks, see [Section 12.6, "Use QuickLinks in your Organization," on page 166](#)

---

QuickLinks are useful for distributing assets to external people who do not have or do not want direct access into Telescope.

When the Telescope user adds assets to their Download Cart and they opt to send a QuickLink, any configured download and/or conversion rules are triggered. If a conversion rule fires, the resulting conversion string is stored with the download request and will be applied when the external user fetches the file

An additional “QuickLink” rule can be configured to fire when the external user (the recipient) triggers the fetch via the QuickLink. A QuickLink rule can do two things:

- ◆ Present the user with a challenge form
- ◆ Return an error code and stop the download

Only two parameters can be passed to a QuickLink rule:

- ◆ `<!email!>` - the email address of the QuickLink recipient
- ◆ `<!quickLinkTicket!>` - the ID of the QuickLink ticket

The business logic within the rule can determine which assets are included in this ticket by a passed ticket ID, as well as determining who the sending user is. This is done by querying the QuickLink tables in the database

## QuickLink Rule Example

The following table shows a simple functional rule to prompt external users to click on a QuickLink link, then click “I Agree” when presented with an agreement form. Use the following values as guidance.

Functional Rule Component	Value
Test Function	select 0
Challenge Form	<?xml version="1.0" encoding="UTF-8" standalone="yes"?> <challengeform> <displayattrs heading="By clicking the I Agree button below, you are indicating that you will use these files within the rights granted to you." submit="I Agree" skip="" abort="Cancel"/> </challengeform>
Response Function	select 0
Default Error Message	An unexpected error has occurred with the QuickLink Agreement Form Functional Rule. Please contact your Telescope Administrator.
Assign	Assign to at least one user group for the QuickLink action

## Assign the QuickLinks Functional Rule

External recipients of QuickLinks are not associated to any Telescope user or user group. When a QuickLink is triggered, the system looks for any configured QuickLink rule and fires it, regardless of the Telescope user group it is configured against.

---

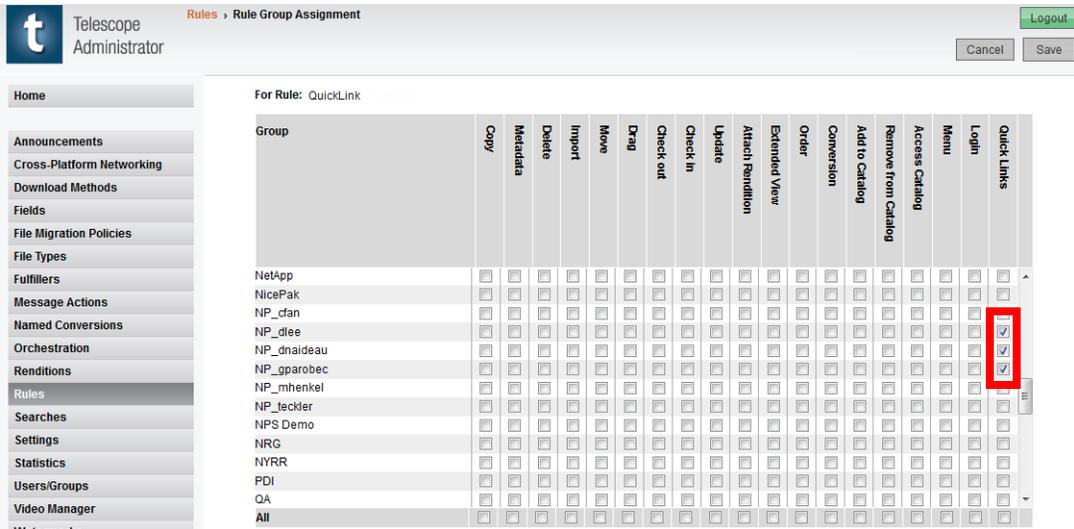
**NOTE:** For easy access and maintenance, you may wish to assign the QuickLinks functional rule to the same group you used to assign the QuickLinks download method.

---

To assign the QuickLinks functional rule:

- 1 On the Rules page, click *Assign* next to the QuickLinks functional rule.
- 2 On the Rule Group Assignment page, select the group(s) and *QuickLinks* to assign the functional rule to.

**Figure 14.7** Assign QuickLink Functional Rule



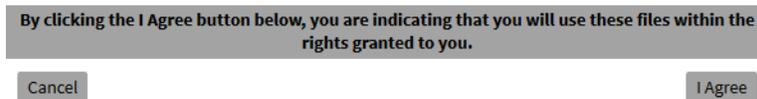
- 3 Click *Save*.

### QuickLinks Rule Testing

To test the QuickLinks functional rule:

- 1 Log in to Telescope and send one or more assets to your email address via a QuickLink
- 2 Click on the QuickLink in your email which will open a new browser window, prompting you for the access key.
- 3 Copy / paste the hash key from the second email into the browser prompt.
- 4 The challenge form from the QuickLink rule should appear:

**Figure 14.8** QuickLinks Challenge Form Example



## 14.8 Logging Errors from Functional Rules and Customizations

### 14.8.1 The DEBUG\_LOG Table

The DEBUG\_LOG table is available for debugging and reporting errors from functional rules, menu functional rules, and other database customizations. It can be populated through custom stored procedures, functions and triggers.

This table provides a more standardized methodology than the previous error\_log methods, with the following details being stored:

- ◆ An ID sequence and date (automatically generated)
- ◆ The source name (recommended but optional). If not defined,
  - ◆ In MS SQL, defaults to 'Unknown'.
  - ◆ In Oracle, tries to make a system call to set the name of the calling program.
- ◆ The asset record ID (record\_id). If not defined, defaults to NULL.
- ◆ The message type. 'D' (for debug), 'E' (for error), or a customized number (as a varchar). If not defined, defaults to NULL.
- ◆ The message text (required).

---

**NOTE:** This table could consume much space over time and should be periodically cleaned.

---

### 14.8.2 Turning Debug Logging On/Off

Debug logging to the DEBUG\_LOG table is controlled by the FR\_DEBUG entry in the db\_settings table:

- ◆ If "FR\_DEBUG" is set to "Y" (the default), then log entries will be added to the DEBUG\_LOG table
- ◆ If "FR\_DEBUG" is set to NULL or "N", logging is disabled.

To disable logging, issue the following SQL command (for MS SQL):

```
update db_settings set valustr = 'N' where keyword = 'FR_DEBUG';
```

---

**NOTE:** This entry can be overruled with the DEBUG Y/N flag in the TSP\_INS\_DEBUG\_LOG stored procedure. For details, see the description in the next section.

---

### 14.8.3 Populating the DEBUG\_LOG Table

Calls to insert data in the DEBUG\_LOG table should be done with the TSP\_INS\_DEBUG\_LOG stored procedure, rather than being inserted directly.

The TSP\_INS\_DEBUG\_LOG method signature (in both SQL Server and Oracle) is:

```
(exec) tsp_ins_debug_log <Message>, <Source>, <Type>, <Record_id>, <Debug Y/N>
```

Where:

- ◆ <Message> is the message text (required).
- ◆ <Source> is the source name (recommended but optional). If not defined:
  - ◆ In MS SQL, defaults to 'Unknown'.
  - ◆ In Oracle, tries to make a system call to set the name of the calling program.
- ◆ <Type> is the message type. 'D' (for debug), 'E' (for error), or a customized number (as a varchar). If not defined, defaults to NULL.
- ◆ <Record\_id> is the asset record ID (record\_id). If not defined, defaults to NULL.
- ◆ <Debug Y/N> is a flag to indicate whether or not the stored procedure should make a log entry. If set to Y, it will always log, say for a critical error (even if the "FR\_DEBUG" value in the db\_settings table is set to N). If set to N, it will not make a log entry (even if the "FR\_DEBUG" value in the db\_settings table is set to Y). If this flag is not passed, the procedure will query the "FR\_DEBUG" value in the db\_settings table to determine whether or not to log.

---

**NOTE:** The order of these parameters has changed from those of most of the previous error\_log methods, in order to put required parameters first. See the next section for some examples on how to migrate from these implementations.

---

### Example 1

The following stored procedure logs a message with no other information:

```
tsp_ins_debug_log("A Message")
```

It generates the following entry in the DEBUG\_LOG table:

```
<ID>, <date>, "A Message", "Unknown", NULL, NULL
```

### Example 2

The following suggested method to call the stored procedure stores the debug and current function name in two variables and uses this information on every call:

```
set @debug = (select valustr from db_settings where keyword = 'FR_DEBUG')
set @function = OBJECT_NAME(@@PROCID)
...
set @message = 'Some Debug Message'
exec tsp_ins_debug_log @message, @function, 'D', NULL, @debug
```

### Example 3

The following suggested method to call the stored procedure retrieves the debug and current function name on every call:

```
set @message = 'Some Debug Message'
exec tsp_ins_debug_log @message, OBJECT_NAME(@@PROCID), 'D'
```

## 14.8.4 Migration from "error\_log" implementations

Migration of the insert calls from the previous error\_log implementations requires replacing the tsp\_ins\_error\_log with tsp\_ins\_debug\_log and changing the ordering of the parameters, which must be done manually.

Data is easily migrated from the previous error\_log implementations to the DEBUG\_LOG table by issuing insert commands from the other tables.

### Example 1

The following insert call populates the debug\_log with the error\_log values log\_level integer and timestamp\_created:

```
insert into debug_log (entry_date, source, message_type, message)
select timestamp_created, functions, cast(log_level as nvarchar), message from
ERROR_LOG order by id
```

### Example 2

The following insert call populates the debug\_log with the error\_log values entry\_date and message\_type:

```
insert into debug_log (entry_date, source, message_type, message)
select timestamp_created, functions, message_type, message from ERROR_LOG2 order by id
```

### Example 3

The following insert call populates the debug\_log with the error\_log values entry\_date and message\_type:

```
insert into debug_log (entry_date, source, message_type, message)
select entry_date, functions, message_type, message from ERROR_LOG order by id
```

### Example 4

The following insert call populates the debug\_log with just the timestamp and the message text (with no id field or functions field):

```
insert into debug_log (entry_date, source, message)
select timestamp_created, 'Unknown', message from ERROR_LOG order by timestamp_created
```

### Example 5 (if function name is the first value in the message)

As with Example 4, the following insert call populates the debug\_log with just the timestamp and the message text (with no id field or functions field). This call is designed for cases where the functions value is stored as the first part of the message.

```
insert into debug_log (entry_date, source, message)
select timestamp_created, substrb(message,1,instrb(message,' ')),
substrb(message,instrb(message,' ')+1) from ERROR_LOG order by timestamp_created
```



# 15. Set Up Searching

## In This Chapter

- ◆ [Section 15.1, "Overview of Searching," on page 226](#)
- ◆ [Section 15.2, "Install the Solr Search Components," on page 228](#)
- ◆ [Section 15.3, "Configure the Solr Platform for Network Security," on page 229](#)
- ◆ [Section 15.4, "Customize Search Behavior," on page 230](#)
- ◆ [Section 15.5, "Start Solr Search by Configuring the Solr Connection," on page 234](#)
- ◆ [Section 15.6, "Indexing for Solr Search," on page 236](#)
- ◆ [Section 15.7, "Control/Track User Access to Solr Searches and Search Data," on page 243](#)
- ◆ [Section 15.8, "Solr Search Troubleshooting," on page 244](#)
- ◆ [Section 15.9, "Set Up Solr Indexing for Up to 4 Database Connections," on page 251](#)
- ◆ [Section 15.10, "Set up Solr Indexing for 5-12 Database Connections," on page 254](#)
- ◆ [Section 15.11, "Define Form Searches," on page 263](#)
- ◆ [Section 15.12, "Define Tree Searches," on page 265](#)

## 15.1 Overview of Searching

Solr Search performs fast searches without affecting the performance of the Telescope SQL database, by using the Apache Solr search platform running on a separate Solr database. The Telescope SQL database is the single source for metadata and asset management—the Indexing Broker and Child Indexing Brokers ensure that updates to this database are reflected in the Solr Index database.

### 15.1.1 Search Types Available to Users

The following searches are available to Telescope users. For details on how to use these searches, see the *Telescope User Guide*.

- ◆ The **Simple Search** field at the top of the TSWeb interface allows the user to search for one or more search words in asset metadata or document content. Users can search across all fields. They also have the option to include document content in their search.
- ◆ **Advanced Search** is a free form search tool that allows users to create, save, and execute more complex searches using multiple terms and Boolean logic.
- ◆ **Form Searches** are named searches set up by the administrator to provide a quick method for users to find what they are looking for. To find out how to set up form searches, see [Section 15.11, "Define Form Searches," on page 263](#).
- ◆ **Tree Search** is set up by the administrator to allow users to navigate through the metadata in a tree structure similar to the browsing a directory tree found in most computer operating systems. For this 9.2 release, Tree Search still searches against the SQL database. (To find out how to set up tree searches, see [Section 15.12, "Define Tree Searches," on page 265](#).)
- ◆ **Iconic Searches** appear on the Welcome Page and are a graphical representation of a tree search, with each level in the tree represented by an icon you specify. (To find out how to set up tree searches, see [Section 21.2, "Iconic Searches," on page 315](#).)

### 15.1.2 Notes on Solr Search Functionality

#### What is Indexed?

The following information is indexed for search:

- ◆ Asset metadata text
- ◆ Rendition information (file names, sizes, timestamps, etc.), available from Advanced Search only.
- ◆ Text from the contents of assets (PDFs, Word files, text files, and so on). Users can opt to include content in their searches, and permissions are provided to prevent users from conducting content searches.
- ◆ Image annotations made on preview views (taken from the IANNOTATIONS table).

The following are NOT indexed for searching:

- ◆ Any Video Manager 3 metadata from any of the VL\_\* tables (annotations, descriptions and so on).
- ◆ Notes added to assets from the Notes view.

#### Search Algorithm

Telescope Solr search uses the following ranking algorithm to order results, in decreasing order:

- 1 Exact matches for the entire phrase that was typed into the query.

Example: World Series, Out-of-this-world Series of Books

---

**NOTE:** Exact matches will include stems, even if the user adds quotes around a phrase to request an exact match. Possible examples of stemming: stem, stemming, stemmed.

---

- 2 Exact matches for all of the terms in the search phrase, in any order.

Examples: World Cup Series, Series of World Cup Champions

- 3 Exact matches for the entire phrase, in the order it was typed, but with additional letters at either end.

Examples: #WiredWorld Series

- 4 Exact matches for any one term. Matches for multiple terms are given higher ranking, as are matches to first terms from the query.

Examples: World Cup, TV Series

- 5 Matches for any one term where that term is contained within a longer term (or is preceded or followed by punctuation). Matches for multiple terms are given higher ranking, as are matches to first terms from the query.

Examples: Multi-series featuring World-wide Adventures, Offworld Colonies, SuperSeries Elite

## 15.2 Install the Solr Search Components

---

**NOTE:** For Solr Search system requirements, see the *Telescope System Requirements* Guide.

---

### 15.2.1 Install Solr on New Telescope Installations

Use the Telescope Lights Out installation to install the Solr Multicore, Indexing Broker, and Child Indexing Brokers on their respective machines. See the *Telescope Installation Guide* for details.

### 15.2.2 Upgrade Solr from 9.2 Installations

There are special considerations when upgrading Solr from an earlier Telescope release. See the upgrade section of the *Telescope Installation Guide* for details.

### 15.2.3 Having Trouble with Solr Search?

If you having trouble after you go through the following sections to configure Solr search, go to [Section 15.8, "Solr Search Troubleshooting,"](#) on page 244.

## 15.3 Configure the Solr Platform for Network Security

To protect the security of your Telescope data, follow the steps in this section now, before proceeding to make any other Solr configuration. (If you do not follow these steps, your Telescope data will be visible to all users on your network from the minute the Solr platform starts to index the data.)

To ensure the Solr platform will only accept requests from your Telescope server machines, follow these steps on the machine where the Solr Multicore is installed:

- 1 To be safe, rename the following file to another name (such as `jetty-old.xml`).

```
C:\Telescope\Solr\solr-4.10.3\telescope\etc\jetty.xml
```

This file is a factory-supplied Solr file that offers no white lists for IP addresses, meaning any server in your network could access your Telescope data.

- 2 Copy the following file to the above location:

```
C:\Telescope\Solr\solr-4.10.3\telescope\multicore\jetty.xml
```

This file enforces “127.0.0.1” as the only authorized IP address to access Solr (you can update this IP address in the next step).

- 3 If your Telescope installation is on multiple servers, edit the new `jetty.xml` file you copied in step 2 with a text editor and make the following changes:

- a Find the following line:

```
<Arg>127.0.0.1|/solr/*</Arg>
```

- b Update the line to whitelist the IP addresses of your hub server, web application server, and Indexing Broker:

- ◆ Use a hyphen to designate a range of IP addresses. For example, to whitelist the IP addresses 172.6.3.1, 172.6.3.2, and 172.6.3.3, use:

```
<Arg>172.6.3.1-3|/solr/*</Arg>
```

- ◆ Use commas to designate specific IP addresses. For example, to whitelist the IP addresses 172.6.3.1 and 172.6.3.4, use:

```
<Arg>172.6.3.1,4|/solr/*</Arg>
```

- ◆ You can further restrict access to specific paths by specifying them after the vertical bar (`|`). For example, to whitelist access to only the `recs` core in the multicore configuration, use:

```
<Arg>127.0.0.1|/solr/recs/*</Arg>
```

---

**NOTE:** If you have installed all Telescope servers (including the Solr platform) on the same machine, this file does not need to be edited because this IP address will be used internally by all servers on that machine.

---

- 4 Save the file.
- 5 From the Solr Multicore machine’s Windows *Start* menu, select *Administrative Tools > Services*. From the *Services* entry, stop and start *NPS Jetty-Service*.

## 15.4 Customize Search Behavior

### 15.4.1 Define Search Fields

Each metadata field must be flagged with the “Search On” setting before it is included in Solr indexing. The field also needs to be flagged with the “Facet On” setting to be included in the TSWeb Refine Search panel.

**Important!** By default, these flags are set on for every metadata field. However, you should verify they are set on before starting Solr indexing, especially after upgrading from earlier releases (9.1.4 or earlier), adding new organizational databases, or adding additional metadata fields.

#### Remove fields from searching:

If there are confidential fields that you do not want your users to access, follow these steps to remove them from searching and faceting:

- 1 Log in to TSAdmin as an administrator.
- 2 Click the *Fields* tab.
- 3 Click the *Add New Search Field* button.

The Search-only Field panel appears.

- 4 By default, searching and faceting is turned on for each field. If there are confidential fields that should not be indexed, select the fields (from the *Field Name* pulldown), and deselect *Search On* and *Facet On*.

---

**NOTE:** If your organization has implemented metadata fields that contain a superset of the data from other metadata fields, ensure that you exclude their data by deselecting *Search On* and *Facet On* for those fields. Otherwise, indexing will take longer and user searches will show multiple results for the same data.

---

**Figure 15.1** Configure Metadata Fields for Search (searching and faceting turned off)

The screenshot shows the Telescope Administrator interface. The top navigation bar includes the Telescope logo, the text 'Telescope Administrator', and a breadcrumb 'Fields > Field Detail'. On the right side of the top bar are buttons for 'Logout', 'Cancel', and 'Save'. A left-hand navigation menu lists various sections: Home, Announcements, Cross-Platform Networking, Download Methods, Fields (highlighted), File Migration Policies, File Types, and Fulfillers. The main content area is titled 'Search-only Field' and contains the following configuration fields: 'Table Name' (dropdown menu set to 'editorial'), 'Field Name' (dropdown menu set to 'prod\_id'), 'Display Name' (text input field), 'Data Type' (dropdown menu set to 'Char'), 'Search On' (checkbox, unchecked), 'Facet On' (checkbox, unchecked), and 'Maximum Length' (text input field set to '16').

For details on defining searching and faceting for metadata fields, see [Section 10.2.2, "Add Metadata Fields,"](#) on page 128.

### 15.4.2 Exclude Searches of Annotations

By default, annotations are also indexed for searching by the Solr platform. If you would prefer to exclude them, follow these steps to prevent them from being indexed:

- 1 On the hub server, edit the following files in a text editor:

C:\Telescope\com.northplains.IndexingBroker.xml

C:\Telescope\com.northplains.ChildIndexingBroker.xml

- 2 Change the “indexAnnotation” value from “true” to “false” in both files and save the files:

```
<string helptext="indexAnnotation" name="indexAnnotation" required="yes"
title="indexAnnotation">false</string>
```

With this configuration, annotations will not be included in search indexing.

**Note:** For this 9.2 release, set this value to “false”.

### 15.4.3 Set Default Behavior for Search within Collections Check Box

By default, the TSWeb interface is set to search all assets even when a collection is selected by the user. That is, the “Search within <collection>” check box in the Collections panel is not checked by default, and the TSWeb user must explicitly check it in order to search through only those assets within a selected collection.

To change this default behavior:

- 1 On the web application server, navigate to the following file:  
C:\Telescope\Applications\tsweb.woa\Content\Resources\Config.plist
- 2 Open the file in a UTF-8 compliant text editor.
- 3 Find the following parameter:  
SearchWithinCatalogDefault = FALSE;  
(This parameter is FALSE by default.)
- 4 Change the parameter to “TRUE” to change the default behavior so that the check box is selected by default.
- 5 Save the file, and restart all TSWeb instances.

### 15.4.4 Add Where Clauses

To control which data is shown during a search, you can build where clauses from the TSAdmin Users/Groups *Permissions* tab.

If you are upgrading from an existing Telescope environment with SQL where clauses, you will need to build Solr where clauses from the current where clauses. For details, see [Section 9.5, "Use Where Clauses to Control User Access to Data," on page 111](#).

### 15.4.5 Update Stored Procedures

If you use stored procedures to change metadata, ensure that you update their code to insert a record in the `search_index_actions` table with a status of -2. For information on this table, see [Section 15.8.4, "The Search Index Tables," on page 248](#).

### 15.4.6 Set Up for Users to Sort Search Results by Rendition Data

By default, sorting is only supported for asset metadata fields, and not for file rendition information (file names, paths, sizes, and so on). As an alternative, TSWeb users can reduce their search result set by refining their search queries using Advanced Search.

If your organization would like to enable users to sort on file rendition information, you can create a database view for each of the rendition fields (`doc_renditions.file_ext`, `doc_renditions.file_type`,

`doc_renditions.file_size`, and so on), and then create new asset metadata fields that point to this view. You will need to reindex the Solr database. The Solr indexing will then index these fields (for any records added after this setup is complete) and these fields will appear in the list of fields available for sorting.

Here is sample MS-SQL code for creating a rendition field for file extensions. Note that this example assumes a rendition ID of "1" for file extensions, but this value will vary for each customer installation.

```
CREATE VIEW DBO.VIEW_FILE_EXT
AS
SELECT RECORD_ID, RTRIM(RIGHT(FILE_NAME, CHARINDEX('.', REVERSE(FILE_NAME)) - 1)) FILE_EXT
FROM DOC_RENDITIONS WITH (NOLOCK)
WHERE REND_ID = 1
      AND FILE_NAME IS NOT NULL
      AND CHARINDEX('.', FILE_NAME) > 0
```

When you create the metadata field for this new field, be sure it points to the table `dbo.view_file_ext` and the field `file_ext`. (See [Section 10.2.2, "Add Metadata Fields," on page 128.](#))

### Notes:

- ◆ File sizes should be same as the `doc_renditions.file_size` field. The metadata field you create for them should be a character field.
- ◆ When you add metadata to the system via a database view, you must not make the field editable to TSWeb users. (Otherwise, when a user attempts to change a value on that field, Telescope will attempt an SQL update statement against the underlying view, which will result in a database error. The user will get a general error message saying that something went wrong and they need to contact their Telescope Administrator.)
- ◆ When you create the database view, do not name any columns after key fields in the `USERS` or `DOC_RENDITIONS` tables. (For example, use "file\_name\_search" rather than "file\_name".)
- ◆ When you add a field to the system through a database view (such as one of the `DOC_RENDITIONS` fields, `file_name`, `file_size`, and so on), Solr will only gather information from that point in time forwards. Any existing assets in the system will not have that information indexed by Solr, so sorts will not be complete. To get this information fully indexed, you will need to rebuild the Solr index.
- ◆ The inclusion of "rend\_id = 1" in the query ensures that only one row per asset is being returned. Unless you are going to set this up as a normalized repeating field, you have to ensure that the underlying view / query returns a maximum of one row per asset (zero rows for some types of assets is OK).

### General details:

You can add any information into the system as metadata as long as the table or database view has the format `RECORD_ID` and then some string value. Once the table or view is created, you can log in as Telescope Administrator and click to add a new metadata field. The drop down will default to the `EDITORIAL` table; however, you will see any other table or database view that has the structure `RECORD_ID` and then some string value. These can be selected and then used as actual metadata fields in Telescope.

Whenever you create a new metadata field in Telescope, it is added to the `EXTRA_COLUMNS` table. If a row exists there, then it is metadata that is being used by Telescope. You can add columns to the `EDITORIAL` table in the database, but if they are not listed in `EXTRA_COLUMNS`, the Telescope application will ignore them. It will be as if they do not exist as far as Telescope is concerned. Regular fields will end up with an ID value that is positive. These fields are regular fields that can be seen in the system and will show up when a user is looking at the metadata of an individual asset. "Search Only" fields will have a negative ID value. These fields can be searched on. They will

appear in the drop down in Advanced Search; however, they will not appear when a user is looking at the metadata of an individual asset. These fields are for searching ONLY.

## 15.4.7 Disable Rollups of Container Content to Search Results

There is a `Config.plist` setting to allow container fields to be included in searches and consequently "rolled up" into search results. This setting is off by default, to ensure that multiple entries aren't included in the search results for these assets.

This `rollupsEnabled` flag is located in the TSWeb `config.plist` file on the Web application server, by default at:

```
...\TeleScope\Applications\tswb.woa\Contents\Resources\Config.plist)
```

If `rollupsEnabled = "false"` or is missing from `Config.plist` file, rollups will not be enabled (the default).

If `rollupsEnabled = "true"`, searches will include ("roll up") container data in search results, which may result in multiple numbered entries of the same asset in the search results.

# 15.5 Start Solr Search by Configuring the Solr Connection

**NOTE:** Because Solr search components start indexing as soon as the database connection is defined, it is recommended you **complete all of the previous sections** (including configuring the Solr platform for network security and defining your indexing criteria) before proceeding with the configuration steps in this section.

## 15.5.1 Set up Solr Search for the Database Connection

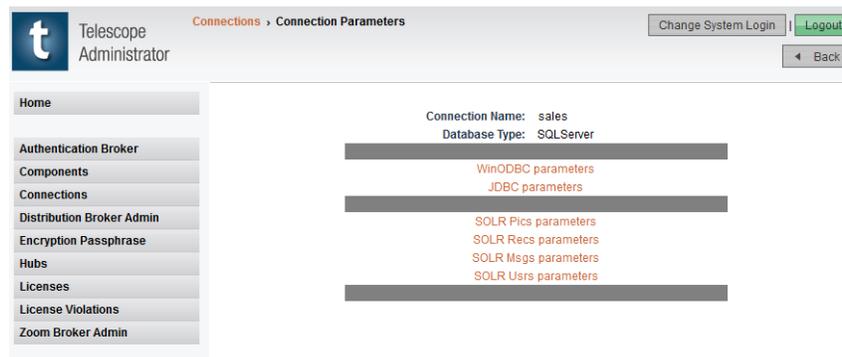
Follow the steps in this section to configure Solr to index your database connection.

### Configure the Solr Connection

Use the TSAdmin interface to specify where the Telescope hub (and its File Broker) can find the Solr platform:

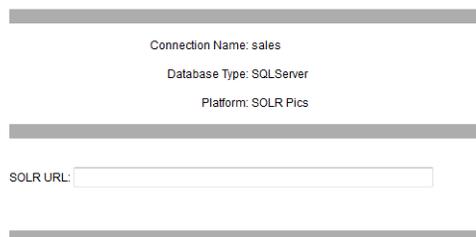
- 1 Log in as Telescope system administrator. (Select *System* from the *TSAdmin* Web Objects menu.)
- 2 Select the *Connections* tab, then select your database connection.

**Figure 15.2** Configure the Solr connection



- 3 Click the *SOLR Recs parameters* link (the **second** SOLR parameter).

**Figure 15.3** Solr Recs details



- 4 For the *SOLR Recs URL* setting, type in the following URL:  
`http://<SolrMachineIPAddress>:8983/solr/recs`

This URL must point to the IP address of the machine where you installed the Apache Solr Multicore platform. By default, the port number is 8983 and the path is `/solr/recs`.

- 5 Click *Save*.

---

**NOTE:** After you configure your Solr search connection, the Indexing Broker should start indexing by default. See the next section for details on how to manage and troubleshoot this process.

---

### **Why are there four parameters shown in the TSAdmin Connections Parameters?**

Solr supports unique identifiers (similar to primary keys) for each type of data. Four cores are created during Telescope installation to handle the various types of Telescope data: Recs (for record IDs), Msgs (for messages), Pics (for the typically large preview and thumbnail data, stored in a separate core for performance reasons), Usrs (for user information, such as fields they are allowed to view).

Currently, **you only need to enter a URL for the Solr Recs URL field** for any database connection. The other fields are for future use.

## 15.6 Indexing for Solr Search

Instructions provided in this section are based on the optimal recommended installation of:

- ◆ One Indexing Broker.  
Only one Indexing Broker can be active and connected to any given Telescope hub/DBMS/Solr database. If you attempt to use multiple Indexing Brokers, you will experience unpredictable indexing results.
- ◆ Four Child Indexing Brokers

For details on how to configure these brokers and the hardware required, see [Section 15.2, "Install the Solr Search Components," on page 228](#).

---

**NOTE:** You should leave all Child Indexing Brokers on at all times to improve indexing performance. It is not recommended to index exclusively from the Indexing Broker, because its limited number of processing threads means it can only perform a limited amount of processing. (This recommendation differs from Version 9.2.0.)

---

### 15.6.1 How Solr Indexing Works

The following steps are performed during indexing:

- 1 The Indexing Broker connects to the Telescope SQL database.
- 2 The Indexing Broker retrieves a batch of record IDs from the Telescope editorial table.

---

**NOTE:** Batch size is controlled in the “recsPerSearchIndexThread” string in the `C:\Telescope\com.northplains.IndexingBroker.xml` file on the machine where the Indexing Broker is installed. For version 9.2, the recommended value for batch size is 100 because Solr indexing performs best (and has a low memory footprint) with smaller batch sizes. If the Indexing Broker or Child Indexing Brokers keep running out of memory, this number would need to be reduced, say to 50.

Larger batch sizes like 500 would get indexing done faster, because more data is retrieved from the database for each cycle. However, it is a tradeoff because larger values require much more memory (and reduce the effectiveness of using multiple Child Indexing Brokers).

---

- 3 The Indexing Broker waits for a request from a Child Indexing Broker requesting a batch of record IDs to process. When it receives a request, it sends a batch to the Child Indexing Broker making the request.
- 4 For each record ID in the batch, the Child Indexing Broker retrieves and places in memory metadata from every field with the searchable flag turned on (see [Section 15.4, "Customize Search Behavior," on page 230](#)). Additionally, file renditions and annotation data are obtained for the record ID. When it retrieves all data for all record IDs for the batch, the Child Indexing Broker writes the data to the Solr core. It then requests another batch of record IDs from the Indexing Broker.
- 5 When finished their assigned batch, the Child Indexing Brokers request another batch of record IDs from the Indexing Broker.

After all record IDs from the editorial table are exhausted, the Indexing Broker looks into the `search_index_actions` table and obtains metadata for any record IDs with status < 0 and processes these record IDs. To find out more about this table and its statuses, see [Section 15.8.3, "How can I tell if Solr is stopped or not running correctly?," on page 245](#).

---

**NOTE:** Child Indexing Brokers can be started and stopped any time without having any effect on the Indexing Broker. Four Child Indexing Brokers are recommended to be kept running. If you shut off all Child Indexing Brokers, the Indexing Broker can perform the above tasks (but performance will be a problem).

---

## Note on Indexing External Volumes

The Solr search method cannot be configured to do direct searches against external databases. If you have data stored externally, you have several options to consider to include this data for Solr searches:

- ◆ Use the Lookup Broker to access an external database when providing popup values in the Details view. These values, when selected and saved by TSWeb users, will be stored in the Telescope database (and subsequently indexed by Solr). However, once these values are stored in Telescope they may not reflect the values in the external database should these values change.
- ◆ Use a nightly (or otherwise regularly scheduled) cronjob to access required data from an external database and use this data to update an `extra_columns` table in the Telescope database. This cronjob will need to include triggers to update the Solr database with any changes (reindexing will be required for every asset containing any field that is changed). Note that TSWeb users should not be allowed to update these fields, as their updates would be overwritten by any external database changes.

## 15.6.2 Turn on Child Indexing Brokers

By default, only one Child Indexing Broker is turned on when Solr is first installed. It is recommended that you follow these steps to turn on the other three.

### Turn on All Available Child Indexing Brokers:

- 1 Ensure you have already installed the Child Indexing Brokers. You should have set the `TS_OMNIORB_HOST` property in the `InstallConfig` file to point to the hub server.

See the *Telescope Installation Guide* for details on how to configure the `InstallConfig` file and run the Lights Out installation for the Child Indexing Broker MSI. This MSI sets up four Child Indexing Brokers on install.

- 2 By default, the Indexing Broker is set to distribute indexing to all available Child Indexing Brokers. To verify this is the case:

- a On the hub server, open the following file in a text editor:

```
C:\Telescope\com.northplains.IndexingBroker.xml
```

- b Ensure the “`is_master`” “`value`” setting is “`true`”:

```
<boolean helptext="Is Master" name="is_master" required="yes" value="true" title="is master" />
```

(If you need to change this value from “`false`” to “`true`”, make sure you stop and start the NPS Indexing Broker from the Services panel.)

- c Also ensure that the row template value is set to “`no`” (otherwise, the settings will be ignored):

```
<row template="no">
```

- 3 On the machine the Child Indexing Brokers are installed on, go to the Windows *Start* menu and select *Administrative Tools > Services*. From the Services entry, ensure *NPS Child Indexing Broker* is started.

- 4 From the Services panel, start the others: *NPS Child Indexing Broker2*, *NPS Child Indexing Broker3*, *NPS Child Indexing Broker4*. From each of their Services Properties dialogs, change the *Startup type* to “Automatic”.

---

**NOTE:** If your organization requires additional Child Indexing Brokers over these four, follow the steps above to install another four on a separate machine.

---

### Turn off a Child Indexing Broker:

It is recommended to keep four Child Indexing Brokers running at all times. However, you may want to turn any additional Child Indexing Brokers off, particularly at those times when they are not performing initial indexing or full reindexing.

To turn off a Child Indexing Broker, go to the Services panel of the machine it is running on.

If any Child Indexing Broker is performing indexing at the time, the Indexing Broker will be able to redistribute this work to the other Child Indexing Brokers.

## 15.6.3 Reindex the Telescope Database for Solr Search

By default, the Indexing Broker maintains indexing by sending Telescope data to the Solr Multicore every time users add or remove assets, or change metadata. However, there may be times when the Solr index needs to be reindexed due to network disruptions, database disruptions, and so on. The Solr database should always remain synced to the Telescope RDMS, or users may not be able to find assets they are looking for.

There may be alternatives to the following method. See [Section 15.1, "Solr Reindexing Alternatives," on page 240](#)

### When do I need to do a full reindex?

The following situations are some examples of when you would know the Solr database is out of sync with the Telescope RDMS:

- ◆ If a field had the searchable flag turned off, and the flag is later turned on. (A full re-indexing is the only way missing data from that field can be added to Solr.)
- ◆ If a field had the searchable flag turned on, and the flag is turned off. (Not required, but a full reindexing cleans up the data.)
- ◆ If a column pre-populated with data is added to TeleScope as a new metadata field. (If the new column is blank, reindexing is not required because indexing will happen when users enter data.)
- ◆ The Indexing Broker was not running and data gets out of sync.
- ◆ If the number of search results for “Find All Assets” in TSWeb is not consistent with the number of records in the Telescope database. That is, if Solr has fewer records than shown in the editorial table, indicating some data got lost along the way.
- ◆ If you did not update stored procedures that change metadata. (Stored procedures must include code to insert a record in the `search_index_actions` table with a status of -2. For information on this table, see [Section 15.8.4, "The Search Index Tables," on page 248.](#))

It is recommended in the above situations that you initiate a full reindexing of the Solr search index after initial indexing is complete.

---

**NOTE:** Reindexing is not required when the “Facet on” flag is turned on or off for any fields.

---

## To reindex for Solr search:

---

**NOTE:** For large reindexing jobs, you may wish to set up additional Child Indexing Brokers.

---

- 1 On the hub server, turn off the NPS Indexing Broker and NPS Child Indexing Brokers in the Services panel.
- 2 On the hub server, edit the following file in a text editor:

`C:\TeleScope\com.northplains.IndexingBroker.xml`

- 3 Change the “reindex” setting to true:

```
<string helptext="Reindex" name="reindex" required="yes" title="Reindex">true</string>
```

- 4 Save the file.

- 5 On the hub server, turn the NPS Indexing Broker and NPS Child Indexing Brokers back on in the Services panel. Reindexing will start.
- 6 When reindexing is complete, follow the steps above to return the “reindex” setting back to “false”.

---

**NOTE:** If you want to trigger automatic reindexing should the network connection be lost, set the `DB_SETTINGS_reindexlastrecord` parameter to “0”. This will trigger automatic reindexing when the Child Indexing Broker has its database connection restored. (By default, as of the Telescope 9.4.0.7 release, “0” is not the default value.)

---

## How do I know indexing is complete?

To check that indexing is complete:

- ◆ The values of `inlastSearchBatchIndexRecord` and `lastSearchIndexRecord` in the `db_settings` table should match the maximum record ID in the Telescope editorial table.
- ◆ There are no records left in the `search_index_actions` table (and all records in the `search_index_log` table have a status of “0”).
- ◆ When you perform a 'Find All' search in TSWeb, the number of records shown matches the number of records in the editorial table.

## How do I optimize memory usage during indexing?

After you configure Solr and it completes initial indexing, you will be able to start optimizing memory (heap) usage. The maximum heap space (as specified by the `wrapper.java.maxmemory` parameter) should be slightly greater than the size of the data Solr occupies on disk—a value you can find by checking the size of the file

`C:\TeleScope\Solr\solr-4.10.3\telescope\multicore3\core0\data` (after initial Solr indexing is completed).

The Java `jconsole` and `jvisualvm` GUI tools may also assist you in assessing how much memory gets used over time by the running instance of Solr.

## 15.6.4 Solr Reindexing Alternatives

If you find that the previous method for reindexing the Solr database (using `*true:true*` for the `reindex` parameter in the Indexing Broker PrefsML file) is slow or incomplete, consider using the following alternatives.

In this section:

[Section 15.1, "Access history tables as an alternative to reindexing," on page 240](#)

[Section 15.1, "SQL Statements to Run if the Indexing is Incomplete .....", on page 241](#)

[Section 15.1, "Alternative Procedure for Re-Indexing using the search\\_index\\_actions table., on page 241](#)

### Access history tables as an alternative to reindexing

Updating the Solr database from access history tables is an alternative to the recommended method of Solr reindexing. Note that you may not have a full complement of index entries with this method, particularly if you are not sure of when the resync inconsistencies were first introduced.

To update the Solr database from the access history tables:

- 1 Create a query to retrieve from the access history table the record IDs for all assets that have been added/deleted/or had their metadata changed since a given time (T). T could be the point in time that inconsistencies were first noticed by users (with an additional time added for buffer; for example, subtract an additional week).
- 2 For each record ID returned above, add an entry into the `search_index_actions` table with status -2. This will cause the asset to be re-indexed.

### Example MS SQL Query

The following MS SQL query adds a distinct `record_id` into the `SEARCH_INDEX_ACTIONS` table for every `ACCESS_HISTORY` entry put into the Telescope RDMS in the last seven days, unless it was deleted (`access_type` 3). Each of these new entries is given status -2, meaning the record will be reindexed because data in the Telescope database has changed.

```
INSERT INTO SEARCH_INDEX_ACTIONS (
    RECORD_ID,
    STATUS,
    INDEX_TIME,
    USER_NAME,
    BROKER_NAME
)
SELECT DISTINCT(RECORD_ID), -2, getdate(), 'admin', null FROM ACCESS_HISTORY
    WHERE ACCESS_TIME > GETDATE() -7 AND ACCESS_TYPE != 3
```

### Example Oracle Query

The following Oracle query adds a distinct `record_id` into the `SEARCH_INDEX_ACTIONS` table for every `ACCESS_HISTORY` entry put into the Telescope RDMS in the last seven days, unless it was deleted (`access_type` 3).. Each of these entries is given status -2, meaning the record will be reindexed because data in the Telescope database has changed.

```
INSERT INTO SEARCH_INDEX_ACTIONS (
```

```

RECORD_ID,
STATUS,
INDEX_TIME,
USER_NAME,
BROKER_NAME
)
SELECT DISTINCT(RECORD_ID), -2, sysdate, 'admin', null FROM ACCESS_HISTORY
WHERE ACCESS_TIME > sysdate -7 and access_type != 3;

```

## SQL Statements to Run if the Indexing is Incomplete ....

Assets without `doc_renditions.long_name` entries (metadata only records) will not be indexed by the Child Indexing Brokers. The following additional SQL statements need to be run to add these entries to the Solr search database. These statements will add these records to the Solr queue with a status of “-2”, meaning that the Child Indexing Brokers will go ahead and index them.

### For SQL Server:

```

insert into search_index_actions (record_id, status, index_time, user_name) select
record_id, -2, getdate(), 'admin' from editorial where record_id not in (select
distinct(record_id) from doc_renditions);

```

### For Oracle:

```

insert into search_index_actions (record_id, status, index_time, user_name) select
record_id, -2, sysdate, 'admin' from editorial where record_id not in (select
distinct(record_id) from doc_renditions);

```

## Alternative Procedure for Re-Indexing using the `search_index_actions` table.

If the reindex of the Solr database does not complete properly when you use `*true:true*` for the reindex parameter in the Indexing Broker PrefsML file, then we recommend the following alternative procedure to re-index the Solr database, using the `search_index_actions` table. Using the re-index parameter in the Indexing Broker's PrefsML file uses a different process than this one, which uses the `search_index_actions` table, as outlined in the steps below.

Note that this alternative procedure seems to be faster and provide better results than the `*true:true*` method. We are validating whether this alternative should become the recommended method for re-indexing.

To re-index using the `search_index_actions` table:

- 1 Stop the Telescope Web instances. This is to avoid any confusion to users while indexing is occurring.
- 2 Set the reindex parameter in the Indexing Broker PrefsML file (`com.northplains.IndexingBroker.xml`) to `false:false` (from `true:true`) to avoid a re-index.
- 3 Ensure that the following `DB_SETTINGS` entries for re-indexing are set to `max(record_id)`: `lastSearchBatchIndexRecord` and `lastSearchIndexRecord`.
- 4 Go to the Solr Server:
  - a Open the Solr console `http://localhost:8983/solr/`
  - b From the drop down on the left, select the core to delete. (For example, `recs`, `rec2`, etc.)

**c** Look for the “data” directory, as highlighted below (it ends with “\data”). Take note of this location. For example:

```
CWD:      C:\TeleScope\Solr\solr-4.10.3\telescope
Instance: C:\TeleScope\Solr\solr-4.10.3\telescope\multicore3\core0
Data:     C:\TeleScope\Solr\solr-4.10.3\telescope\multicore3\core0\data
Index:    C:\TeleScope\Solr\solr-4.10.3\telescope\multicore3\core0\data\index
```

- 5** On the Telescope Hub, stop the NPS Indexing Broker service.
- 6** On the Telescope Hub, stop the Child Indexing Broker services.
- 7** Stop the Child Indexing Broker services on any remote servers.
- 8** On the Solr Server, stop the NPS Jetty service - this will stop Solr on the server.
- 9** Using Windows Explorer, navigate to the “data” directory you took note of above.
- 10** Delete the contents of the data directory, including all of its sub-directories. They will be re-created as empty when Solr is restarted.
- 11** Start the NPS Jetty Service to restart Solr.
- 12** Start the NPS Indexing Broker service on the Telescope Hub.
- 13** Start any relevant Child Indexing Broker Services.
- 14** Go to the Telescope Database for the MSSQL Management Studio or Oracle SQL Developer.
- 15** Execute the following SQL to insert all record\_id's from the editorial table into the search\_index\_actions table.

For MS SQL:

```
INSERT INTO search_index_actions (record_id, status, index_time, user_name)
      (SELECT record_id, -2, getdate(), 'admin' FROM editorial)
```

For Oracle:

```
INSERT INTO search_index_actions (record_id, status, index_time, user_name)
      (SELECT record_id, -2, sysdate, 'admin' FROM editorial)
```

These statements will add these records to the Solr queue with a status of “-2”, meaning that the Child Indexing Brokers will go ahead and index them.

- 16** Indexing will start automatically.  
  
Monitor the progress of the indexing. The Solr console can be used to monitor the progress. <http://localhost:8983/solr/#/<selected core>>  
  
where <selected core> is the appropriate core (typically recs)
- 17** Once indexing is complete (that is, the Child Indexing Brokers are no longer processing records), review the search\_index\_actions table. Any records remaining in the table are not indexed, and may have -1 as the status. These remaining records can be corrected and re-processed by changing the -1 status to -2.

## 15.7 Control/Track User Access to Solr Searches and Search Data

### 15.7.1 Control What Users See

Use the TSAdmin interface to control access to searches and the data they show for each user/group that is defined.

- ◆ To define which fields are searched and faceted, use the *Add New Search Field* button from the TSAdmin *Fields* tab. For details, see [Section 10.2.3, "Add Search Fields," on page 130](#).
- ◆ To control which data is shown during a search, you can build where clauses from the TSAdmin *Users/Groups Permissions* tab. For details, see [Section 9.5, "Use Where Clauses to Control User Access to Data," on page 111](#).
- ◆ To set access to any Form or Tree searches you've set up, go to the TSAdmin *Users/Groups Searches* tab. For details, see [Section 9.7.2, "Specify the Visibility of Searches," on page 119](#).

### 15.7.2 Enable Users to Create Clickable Links to Advanced Searches

TSWeb users can create clickable links of particular assets or Advanced Searches that can be included in emails or embedded in other applications. Viewers launching these links need to be logged in to Telescope before the assets are shown.

For more information, see [Section 12.7, "Create Unique Links to Assets," on page 170](#).

### 15.7.3 Enable Users to Set Up Private Advanced Searches

You can allow TSWeb users to create and update their own private advanced searches. Administrative users can choose when saving an advanced search whether or not to make the search private or available for other users to see. (Their choice stays "sticky" for the next search they create.) Non-administrative users can only save their own private searches, not public searches. Users can save their searches under any name, even if the name is already used for another user's private search.

This functionality is disabled by default. To activate it, include the following option in the TSWeb `config.plist` file:

```
anyUserCanAdminAdvanceSearch=true;
```

### 15.7.4 Track Search Query Data

Search terms entered by users for Simple, Advanced and Form Searches are stored, allowing the use of SQL queries to generate reports from this data. This information is stored as the Solr search string used for the query in the `search_terms` column in the `TS_STATISTICS` table.

The search name, should it exist, is appended to the string saved in the `action_desc` column of the `TS_STATISTICS` table.

## 15.8 Solr Search Troubleshooting

### 15.8.1 How do I ensure Solr searching is configured and turned on?

By default, Solr search is configured to be turned on. To verify this configuration, follow these steps on the **web application server**:

- 1 Browse to and open each of the following files in a text editor:

```
\Telescope\Applications\tsadmin.woa\Contents\Info.plist  
\Telescope\Applications\tsweb.woa\Contents\Info.plist
```

In both of these files, ensure the `<string>` value of the "search\_mode" key reads "SOLR"

```
<key>search_mode</key>  
<string>SOLR</string>
```

(The other option for this key is "SQL", the obsolete SQL search, which is not recommended.)

- 2 If you need to update either of the `Info.plist` files, follow these steps:
  - a Save the files.
  - b Access the Services console via the computer's Administrative Tools.
  - c Right-click on Apple WebObjects Taskd and select *Restart*.
  - d Right-click on Apple WebObjects Java Monitor and select *Restart*.
  - e Right-click on World Wide Web Publishing Service and select *Restart*.
  - f The cache must be cleared on any browsers running TSWeb.

### 15.8.2 How do I check if indexing has started?

#### 1. Check if the indexing services are running

Follow these steps on each of the servers where the Indexing Broker and Child Indexing Brokers are installed:

- 1 From the Windows Start menu, click *Administrative Tools > Services*.
- 2 Scroll down and check if the following service(s) are running, as relevant:
  - ◆ NPS Indexing Broker
  - ◆ NPS Child Indexing Broker
- 3 If these services are not running, then start them.

#### 2. Check the log files for errors

If you see the indexing services are not running, or suspect the Solr search indexing has not started, check the log files:

- 1 Go to the indexing log file and look for a message that there is an error getting data from the `ab_settings` table.

---

**NOTE:** The location of the indexing log file is defined in the “log\_file” string in the Indexing Broker `prefsML` file at `C:\Telescope\com.northplains.IndexingBroker.xml`

---

- 2 All of the following fields should have been created automatically in the `db_settings` table by the indexer on the first indexing run.

db_settings value	Description
lastSearchBatchIndexRecord	When a batch of record IDs are picked up for processing, the highest record ID number is stored in this value. The Indexing Broker will look for a record ID larger than this number when it assigns the next batch for processing.
lastSearchIndexRecord	The highest record ID value that was actually sent to the Solr Multicore. When the entire batch of record IDs is processed, this value will equal the value of <code>lastSearchBatchIndexRecord</code> (if <code>isIndexing</code> is set to false, this is a good indication that all indexing is complete).
lastReindexRecord	The highest record ID value that was re-indexed (generally due to an update to that record).
isIndexing	This is set to false initially, and set to True only while the Indexing Broker is picking a new batch of record IDs to be indexed. In the unlikely event that two Indexing Brokers are indexing the same database, this flag tries to ensure they aren't processing the same record IDs and are splitting up the indexing job.
lastSearchIndexTime	This timestamp setting is used internally during Telescope database indexing.

- 3 Use the following SQL query to check if the above values are present in the `db_settings` table:

```
select * from db_settings where keyword like N'%index%'
```

The results should include lines for each of the above values.

---

**NOTE:** It is very unusual that you would not see these results. If one or more of the above values do not appear in the results, you could try to add them to the `db_settings` table using any of the following SQL commands, as appropriate:

```
insert into db_settings values ( NULL, N'lastSearchBatchIndexRecord', N'0' )
insert into db_settings values ( NULL, N'lastSearchIndexRecord', N'0' )
insert into db_settings values ( NULL, N'lastReindexRecord', N'0' )
insert into db_settings values ( NULL, N'isIndexing', N'false' )
insert into db_settings values ( NULL, N'lastSearchIndexTime', N'0' )
```

---

## 15.8.3 How can I tell if Solr is stopped or not running correctly?

### 1. Spot check the Search functionality

From TSWeb, check that the following functionality is available:

- ◆ Find All returns the correct number of assets (that is, an administrator with full search access should be able to see every asset in the database)
- ◆ The Refine Search panel appears. (If not, the Solr Search is not working. You may be using the obsolete SQL search functionality instead.)
- ◆ The Simple Search field works (and you see the “Include Document Content” check box).

## 2. Check if the Solr service is running

If the search functionality is not available, check if the Solr service is running:

- 1 On the server where the Solr multicore is installed, go to the Windows Start menu, and select *Administrative Tools > Services*.
- 2 Scroll down and check if the following service is running
  - ◆ Jetty service
- 3 If this service is not running, start it and follow the previous steps to check if the functionality is available.

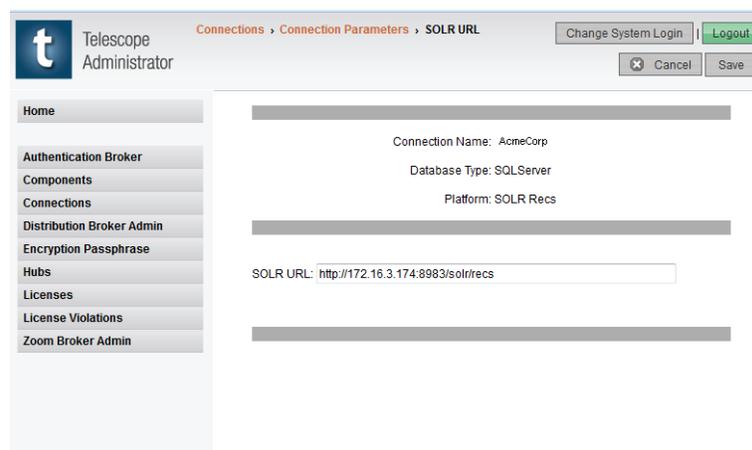
## 3. Check the Solr Core

- 1 From a browser, access the Solr console by typing in the following URL:

`http://<MulticoreIPAddress>:8983/solr/`

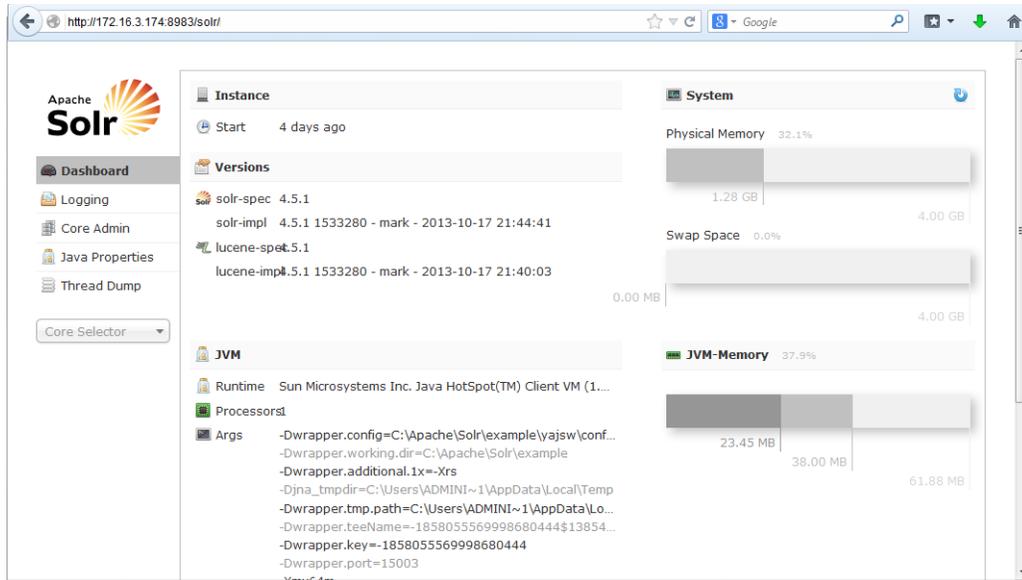
You can find the Multicore IP address by logging into TSAdmin as System Administrator and going to *Connections > [Connection Name] > SOLR Recs parameters*

**Figure 15.4** Solr Recs URL



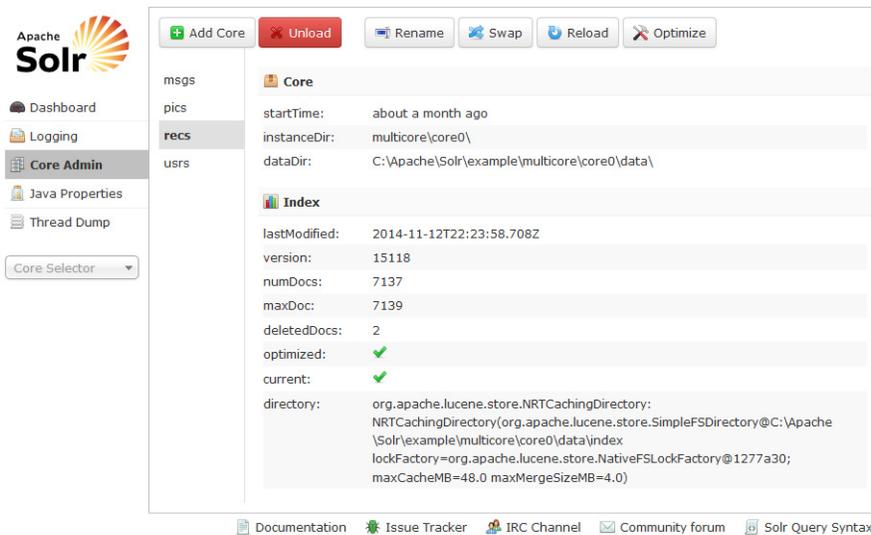
- 2 The Solr Admin interface appears.

Figure 15.5 Solr Recs Core Details



3 Navigate to the *Core Admin* > *recs* to view details.

Figure 15.6 Solr Recs Core Details



Check the details to see when the core was last modified, how many documents are indexed, and so on. If these details look incorrect (that is, you know that actions were performed after the times shown), the Solr engine may not be running. Also, check the Logging link on the left for any error messages.

#### 4. Check the search\_index\_log table

See the next section for details on the search index tables. Refer to the `search_index_actions` table to see uncompleted actions, and to the `search_index_log` table for a full picture of what was successful. Look for information such as the following:

- ◆ The most recent time stamp (if it is outdated, the indexing has not been functioning)
- ◆ Negative status numbers that indicate indexing failures
- ◆ Check if recent metadata changes appear in the log table.

If you determine that the indexer is not functioning correctly, restart it (see step 2 above), make a metadata change to test, and check the index log again to verify the change was indexed.

#### 5. Check the broker logs

The following log files may provide clues on indexing performance (they are located on the hub server):

- ◆ `c:/Telescope/Logs/idx.log` (Indexing Broker)
- ◆ `c:/Telescope/Logs/cdx.log` (Child Indexing Broker)

In addition check that the Indexing `prefsm1` file is pointing to the right hub. This file is at `C:\TeleScope\com.northplains.IndexingBroker.xml`

### 15.8.4 The Search Index Tables

Every time the Indexing Broker picks up a batch of record IDs to process, before starting the indexing process it writes a row for each record ID into the `search_index_actions` table. After a record is successfully indexed, it is removed from the `search_index_actions` table, but a log of all completed actions remains in the `search_index_log` table.

Refer to the `search_index_actions` table to see uncompleted actions, and to the `search_index_log` table for a full picture of what was successful.

Both of these tables contain the following columns:

- ◆ `record_id`: The Telescope asset record ID.
- ◆ `status`: An integer indicating the processing status of that record ID. (See below.)
- ◆ `index_time`: the time when the latest action was executed on the record ID.
- ◆ `user_name`: The user who initiated the action. (Typically, “System,” or the Indexing Broker.)
- ◆ `broker_name`: The IP address of the machine running the Indexing Broker or Child Indexing Broker.

#### Record Status Values

When a record ID row is initially created, its status value is set to “-1” in the `search_index_actions` table. After data for a record ID is sent successfully to the Solr Multicore, the status is updated to value “0” (and the record ID row is removed from the into the `search_index_actions` table and remains only in the `search_index_log` table).

Indexing failures produce other negative status numbers, as shown in the following table:

Value of status column	Description
+1	This is a rollup record (that is, a date range or integer value).
0	Record ID was successfully sent to Solr for search indexing.
-1	Indexing is pending. The record has been added to the queue for processing.  <b>Note:</b> If a Child Indexing Broker fails while in the middle of processing a batch of assets, those assets may be left in an abnormal state where they will no longer be processed, even with a -1 status. In this case, these assets require manual intervention by an administrator to adjust the queue and reset from pending (-1) to a ready for processing (-2) status using the following SQL command: update search_index_actions set status = -2 where status = -1;
-2	The record has to be reindexed because data in the Telescope database has changed.
-3	The indexer could not connect to Solr. (Solr could be down.)
-4	The Telescope database query timed out (it took over 30 secs).
-5	There was a Telescope database error when retrieving data.
-6	There is insufficient memory to hold the data retrieved from TeleScope
-7	Needs rollup, processing not complete.
-8	Not partially indexed.

### 15.8.5 Improve Solr Indexing Performance

To improve the speed of Solr indexing, try the following:

- 1 Add more Child Indexing Brokers. See [Section 15.6.2, "Turn on Child Indexing Brokers," on page 237](#).
- 2 In the Indexing Broker prefsML file (located at C:\TeleScope\com.northplains.IndexingBroker.xml), ensure the maximum number of records per thread (`recsPerSearchIndexThread`) is sufficient, at 500 or so. This prefsML setting affects Child Indexing Broker behavior (not Indexing Broker behavior, which uses only a few threads when it delegate tasks to the Child Indexing Brokers).

Note that if you set the `recsPerSearchIndexThread` value any higher, say to 1000 or more, be sure the machines where the Child Indexing Brokers are installed have sufficient memory, and change the Child Indexing Broker `JVM_HEAP_SIZE` registry setting on those machines to a higher value (1 GB is recommended).

- 3 If performance is still an issue, consider scaling back the number of features provided by search. See the next section.

## 15.8.6 Improve Solr Performance by Reducing Available Features

If your organization has a large installation and wants to improve performance, or if it wants to limit the search features available to users, you can remove Solr search features such as highlighting, faceting (refine search), and so on.

The following configuration settings are available in TSAAdmin, in the *Settings* tab:

- ◆ *Disable Refine Search*
- ◆ *Disable Search Term Highlighting*
- ◆ *Disable Search Relevance Weighting*
- ◆ *Use Single Default Search Field*

For details on these settings, see [Section 8.6, "Search Settings," on page 90](#).

### Reduce the Frequency of Validation Queries

You can also improve Solr indexing performance by increasing the interval between when database queries are issued to validate the data model as part of the process to index an asset. Add the `DB_SETTINGS` entry `metadata_cache_timeout`, which defaults to one minute should it not be found.

This interval setting can be changed by updating the database entry for this keyword with the following command:

```
update db_settings set valustr='<interval in milliseconds>' where keyword =  
'metadata_cache_timeout' and user_name is null;
```

Note that this update does not require a restart of any services, and takes effect at the next polling interval.

## 15.9 Set Up Solr Indexing for Up to 4 Database Connections

It is possible to configure your Telescope environment to index multiple database connections for Solr search (for example, separate connections for development, QA, and production environments).

This chapter provides instructions for setting up Solr indexing for up to four database connections. To find out how to set up for additional connections (5-12), complete this chapter for the first four connections, then proceed to the next chapter, [Section 15.10, "Set up Solr Indexing for 5-12 Database Connections," on page 254](#)

### Warnings

- ◆ It is strongly recommended that dedicated hardware be used for each database connection, particularly for those connections used in production environments.
- ◆ If your organization is running Telescope on both an MS SQL and an Oracle SQL database, you must set up separate Solr multihubs (running their own Indexing Broker and Child Indexing Brokers) for each of these databases to accommodate their differing data structures.

### 15.9.1 Configure Solr Indexing for Up to Four Database Connections

- 1 Stop all Child Indexing Brokers and the Indexing Broker.
- 2 Edit the file `com.northplains.IndexingBroker.xml`, located at `C:\TeleScope` on the machine where the Indexing Broker is installed.
- 3 Add the following section for each database connection you are adding:

```
<row template="no">
<key><string title="Database Connection" name="conn_name" required="yes" helptext="Enter the name
of the connection">YOURDBNAMEHERE</string></key>
<string title="Reindex" name="reindex" required="yes" helptext="Reindex">>true</string>
<string title="indexAnnotation" name="indexAnnotation" required="yes"
helptext="indexAnnotation">>true</string>
<string title="indexDocRendition" name="indexDocRendition" required="yes"
helptext="indexDocRendition">>true</string>
<string title="Data Schema" name="ts_schematype" required="yes" helptext="Enter the data schema
for indexing">recs</string>
</row>
```

- 4 In the pasted section, replace `YOURDBNAMEHERE` with the name of the appropriate database connection.
- 5 Configure your Child Indexing Brokers to handle multiple databases (see the next section).
- 6 Log in to TSAdmin as `sysadmin`.
- 7 Navigate to **Connections > YOURDB > SOLR Recs parameters**.
- 8 Set the database to one of the following options; each database should be pointed to its own URL:

```
http://<SolrMachineIPAddress>:8983/solr/recs
http://<SolrMachineIPAddress>:8983/solr/rec2
http://<SolrMachineIPAddress>:8983/solr/rec3
http://<SolrMachineIPAddress>:8983/solr/rec4
http://<SolrMachineIPAddress>:8983/solr/msgs
http://<SolrMachineIPAddress>:8983/solr/pics
http://<SolrMachineIPAddress>:8983/solr/usrs
```

---

**NOTE:** To change the names used for these cores, you can update the names entries in the file

C:\Telescope\Solr\solr-4.10.3\telescope\multicore3\solr.xml

---

- 9 Repeat the above steps for each database connection you want to index.

You can add up to four database connections using the default Solr installation. (To add more, see [Section 15.10, "Set up Solr Indexing for 5-12 Database Connections,"](#) on page 254.)

## 15.9.2 Configure Child Indexing Brokers for Up to Four Databases

---

**NOTE:** It is assumed you have already installed Child Indexing Brokers on a separate machine (see [Section 15.6.2, "Turn on Child Indexing Brokers,"](#) on page 237).

---

Four Child Indexing Brokers are configured with the default installation, and it is recommended for optimal operation that you use all four of these for one database connection. However, you can use the instructions below to assign each of these four Child Indexing Brokers to a separate database connection (but be aware that indexing performance will be compromised).

Multiple database connections require distinct Child Indexing Broker executable files with distinct prefsML paths. These executable files (called `cdx.exe`, `cdx2.exe`, `cdx3.exe`, and so on) are provided in the Telescope installation (by default, C:\Telescope). By default, only `cdx.exe` is configured to access the database connection specified when Telescope was installed. To activate the other executables to access other database connections, you need to configure their prefsML files as shown below.

---

**NOTE:** The server can support up to twelve Child Indexing Brokers with additional configuration. See [Section 15.10, "Set up Solr Indexing for 5-12 Database Connections,"](#) on page 254 for details.

---

## 15.9.3 Configure the prefsML Files for Up to Four Database Connections

To configure the prefsML file for 1-3 additional database connections:

- 1 Stop all Child Indexing Brokers and the Indexing Broker.
- 2 Make sure the following files exist on the machine where the Child Indexing Brokers are installed:  
C:\Telescope\com.northplains.ChildIndexingBroker.xml  
C:\Telescope\com.northplains.childindexingbroker2.xml  
C:\Telescope\com.northplains.childindexingbroker3.xml  
C:\Telescope\com.northplains.childindexingbroker4.xml
- 3 In a text editor, edit `childindexingbroker2.xml`. Change `template="yes"` to `template="no"` (this activates the executable), and then add the unique database connection name in the `conn_name` string:

```
<row template="no">
  <key>
    <string helptext="Enter the name of the connection" name="conn_name" required="yes"
      title="Database Connection">[UNIQUE_CONNECTION_NAME_HERE]</string>
  </key>
  ...
```

- 4** If you have three database connections, use the previous step to configure `childindexingbroker3.xml` (and `childindexingbroker4.xml` if you have four connections).
- 5** Start the Indexing Broker and Child Indexing Brokers.

## 15.10 Set up Solr Indexing for 5-12 Database Connections

The Telescope system is configured by default to support Solr searching for up to four database connections. This section provides the steps to reconfigure your system to support Solr searching for additional database connections (up to 12) running on one multicore.

---

**NOTE:** There is no limit to the number of Solr cores you can add, but there is a hard limit of 12 database connections per Child Indexing server. To support more than 12 database connections, it is possible to set up multiple Child Indexing servers, each running up to 12 Child Indexing Brokers. Contact Telescope Engineering for more information on this scenario.

---

### Warning:

It is strongly recommended that dedicated hardware be used for each database connection, particularly in production environments. In the configuration described in this chapter, considerable strain will be placed on the Child Indexing Broker server, which will need to be a very high-performance machine.

### 15.10.1 Add Additional Solr Cores

By default (as of Telescope Version 9.3.3), seven Solr cores are available. If you need to add cores, follow these instructions:

- 1 Go to the server running the Solr multicore.
- 2 Navigate to the following folder (the default installation path is shown):  
C:\Telescope\Solr\solr-4.10.3\telescope\multicore3  
(Be sure to navigate to the **multicore3** folder, not any of the other multicore folders.)
- 3 You will see folders named `core0`, `core1`, `core2` and so on. Copy and paste one of these folders and rename it to the next highest available number (for example, `core7`).
- 4 Navigate into the new folder you created and delete the data folder. In the `core7` example above, you would delete the following folder and all of its contents:

```
C:\Telescope\Solr\solr-4.10.3\telescope\multicore3\core7\data
```

- 5 Edit the following XML file in a text editor (the default installation path is shown):

```
C:\Telescope\Solr\solr-4.10.3\telescope\multicore3\solr.xml
```

- 6 Go to the following section:

```
<cores adminPath="/admin/cores" host="${host:}" hostPort="${jetty.port:8983}"
hostContext="${hostContext:solr}">
  <core name="recs" instanceDir="core0" />
  <core name="msgs" instanceDir="core1" />
  <core name="pics" instanceDir="core2" />
  <core name="usrs" instanceDir="core3" />
  <core name="rec2" instanceDir="core4" />
  <core name="rec3" instanceDir="core5" />
  <core name="rec4" instanceDir="core6" />
</cores>
```

- 7 Add a line within the `<cores>` section to identify the additional core. For example:

```
<core name="rec5" instanceDir="core7" />
```

- 8 Save and close the file.
- 9 Restart the Solr server.

---

**NOTE:** To make it easier to keep track of the core names, you may want to update the names for each of the entries in the `<cores>` section in the `solr.xml` file to better reflect your environment. For example, you may want to change the `name=` entries to reflect the database connection names, or number them `core1`, `core2`, and so on.

---

## 15.10.2 Configure Solr Indexing for Additional Database Connections

- 1 Stop all Child Indexing Brokers and the Indexing Broker.
- 2 Edit the file `com.northplains.IndexingBroker.xml`, located at `C:\Telescope` on the machine where the Indexing Broker is installed.
- 3 Add the following section for each additional database connection you are adding:

```
<row template="no">
<key><string title="Database Connection" name="conn_name" required="yes" helptext="Enter the name
of the connection">YOURDBNAMEHERE</string></key>
<string title="Reindex" name="reindex" required="yes" helptext="Reindex">true</string>
<string title="indexAnnotation" name="indexAnnotation" required="yes"
helptext="indexAnnotation">true</string>
<string title="indexDocRendition" name="indexDocRendition" required="yes"
helptext="indexDocRendition">true</string>
<string title="Data Schema" name="ts_schematype" required="yes" helptext="Enter the data schema
for indexing">recs</string>
</row>
```

- 4 Configure your Child Indexing Brokers to handle the additional database connections (see the next section). For each connection, you must set up the connection name within the Child Connection file.  
  
Files for Indexing Brokers can have multiple child connections, but files for Child Indexing Brokers can have only one connection. That is, there must be a separate file for each Child Indexing Broker.
- 5 Log in to TSAdmin as sysadmin.
- 6 Navigate to **Connections > YOURDB > SOLR Recs parameters**.
- 7 Set the database to one of the cores you added in the previous section. Each database should be pointed to its own URL. For example, you could set the fifth database connection to:  
  
`http://<SolrMachineIPAddress>:8983/solr/rec5`
- 8 Repeat the above steps for every database connection you want to index.

## 15.10.3 Configure Child Indexing Brokers for 5-12 Databases

The following instructions are for adding greater than four Child Indexing Brokers. You can add up to 12 Child Indexing Brokers for each server, but can have multiple servers.

## Place the EXE files in the Telescope Installation

This release provides executable files to run up to twelve Child Indexing Brokers: `cdx5.exe`, `cdx6.exe`, `cdx7.exe`, and so on through to `cdx12.exe`. If they are not already in place, these files need to be copied into the same location as the existing `cdx.exe` file (by default, `C:\Telescope`).

## Create Additional Preference Files for Child Indexing Brokers

You need to copy and edit the additional preference files required to run the additional Child Indexing Brokers.

---

**NOTE:** The default installation path is shown. If your Telescope is different, update the paths shown accordingly.

---

- 1 Make sure the following files exist on the machine where the Child Indexing Brokers are installed (the default installation path is shown here):

```
C:\Telescope\com.northplains.ChildIndexingBroker.xml
C:\Telescope\com.northplains.childindexingbroker2.xml
C:\Telescope\com.northplains.childindexingbroker3.xml
C:\Telescope\com.northplains.childindexingbroker4.xml
```

---

**NOTE:** You should already have activated the Child Indexing Brokers for each of these files by changing `template="yes"` to `template="no"` within each file. If you haven't already set up these first four files, see [Section 15.1, "Configure Child Indexing Brokers for Up to Four Databases,"](#) on page 252.

---

- 2 Copy any one of these files (for example, `com.northplains.childindexingbroker4.xml`, paste it, and rename it to `com.northplains.childindexingbroker5.xml`.
- 3 In a text editor, edit `childindexingbroker5.xml`.

---

**NOTE:** The setting `template="no"` (to activate the executable) should already be set. Change it to "no" if it is not.

---

- 4 Add the unique database connection name in the `conn_name` string:

```
<row template="no">
  <key>
    <string helptext="Enter the name of the connection" name="conn_name" required="yes"
      title="Database Connection">[UNIQUE_CONNECTION_NAME_HERE]</string>
  </key>
```

- 5 Update the value of "log\_file" to be "C:\Telescope\Logs\cdx5.log"

```
  <key>
    <string helptext="Enter the log file" name="log_file" required="yes" title="Log
file">D:\Software\Telescope\Logs\cdx5.log</string>
  </key>
```

- 6 Repeat the above steps for each required Child Indexing Broker (up to 12). For example, for the sixth Child Indexing Broker, you would create `com.northplains.childindexingbroker6.xml` and point to `cdx6.log`, and so on.

## Set Up Registry Settings and Configuration for 5-12 Child Indexing Brokers

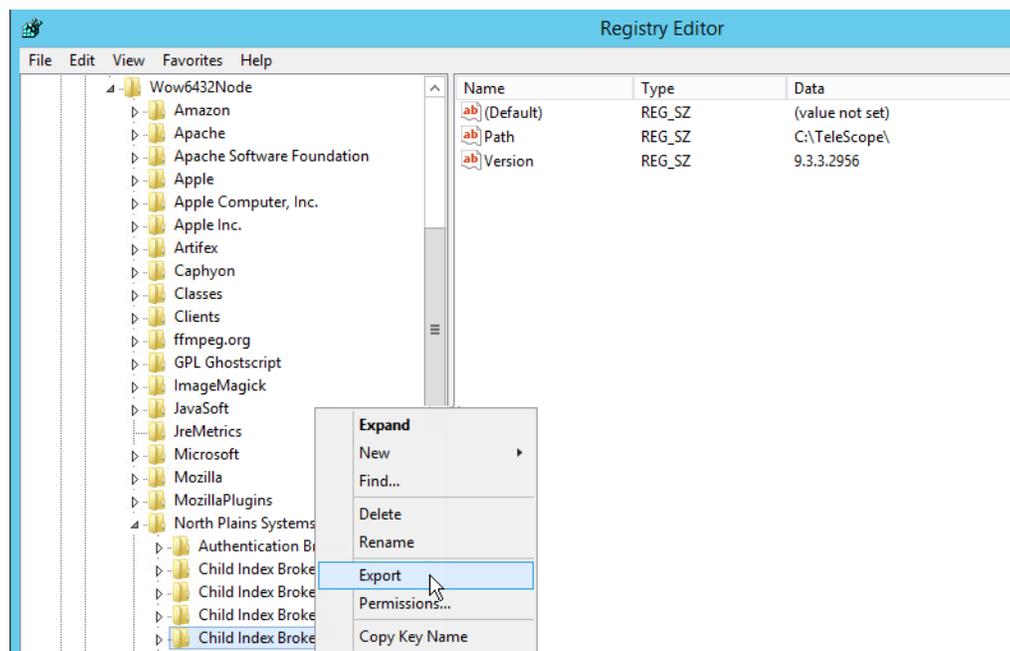
Registry settings are already in place to support up to four Child Indexing Brokers, but to support more you need to configure the registry settings. To configure registry settings for a fifth Child Indexing Broker, use the following steps. Modify these steps accordingly to set up each subsequent Child Indexing Broker above five.

To configure registry settings for a fifth Child Indexing Broker:

### A. Set the `Wow6432Node\North Plains Systems` value:

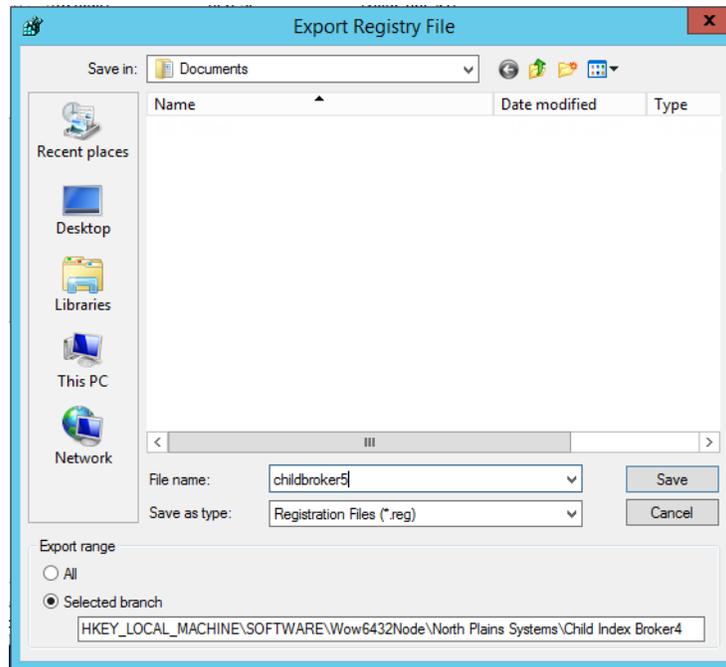
- 1 In the Windows Registry (type `regedit` from a command prompt), navigate to `\\HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\North Plains Systems`.
- 2 Select the key called "Child Index Broker4" and select *Export* from the right-click menu to export it to a registry entry file:

**Figure 15.7** Export Registry Key Settings (SOFTWARE Settings)



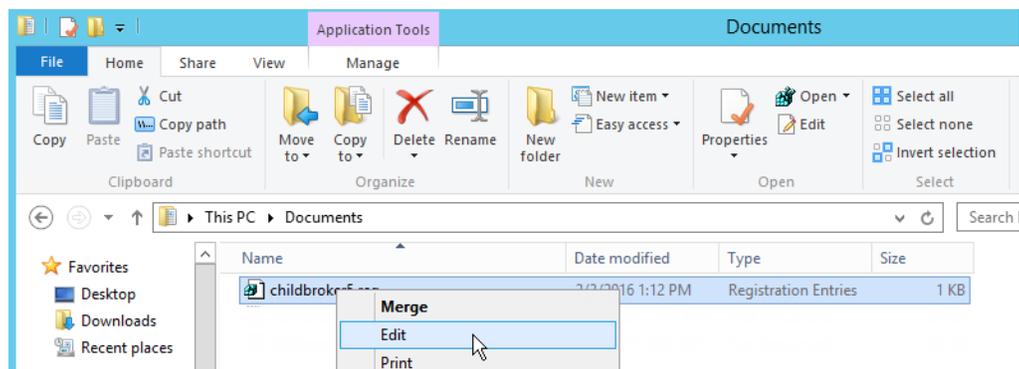
- 3 In the Export Registry File window, browse to a folder of your choice and use a name to help you remember the file is for Child Indexing Broker 5 (for example, "Child Indexing Brokers5"). Save the file.

**Figure 15.8** Specify Child Indexing Broker Name



- 4 Go to the location where you saved the file, and edit the file in a text editor (select *Edit* from the right-click menu).

**Figure 15.9** Edit new Child Indexing Broker entry



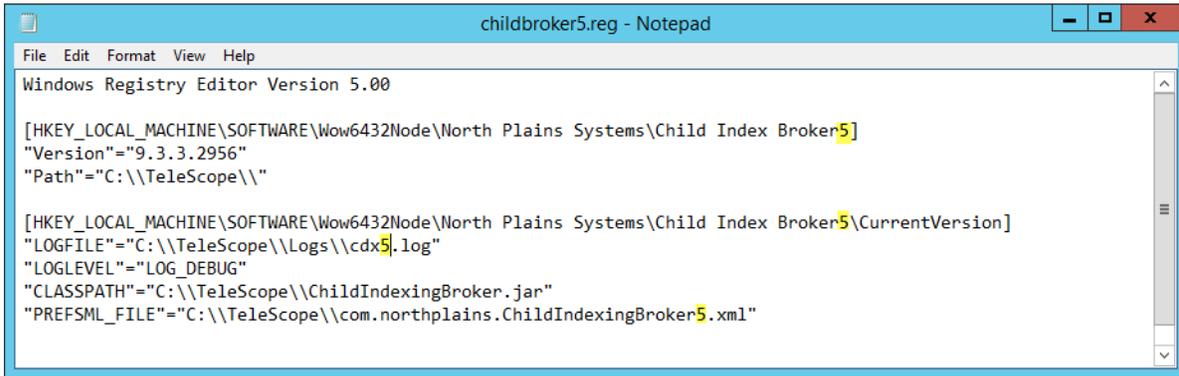
- 5 In the file, add a "5" to variations of "Child Index Broker" or "Child Indexing Broker", as highlighted below. However, leave the CLASSPATH as is.

---

**NOTE:** The PREFSML\_FILE key contains the location of the Child Indexing Broker prefsml file.

---

**Figure 15.10** Edit new Child Indexing Broker entry (2)



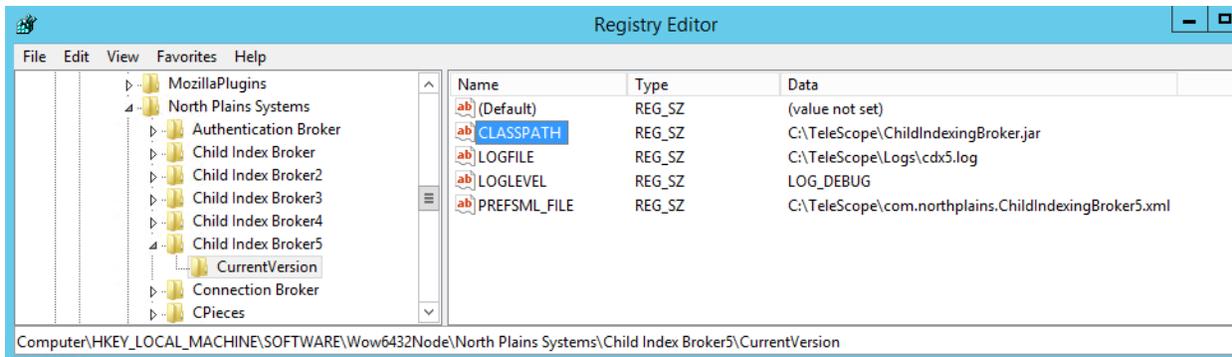
---

**NOTE:** For the sixth and seventh Child Indexing Brokers, you might use "6" or "7" respectively.

---

- 6 Save the file.
- 7 Double-click on the file (from its folder) to populate the Registry.
- 8 You will see a new "Child Index Broker5" entry in the Registry Editor, with a "Current Version" subfolder. You should see any values you updated. Ensure that the CLASSPATH key is left as is, with no number in the file name.

**Figure 15.11** Verify new Child Indexing Broker entry



## B. Add the Service to the Services List

- 9 Run the following command as administrator (change the binpath from the default path, as required):

```
sc create "NPS Child Indexing Broker5" displayname= "NPS Child Indexing Broker5" binpath=
"C:\Telescope\cdx5.exe"
```

**Note that the spacing is critical, and all entries are case sensitive.** The number 5 (appearing three times) will need to be incremented for each service as it is created.

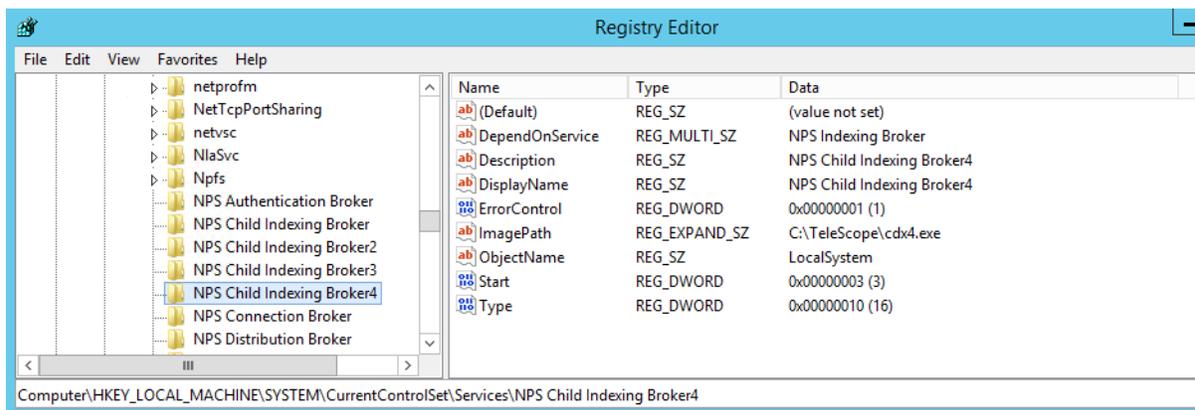
- 10 Open registry key [HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services\NPS Child Indexing Broker5] and add a new String value called "Description" Then set it to "NPS Child Indexing Broker5" (for this example). This value sets the image path. You need to do this for each Child Indexing Broker you add, with a different name for each.

Check that things are OK as per the figure below.

C. Set the `CurrentControlSet\Services` value:

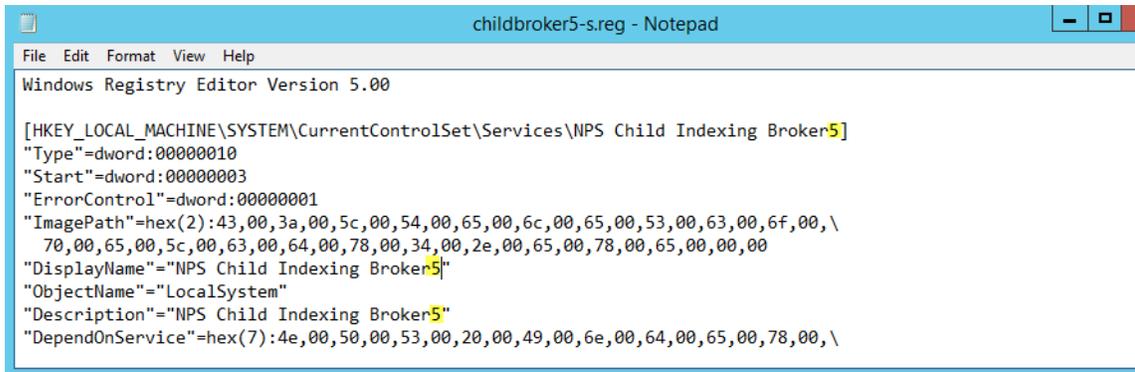
- 11 Still within the Windows Registry, navigate to  
\\HKEY\_LOCAL\_MACHINE\SYSTEM\CurrentControlSet\Services
- 12 Scroll down and select NPS Child Indexing Broker4:

**Figure 15.12** Export Registry Key Settings (SERVICES Settings)



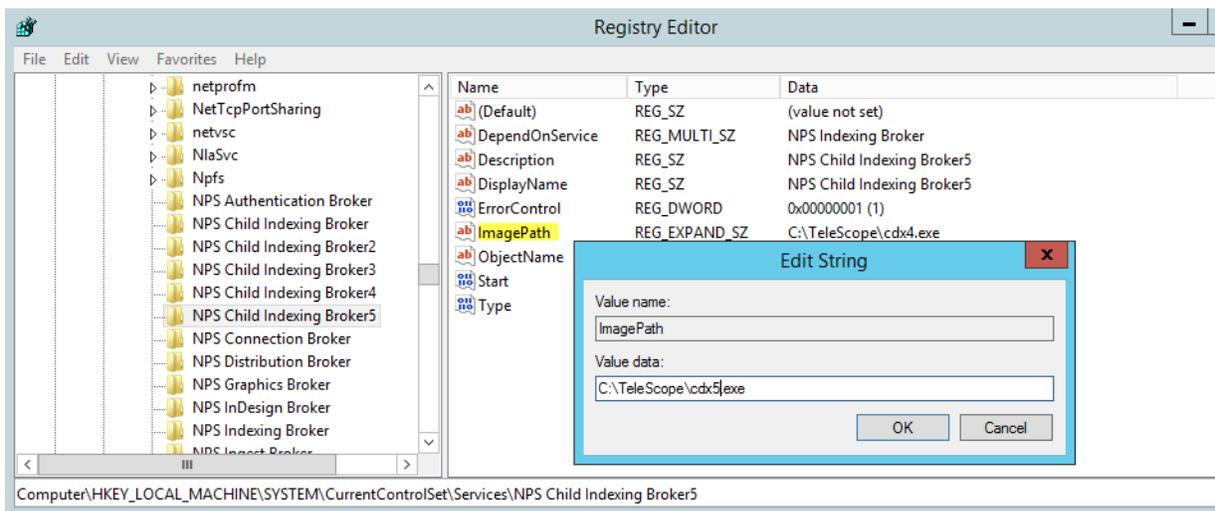
- 13 From the right-click menu, select *Export*:
- 14 In the Export Registry File window, browse to a folder of your choice and use a name to help you remember the file is for NPS Child Indexing Broker 5. Save the file.
- 15 Go to the folder where you saved the file, and edit the file in a text editor (select *Edit* from the right-click menu).
- 16 In the file, use "5" for all variations of "Child Index Broker" or "Child Indexing Broker", as highlighted below:

**Figure 15.13** Edit new Child Indexing Broker entry for Services



- 17 Double-click on the file (from its location) to populate the Registry.
- 18 You will now see a "NPS Child Indexing Broker5" entry in the Registry Editor under SYSTEM\CurrentControlSet\Services, with updated values for the Description and DisplayName keys.
- 19 Modify the ImagePath key to point to the `cdx5.exe` file (as shown):

**Figure 15.14** Edit ImagePath key



---

**NOTE:** It is easier to work with binary DWORD (32-bit) Values from the Registry Editor rather than from the registry entry file, so it is recommended you change this value from the Registry Editor.

---

**D. Repeat all of the Above Steps for Each Child Indexing Broker**

- 20 Repeat the above steps for each additional Child Indexing Broker you need (up to 12). Be sure to specify their unique paths, descriptions and display names.

For example, be sure to point to the location of their respective `cdx.exe` file within the "ImagePath" string. For the sixth Child Indexing Broker, you would point to `cdx6.exe`; for the seventh you would point to `cdx7.exe`, and so on.

## 15.11 Define Form Searches

Form searches provide Telescope users with an easy-to-use method of searching. As an administrator, you can define various search criteria for a particular database and save it as a pre-configured search. Telescope users can then select these predefined searches, making it easier for them to search the system.

---

**NOTE:** Form searches are available for both the SQL and Solr search methods, and the administrator's interface is the same for both.

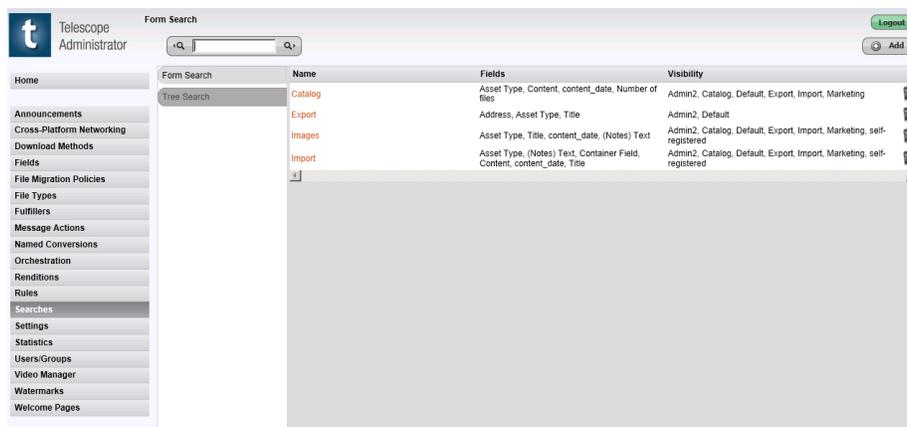
---

### 15.11.1 Define a Form Search

To define a search:

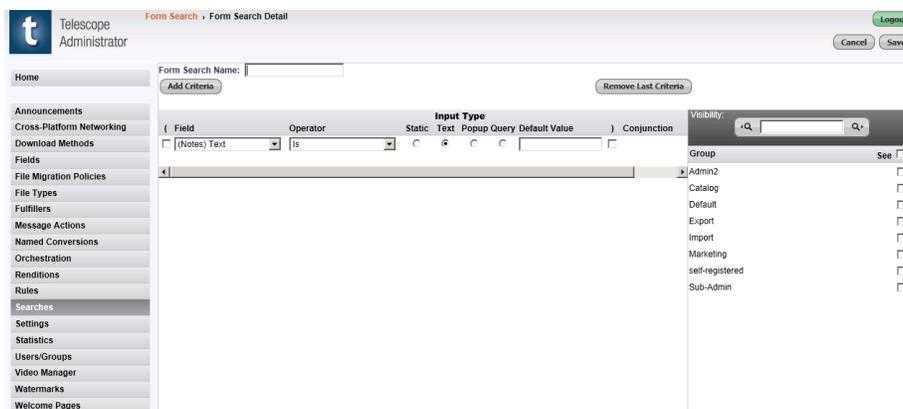
- 1 Click *Searches* in the navigation pane and select the *Form Search* tab.

**Figure 15.15** *Searches*



- 2 Click *Add*.

**Figure 15.16** *Form Searches Details*



- 3 Enter a name for the form search, which will appear in the Search menu.

---

**NOTE:** Fields in a Form Search that are defined as static are not presented to the user in TSWeb (since the user is not able to change their value). To ensure TSWeb users know the purpose of the Form Search, we recommended you give it a name that will give users an idea of what it's for. For example, if the static value of a form search is: `asset_type = "image"`, then the title of the form search could be "Images for ...".

---

- 4 Select a metadata field from the *Field* list.
- 5 Select an operator from the *Operator* list.
- 6 Specify how users choose values for the field in the search:
  - Static:** Users cannot change the value. The field always searches on the value defined in the Default Value field.
  - Text:** Users can enter text into a free form field.
  - Popup:** Users can select from a list of values predefined for the field. This option is only available if the field has a predefined popup list.
  - Query:** Users can select from a list of distinct values that currently exist in that field in the database.
- 7 If required, enter a default value in the *Default Value* field.
- 8 Select the checkboxes beneath the left and right parenthesis to add brackets to your search.
- 9 Select the Conjunction between fields (AND, OR).
- 10 In the Visibility area, select the groups that can use this search.
- 11 Click *Save*.

To add another field to the search click *Add Criteria*. To remove a field click *Remove Last Criteria*.

---

**NOTE:** A form search must have at least one search field.

---

## 15.11.2 Delete a Form Search

To delete a form search:

- 1 Click *Searches* in the navigation pane and select the *Form Search* tab.
- 2 Click the trash can icon beside the search you want to delete.
- 3 Click *OK* to confirm deletion.

## 15.12 Define Tree Searches

**NOTE:** Tree searches use SQL searches directly on the Telescope database, rather than using the Solr search method.

A Tree Search is composed of multiple levels, with each level being defined by a metadata field to search on, and a list of values to display for that level. The user can “drill down” through the levels by selecting a value from each level to advance to the next (child) level. When a level is displayed in the Tree Search page, the values for that level are obtained from the database and displayed. The values shown on a particular level are dependent on the value(s) selected at all previous (parent) levels above it.

To provide flexibility in the creation of a Tree Search, you can define custom SQL to select the list of values that are displayed for a level. The values for a level are obtained by executing this SQL Select statement, which returns a single-column result containing the values for the level. The Select statement can have parameter substitutions in it, much like functional rules or the user where clause, to place user information, and selected values from parent levels, into the SQL statement.

Each level of the tree can optionally have more than one level definition defined for it. The definition which is used when the level is opened depends on the value the user has selected when navigating one of the levels above it. Such a level is called a “decision” level. Any level below the first (top) level can be a decision level, and can reference any level above itself, all the way to the top of the tree.

### 15.12.1 Create a Tree Search

To create a tree search:

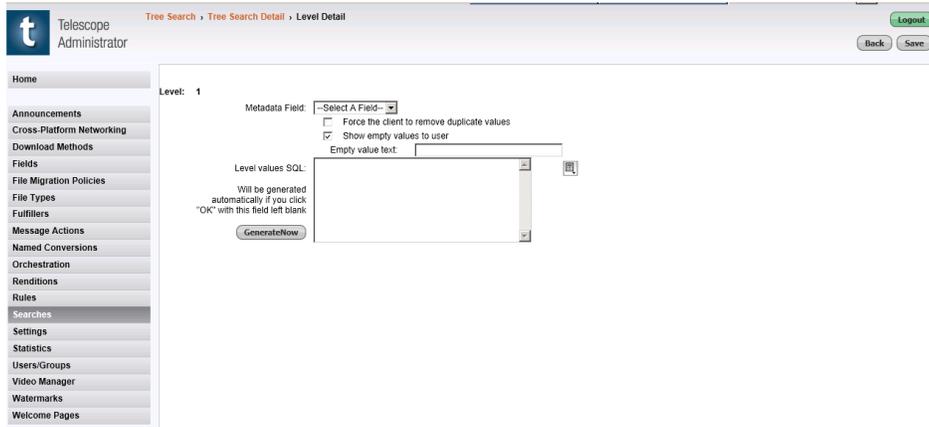
- 1 Click *Searches* in the navigation pane and select the *Tree Search* tab.
- 2 Click *Add*.

**Figure 15.17** *Tree Search Detail*



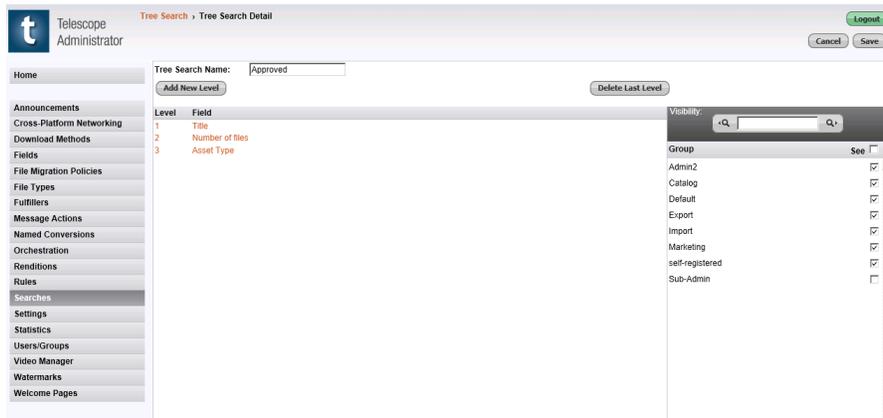
- 3 Click *Add New Level*.
- 4 In the *Tree Search Name* field, enter a name for the tree search.
- 5 To add the first level for the search, click the *Add New Level* button.

Figure 15.18 Level Detail



- 6 Select a field to be used for this level from the Metadata Field menu.
- 7 If you want distinct values to be displayed (no repeated entries) within the tree only, select the *Force client to remove duplicate values* option.  
 If you want the tree to display entries where the metadata has been left blank, select the *Show empty values to user* option. If you select this option, you can enter an alternate string to be shown when the field is empty. Enter this alternate string in the *Empty value text* field.
- 8 Enter your custom SQL in the Level values SQL field or click on the *Generate Now* button to allow Telescope to create the SQL for you. You can edit the SQL once it has been generated. Add replacement parameter tags from the value list to the right of the *Level values SQL* field.
- 9 Click *OK*.
- 10 Add as many additional levels as necessary for your search.
- 11 Select the Telescope user groups that can access this search by selecting them in the Visibility list.

Figure 15.19 Tree Search Visibility



- 12 Click *Save*.

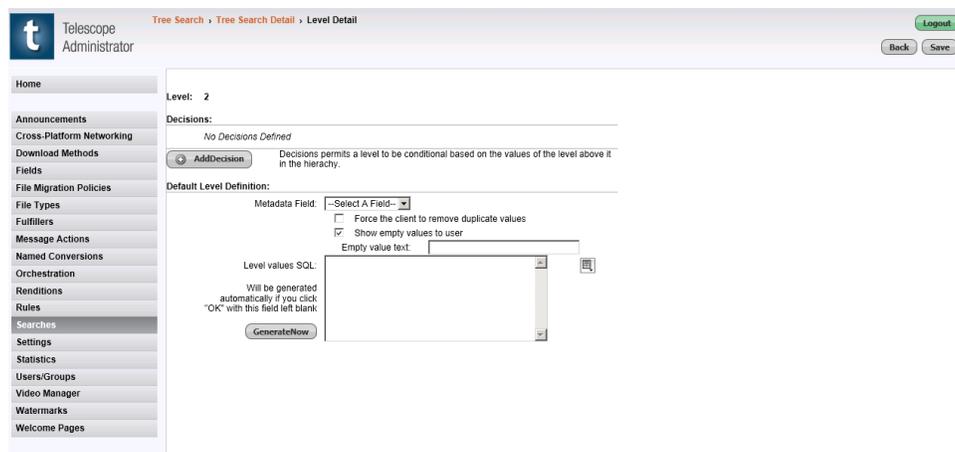
## 15.12.2 Add Subsequent Levels to a Tree Search

You can make any tree search level after the first level dependant on a choice the user made at a previous level. For example, if your first level is based on an `asset_type` field, you can configure the second level to display different options depending on the asset type the user chose. If the user chooses to drill down into the Photograph asset type, you might want to display results based on the Photographer field, but if the user chooses the Document asset type, you could display results based on the Author field.

To add a subsequent level to a tree search:

- 1 On the Tree Search Detail page, click *Add* then *Add New Level*.

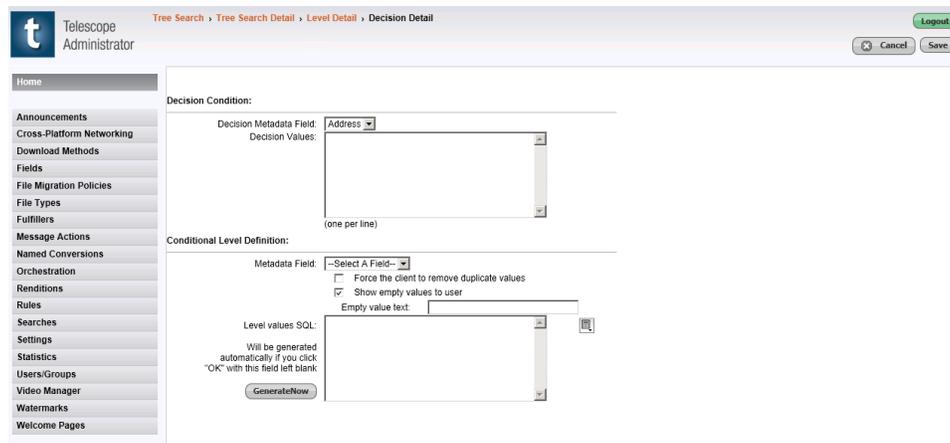
**Figure 15.20** Level Detail



The screenshot shows the 'Telescope Administrator' interface. The breadcrumb trail is 'Tree Search > Tree Search Detail > Level Detail'. The page title is 'Level: 2'. Under the 'Decisions:' section, it says 'No Decisions Defined' and there is an 'Add Decision' button. A tooltip explains: 'Decisions permits a level to be conditional based on the values of the level above it in the hierarchy.' The 'Default Level Definition:' section includes a 'Metadata Field' dropdown set to '-Select A Field-', a checkbox for 'Force the client to remove duplicate values' (unchecked), a checked checkbox for 'Show empty values to user', and an 'Empty value text:' input field. Below this is a 'Level values SQL:' text area with a 'Generate Now' button. A note states: 'Will be generated automatically if you click "OK" with this field left blank.'

- 2 Enter the *Default Level Definition* information following steps 4 to 12 in [Section 15.12.1, "Create a Tree Search,"](#) on page 265 above. The values of this field are displayed at this level of the search unless you create a decision that indicates some other field should be displayed based on a selection the user made at a previous level. If you do not want to add any decisions, go directly to step 10.
- 3 If you want this level to depend on a choice the user made at a previous level, click the *Add Decision* button.

Figure 15.21 Decision Detail



- 4 Select the metadata field you want to base the decision on from *Decision Metadata Field*. This list contains all the fields available to you based a previous search level on.
- 5 In the *Decision Values* field, enter the field values the user must select to see this level. You can enter multiple values, each on its own line.
- 6 Select the metadata field to display at this level.
- 7 Select whether to remove duplicate values or show empty values, and enter the SQL statement for selecting the values to display at this level. For more information about these options see [Section 15.12.1, "Create a Tree Search," on page 265](#).
- 8 Click *OK* to save the decision and return to the Level Detail page. The Level Detail page displays the decision as a link. To edit a decision, click its link.
- 9 Repeat steps 2 to 7 to add as many decisions as necessary for your search.
- 10 Click *OK* to save the level and return to the Tree Search Detail page.
- 11 Repeat this process to add more levels, or click *Save* to save the search.

### 15.12.3 Delete a Tree Search

To delete a tree search:

- 1 Click *Searches* in the navigation pane.
- 2 Click the *Tree Search* tab.
- 3 Click the trash can icon beside the search you wish to delete.
- 4 Click *OK* to confirm the deletion.

**15.13**



# 16. Rendition Types

This chapter provides information about adding and using rendition types in Telescope.

- ◆ [Section 16.1, "Overview," on page 272](#)
- ◆ [Section 16.2, "Manage Rendition Types," on page 273](#)

## 16.1 Overview

Renditions are copies or versions of a file that are attached to an asset's record in the Telescope database. For example, you might set up rendition types to represent flavors of a file (lowres, highres, layered, vector), or to represent stages in a file's development (draft, final & approved), or locations for files (London, Paris, New York).

The Telescope Administrator sets up the types of renditions that can be attached to an asset. The default rendition type is *File*, which is used to identify primary files.

Each asset record can have one rendition of each type. All renditions share the same metadata, although their thumbnail and extended images, file names, file paths, and (of course) rendition types are different.

## 16.2 Manage Rendition Types

To view the rendition types that have been defined:

- ◆ Click *Renditions* in the navigation pane.



Using this page, you can:

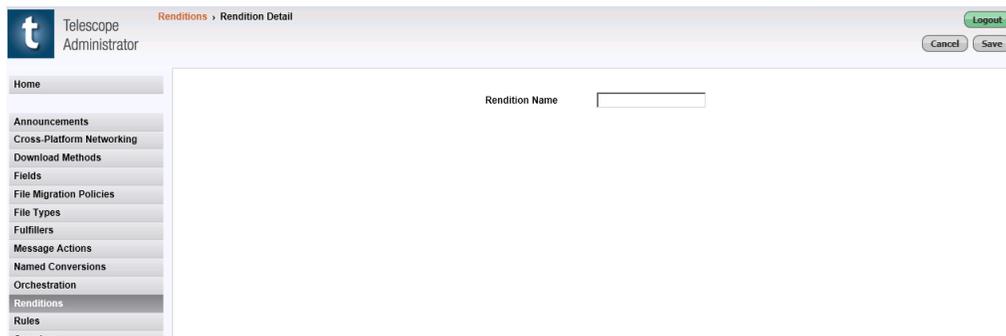
- ◆ Add new rendition types
- ◆ Change rendition names
- ◆ Delete renditions
- ◆ Change the order in which rendition types are displayed in Telescope

### 16.2.1 Add a Rendition Type

To add a rendition type:

- 1 Click *Renditions* in the navigation pane.
- 2 Click *Add*.

**Figure 16.1** Rendition Details



- 3 Enter a name for the rendition.
- 4 Click *Save*.

## 16.2.2 Rename a Rendition Type

To rename a rendition type:

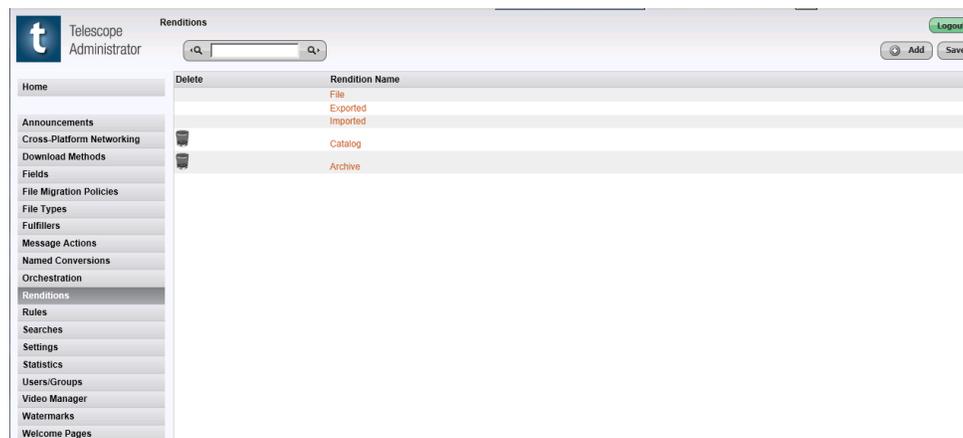
- 1 Click the rendition in the *Rendition Name* column.
- 2 Change the rendition type name and click *Save*.

## 16.2.3 Change the Order of Rendition Types

On the Rendition page, you can change the order in which rendition types are displayed in Telescope.

- 1 Modify a rendition type's position by clicking the rendition and dragging it to the required location.

**Figure 16.2** *Changing the Order of Renditions*



- 2 Click *Save*.

## 16.2.4 Delete a Rendition Type

---

**NOTE:** You cannot delete the File rendition type, which is the system default. However, you can change its name.

---

- ◆ Click the trash can icon next to the rendition type. The rendition type is no longer available for users to select when importing assets. However, assets that already use that rendition type are not affected.

---

**NOTE:** A rendition type cannot be deleted using Telescope Administrator if its rendition ID is 1 (File, or default rendition), or if there are assets already in the database for this rendition (document renditions).

---

# 17. File Types

This chapter provides information about ingesting files into Telescope.

- ◆ [Section 17.1, "Overview," on page 276](#)
- ◆ [Section 17.2, "Manage File Types," on page 277](#)
- ◆ [Section 17.3, "Change Filename Length During Ingestion," on page 280](#)

## 17.1 Overview

Once ingested, a file populates a rendition record within an asset. The file type is one of the pieces of information describing a file rendition. This information can be displayed together with the asset in a collection. Based on a file type, if a thumbnail for an ingested asset can not be generated, then a default thumbnail for the file type is used instead. File types are also used in various Field searches, as well as in file conversions and defining named conversions.

### 17.1.1 File Name Conventions

The Windows and Macintosh operating systems have different rules for filenames. To avoid complications, it is recommended to avoid using characters such as asterisks, spaces, and back slashes in the names of files being imported into Telescope.

If a file called "\*\*\*telescope\*\*" is placed in a Macintosh-accessible folder on a Windows computer, the file name will appear with boxes in place of the asterisks when viewed in Windows Explorer or File Manager.

Telescope uses complex character translations to work around this problem in most cases.

If a file called "\*\*\*telescope\*\*" is imported into the Telescope database from a Macintosh machine, a user on a Windows machine would still be able to locate the file for downloading. However, if the Windows user attempts to change the file's reference in the Telescope database (either using the Move Files or Locate Document Files commands), the file is rendered inaccessible to the Macintosh user.

Therefore, we recommend avoiding the use of illegal characters such as asterisks and back slashes in the names of files being imported into Telescope. You might want to consider creating an Ingest Functional Rule to enforce this as an environment policy. For more information see [Section 14.](#), "Functional Rules," on page 187.

#### See also:

- ◆ [Section 17.3](#), "Change Filename Length During Ingestion," on page 280

## 17.2 Manage File Types

When managing file types you can:

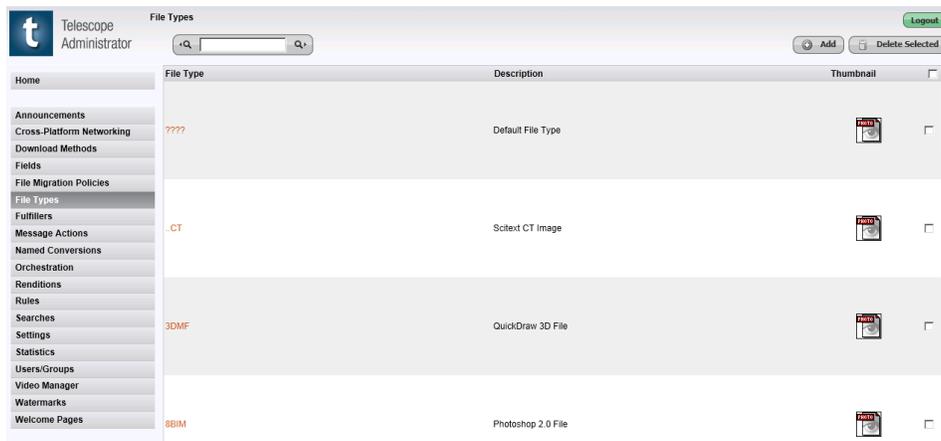
- ◆ View file types
- ◆ Add new file types
- ◆ Change file display names and default thumbnails
- ◆ Delete file types

### 17.2.1 View File Types

To view file types:

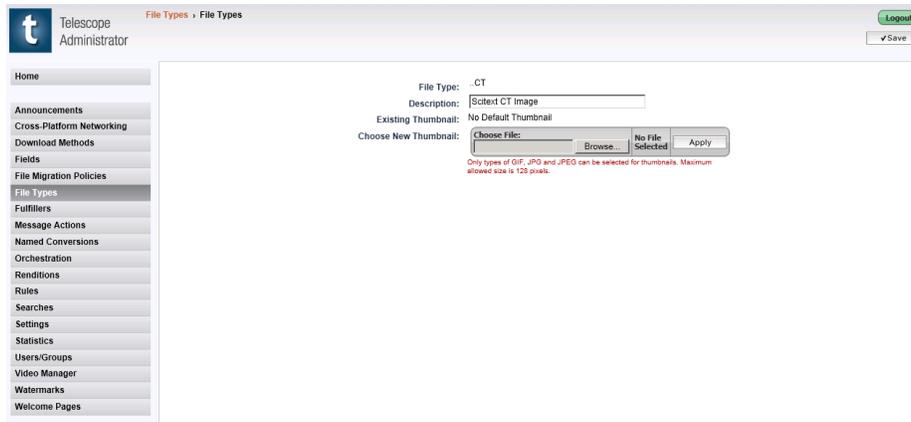
- ◆ Click *File Types* in the navigation area.

**Figure 17.1** *File Types*



To view information about a particular file type, click its name.

**Figure 17.2** *File Types Names*

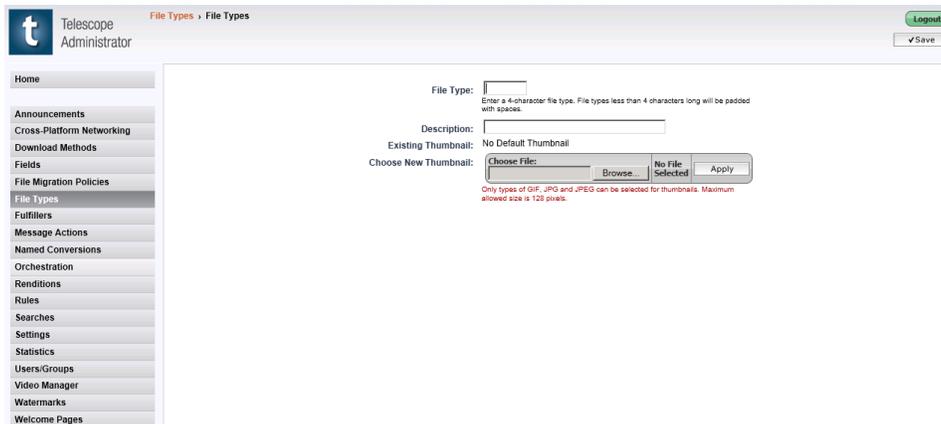


## 17.2.2 Add a File Type

To add a file type:

- 1 Click *File Types* in the navigation pane.
- 2 Click *Add File Type*.

**Figure 17.3** *Add File Type*



- 3 Enter a four-character code in the *File Type* field.
- 4 Enter a description for the file type.
- 5 Click *Choose File* to select a thumbnail image to represent the file type.
- 6 Navigate to the image file, select it, and click *Open*. The dialog box closes and the path to the image is displayed in the *Choose New Thumbnail* field.
- 7 Click *Apply*.
- 8 Click *Save*.

## 17.2.3 Modify File Types

You can change a file type's description, thumbnail image, or both.

- 1 Open the file type's *File Type* page.
- 2 If required, change the description.
- 3 To choose a new thumbnail image, click *Choose File*.
  - a Navigate to the location of the new image and select it.
  - b Click *Open*.
  - c Click *Apply* to have the image display in the page.
- 4 Click *Save*.

## 17.2.4 Delete a File Type

Deleting a file type results in it no longer being available as a selection in Telescope as a value when searching on File Type. However, where the file type is already being used for assets in the database, it is not affected. An asset (which does not have a thumbnail) belonging to a deleted file type uses the "primary" default thumbnail.

To delete a file type:

- 1 Select the checkbox for the file type you want to delete. To delete all file types on the page, select the checkbox at the top of the column.
- 2 Click *Delete Selected*.
- 3 In the confirmation dialog box that appears, click *OK*.

The file types you deleted are no longer available to users to select when searching.

## 17.3 Change Filename Length During Ingestion

Telescope enables ingestion of files with names longer than 64 characters, if property settings are updated as described below. This functionality is useful for clients who may require a fully-qualified path name for asset names on ingestion.

The maximum filename length allowed depends on the operating system of the File Broker. This filename length can be configured by the administrator to prevent users from ingesting files that could not be stored on the File Broker due to operating system limitations.

To change filename properties, log on to the web server and use a text editor to edit the following properties in the *Telescope\Applications\tsweb.woa\Contents\Resources\Properties* file:

*ts\_file\_import\_root\_location\_required=false*

(False by default. Set to false if property not included.) When set to True, the full file directory structure is required when importing files using drag and drop or the batch navigator to the Ingest Broker. The full path may be required, for example, by import functional rules to consistently extract information from a known folder structure.

*ts\_file\_import\_root\_location\_length\_for\_windows=128*

(128 by default. Set to 128 if property not included.) The maximum filename length for asset file locations. It is recommended that this value not be increased above 128 due to Windows operating system restrictions, which limit file location strings to 260 characters. The additional characters are required by Telescope for other web staging information (such as File Broker name, Share name, user name, Session ID, and timestamp).

# 18. Watermarks

Watermarks are images that are displayed on top of extended views in Telescope. You can add watermark images to the database and configure functional rules to display them.

This chapter provides information about creating, editing, and deleting a Telescope Watermark.

- ◆ [Section 18.1, "View Watermarks," on page 282](#)
- ◆ [Section 18.2, "Detect a Digimarc Watermark," on page 287](#)

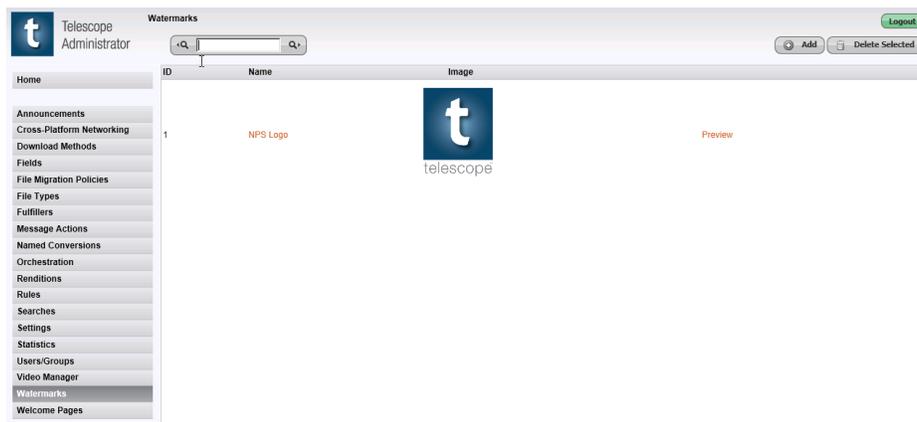
## 18.1 View Watermarks

Besides setting up functional rules to apply watermarks, you can view the list of available watermarks, edit their definitions, preview them, delete them, and add them to the database.

### 18.1.1 View the List of Watermarks

- ◆ Click *Watermarks* in the navigation pane.

**Figure 18.1** *Watermarks*



This page shows all of the watermark images in ascending order. In the event that there are more than 10 watermarks defined, navigation controls appear in the top right corner. Watermark image size is limited to a maximum image width of 128 pixels.

If an item is displayed in the list that has no binary watermark in the database, or that has a binary in the database that is not a valid image format, the standard “broken picture” icon is displayed by the browser, indicating that the watermark is not usable.

### 18.1.2 Preview a Watermark

You can see how the watermark looks when applied to an image.

- ◆ Click *Preview* next on the watermark's line.

**Figure 18.2** *Previewing a Watermark*



The Watermark Preview page displays a standard image with the watermark applied to it so that you can test the watermark. The image is located in the Resources directory under the Telescope Administrator home directory. You can replace the standard image by replacing the file in this directory.

The standard image is a 512 x 512 pixel blend with a multicolored wheel in the center to provide a comprehensive selection of colors on which the watermark can be applied. Click *Back* to return to the Watermark page.

### 18.1.3 Add a Watermark

To add a watermark:

- 1 On the Watermark page, click *Add*.

**Figure 18.3** *Watermark Details Administration*



- 2 In the ID field, enter a number greater than 0 that is not currently used to identify a watermark. You can use this number when setting up the functional rule that applies the watermark to the preview image.
- 3 In the *Name* field, provide a unique identifier for the watermark.
- 4 Click *Browse* to upload a watermark image. The file must be a JPEG, GIF, or PNG image. The image appears in the *New Watermark* field, and the file path appears in the *Choose New Watermark File* field.

- 5 Click *Preview* to open the Watermark Preview page, where you can see how the watermark looks when applied to an image.
- 6 Click *Save*.

### 18.1.4 Edit a Watermark Definition

You can view a watermark definition's characteristics, change its name, and replace its image, as required.

- 1 Click the watermark name in the Watermark page.

**Figure 18.4** *Editing a Watermark*



- 2 In the ID field, you can replace the ID number with another number as long as it is greater than 0 and is not currently being used to identify an existing watermark. You can use this number when setting up the functional rule that applies the watermark to the extended view.
- 3 In the *Name* field, you can change the name of the watermark definition.
- 4 To choose a different image for the watermark:
  - ◆ Click *Choose File*.
  - ◆ In the standard Choose File dialog box that appears, navigate to the new file and select it.
  - ◆ Click *Open*.
  - ◆ Click *Apply* to display a thumbnail image of the watermark.
- 5 When you have finished editing the watermark definition, click *Save*.

### 18.1.5 Apply a Watermark

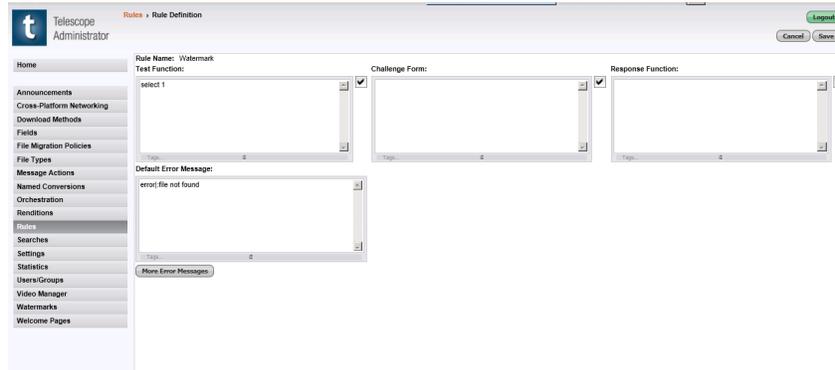
Once a watermark has been added you must create a Functional Rule in order for it to be applied to imported assets.

To create a watermark Functional Rule:

- 1 Click *Rules* in the navigation pane.
- 2 Click the *Add* button.
- 3 In the Rule Name field, enter a name for the watermark rule.
- 4 In the Test Function field,

- ◆ For MS SQL databases, enter “select” and the ID number of the watermark.
  - ◆ For Oracle databases, enter “select <ID> from dual” where <ID> is the ID number of the watermark.
- 5 In the Default Error Message field, enter an appropriate error message.

**Figure 18.5** Watermark Functional Rule

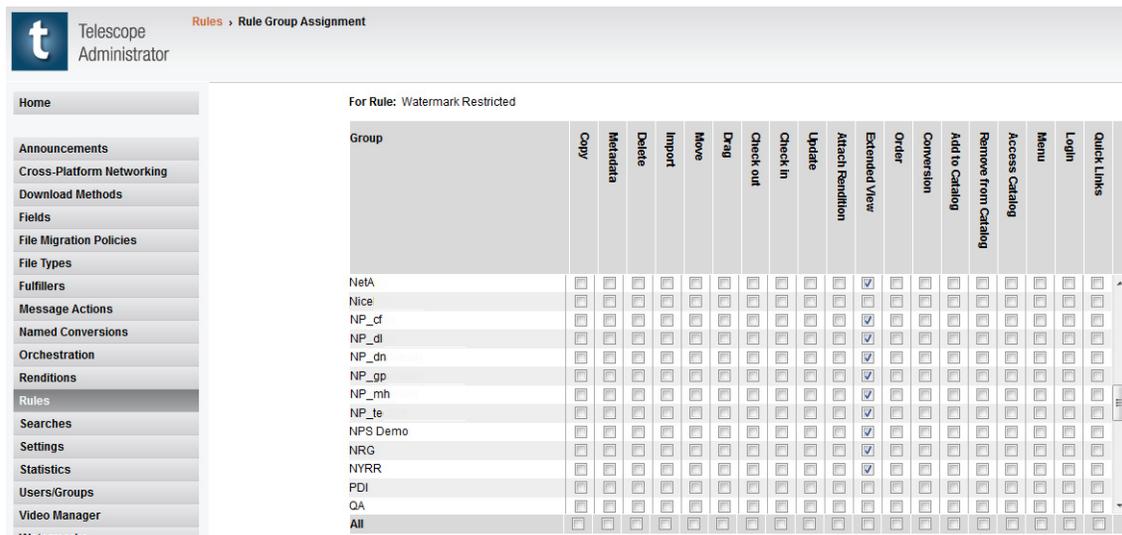


- 6 Click *Save*.

## Assign the Watermark Functional Rule

- 1 On the Rules page, click *Assign* next to the Watermark functional rule.
- 2 On the Rule Group Assignment page, select the groups and *Extended View* to assign the functional rule to.

**Figure 18.6** Assign Watermark Functional Rule



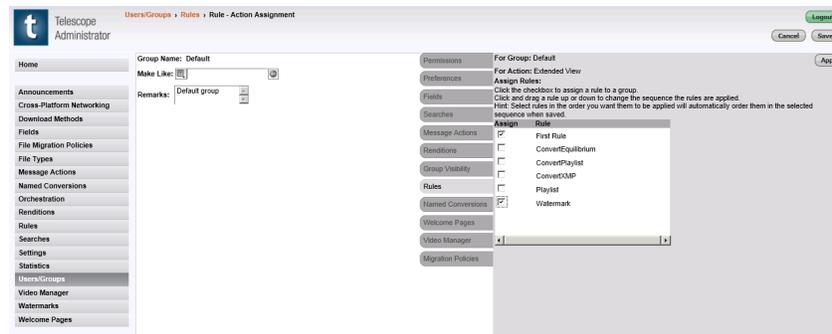
- 3 Click *Save*.

## Configure Users/Groups

The Watermark functional rule must be assigned to a group that is responsible for adding a watermarks to assets.

- 1 Click *Users/Groups* in the navigation pane.
- 2 On the *Users/Groups* page, select the group you want to assign the Watermark functional rule to.
- 3 On the *Permissions* page, select *Rules*.
- 4 Click *Extended View* and select the Watermark functional rule.

**Figure 18.7** Assign the Watermark Functional Rule to Extended View



- 5 Click *Apply*.
- 6 Click *Save*.

---

**NOTE:** Users who are assigned to the Watermark functional rule will need to log out of Telescope and log back in for this permission to take effect.

---

## 18.1.6 Delete a Watermark

- 1 On the *Watermarks* page, click the checkbox next to the Watermark you want to delete.
- 2 Click *Deleted Selected*.

## 18.2 Detect a Digimarc Watermark

This section describes how to detect if a file has already been Digimarc watermarked, and to capture the watermark ID information. This action is usually performed when an asset is being ingested or checked in. This value can then be consulted by functional rules fired for the Digimarc cpiece on download.

### 18.2.1 Activation

To activate Digimarc watermark detection:

- 1 Add an extra CHAR column in the Telescope database TSAdmin editorial table. This column can be provided any name, but must be of CHAR format.
- 2 Open the `... \TeleScope\IPieces\config\com.northplains.ipiece.digimarc.xml` file in a text editor and update the following entries (These entries are located in the second row; the first row includes the default values.)

**Table 18.1** XML settings to enable Digimarc watermark detection

String name	Description
detailed_info	Set to “true” to support the feature.
save_is_watermarked	Set to “true” to activate the feature.
save_is_watermarked_table	The name of the table containing the watermark information. (Leave as editorial.)
save_is_watermarked_column	The name of the column you created to contain the watermark information. (In the example below, digimarc_id. Change this value to the name of the column you created.)

### 18.2.2 Code Example

The following example shows row entries in a sample `com.northplains.ipiece.digimarc.xml` file. String names and their required settings are shown in **bold**. The `save_is_watermarked_column` value shown in this example is `digimarc_id` (but could be different depending on how you have set up the new CHAR column in the Telescope TSAdmin database).

```
<row>
  <key>
    <string title="Connection Name" name="connection_name" required="yes" helptext="Enter
    the connection Name">[CONNECTION_NAME]</string>
  </key>
  <string title="Supported File Extensions." name="supported_types" required="yes"
  helptext="Enter a comma separated list of file extensions which this IPiece will
  process.">[SUPPORTED_TYPES]</string>
  <string title="Watermark Found Alert Message" name="alert_message" required="yes"
  helptext="Message to present to the user when a watermark is found in a file processed by
  the Ipiece.">Digimarc watermark detected in file.</string>
  <boolean title="Detailed Watermark Info" name="detailed_info" helptext="Set to true to
  report details of a found watermark. Set to false to only report the presence of one."
  value="true" />
</row>
```

```
<boolean title="Fail Ingest If Watermark Found" name="fail_ingest" helptext="Set to 'true'
to fail the ingest if a watermark is found. Set to 'false' to report presence of watermark
without ingest failure." value="false"/>
<boolean title="flag to save watermark id" name="save_is_watermarked" helptext="If
watermarked, write value to preference table.column" value="true"/>
<string title="watermark id save to preference table" name="save_is_watermarked_table"
required="no" helptext="if save_is_watermarked, write value to preference table
(table.column must exist)">editorial</string>
<string title="watermark id save to preference column" name="save_is_watermarked_column"
required="no" helptext="If save_is_watermarked, write value to preference column
(table.column must exist)">digimarc_id</string>
</row>
```

# 19. Fulfillers

This chapter provides information adding and managing order fulfillers in Telescope.

- ◆ [Section 19.1, "Overview," on page 290](#)
- ◆ [Section 19.2, "Manage Fulfiller Categories," on page 292](#)
- ◆ [Section 19.3, "Add an Asset Status Value," on page 296](#)
- ◆ [Section 19.4, "Output Status Values," on page 298](#)
- ◆ [Section 19.5, "Configure Auto-Archiving for Order Processing," on page 299](#)
- ◆ [Section 19.6, "Assign Fulfiller Categories to Users," on page 300](#)

# 19.1 Overview

---

**NOTE:** Fulfiller functionality is available as part of the order processing module, which is separately licensed.

---

When a user places an order, a message is sent to one or more “fulfillers” (persons who are responsible for processing orders) and the new order appears on the Fulfillers page in Telescope for both the ordering user and the fulfilling users. You can configure order processing to suit your business model using scripts, functional rules, and the Telescope messaging functionality.

## 19.1.1 Key Concepts in Fulfillers

You should be familiar with the following concepts before you begin configuring order processing in Telescope Administrator.

### Fulfillers and Fulfiller Categories

In Telescope Administrator you create a Fulfiller Category to define how an order is processed. You can create multiple Fulfiller Categories if you want to process different types of orders in different ways. Users you assign to the Fulfiller Category (or users who are members of a group you assign to the Fulfiller Category) become fulfillers.

When a user places an order, they are required to select a fulfiller from a list that contains either the Fulfiller Category names, the names of users who have been designated as fulfillers, or both. If the ordering user selects a Fulfiller Category, the order message is sent to all users who have been assigned to that Category. The first fulfiller who ‘claims’ the order becomes responsible for processing the order.

### Order Status Values

Order Status Values define the ‘workflow’ for order processing. For example, you might create three Order Status Values:

- ◆ Submitted
- ◆ Approved
- ◆ Complete

The following scenario describes how an order might move through these values.

Jason places an order for a printed copy of his department’s Policy manual and selects his manager, Francesca, as the fulfiller. The initial order status is “Submitted”. When Francesca receives notification of the order, she changes the order status to “Approved” and changes the fulfiller to “Shipping Dept.” Thomas is the first person in the shipping department to see the new order, so he claims the order and prepares the print. When the package has been dropped in the interoffice mailbox, he changes the order status to “Complete” and the order process is complete.

Telescope requires at least two Order Status Values:

- ◆ An initial value that is assigned when the order is placed.
- ◆ A final value to indicate the order process is complete.

You can configure any number of intermediate Order Status Values to correspond with your order processing workflow.

## Asset Status Values

Use Asset Status Values to indicate the possible statuses of an asset. For example, you might create three Asset Status Values:

- ◆ Available
- ◆ Out of Print
- ◆ Unavailable

When a fulfiller views an order request, they can set the status of each asset in the order, or you can configure Telescope to set the status of an asset based on the results of a script. You can also create an Asset Status Value to use if order processing scripts return an error. The following scenario describes how a fulfiller might use the Asset Status Values.

When Francesca, Jason’s manager, approves the order he placed, the Order Status Value changes to “Approved.” Juan, the Telescope Administrator, has configured the “Approved” Order Status with a script that checks the Telescope database for an ordered asset’s availability. The script returns a value indicating that the asset Jason ordered is out of print. When Thomas, who works in the Shipping department, views the order, he sees that the asset Status is set to Out of Print. He changes the Order Status Value to “Complete” and sends a message to Jason informing him that he has to order the Policy manual as an eBook.

## Output Format Values

There are two types of Output Formats:

**Order Output Formats:** Defines the formats used to fulfill an order. For example, you might create two Order Output Formats: Print Publication and CD.

**Asset Output Formats:** Defines the formats you can deliver assets in. For example, you might create three Asset Output Formats: Hardcover, Paperback, and eBook. These options are displayed on the order form in Telescope. You can configure Asset Status Values to use a quantity field so ordering users can enter the number of copies of the asset they want to order, if applicable. The following scenario describes how an ordering user might use Output Format Values.

Jason wants to order a copy of his department’s policy manual. On the order form, he selects “Print Publication” from the Order Output Format list, and “Paperback” from the Asset Output Format list. He types “1” in the Quantity field and submits the order.

## Enable Fulfillers

Order Processing functionality is purchased separately, and is not available in Telescope until a license key is installed. This key is supplied by North Plains Systems. Contact a North Plains Systems Professional Services representative to obtain a license key.

To enable ordering when you obtain the license key file,

- 1 Copy the file `OrderLicense.key` to the following two folders (assuming default installation):

`C:\Telescope\Applications\tsweb.woa\Contents\Resources`

`C:\Telescope\Applications\tsadmin.woa\Contents\Resources`

This file is release-dependant. Each new release of TSWeb or TSAdmin must be accompanied by a new key file.

- 2 When the Order Processing key has been added, a *Fulfillers* link appears in the left navigation pane in TSAdmin. In TSWeb, an *Order* option appears in the dropdown in the Download Cart.

## 19.2 Manage Fulfiller Categories

- ◆ Click the Fulfillers link in the left navigation pane to display the Fulfiller page. This page lists the Fulfiller Categories you have defined (if any) and the Auto-Archive settings for order processing.

Figure 19.1 Fulfillers

Telescope Administrator

Fulfillers

Logout

Cancel Submit

Home

Fulfiller Category

Auto-Archive Settings:

Run Auto-Archive:  Run At: null Every: null days

Choose orders for archive based on:

Order Status:  Select/Deselect ALL Older than: 200 days

Based on date:  submitted, or  fulfilled

Selection SQL:

null

Add Delete

### 19.2.1 Add a Fulfiller Category

#### Add a New Fulfiller Category

- 1 Click *Add* on the Fulfillers page.

Figure 19.2 Fulfillers Properties

Telescope Administrator

Fulfillers > Fulfiller Properties

Logout

Cancel Save

Home

Fulfiller Category:

Category Submission:  Off  Allow  Require

Order HTML File: DefaultOrder.html

Copy Prepared Files To:

File Broker:

Share:

Leave these blank for manual order preparation

Order Status Values

Asset Status Values

Output Status Values 0 0

Show Extra Fields:

- 2 In the *Fulfiller Category* text box, enter a name for the new category. The name can be up to 64 characters long.

- 3 Select a Category Submission. These options determine what an ordering user can see in the Fulfillers list when they place an order.

Option	Description
Off	If the Category Submission option is set to Off, ordering users see a list of user names in the Fulfillers list. The list of fulfillers is determined by the ordering user's group and their visibility permissions for other groups.
Allow	If the Category Submission option is set to Allow, ordering users see both user names and Fulfiller Category names in the Fulfillers list. They are able to choose either a user or a Fulfiller Category as the fulfiller for the order.
Require	If the Category Submission option is set to Require, ordering users see only Fulfiller Categories in the Fulfillers list. They are not able to choose an individual user as the fulfiller for the order.

- 4 Select an *Order HTML File*. The order form to use with this Fulfiller Category. Order forms are HTML files stored in the following folder:

C:\Telescope\Applications\tswweb.woa\Contents\Resources\OrderForms.

If more than one HTML Order Form file exists in that folder, they appear in this list.

- 5 (Optional) If you want prepared files to be copied to another folder or drive, use the *Copy Prepared Files To* section to designate the location.

Enter a name in the *File Broker* field to place a copy of the user-ordered assets in the File Broker. Enter the name of a shared drive in the *Share* field to place a copy of the user-ordered assets on that drive.

**Values for the *File Broker* and *Share* fields in the *Copy Prepared Files To* section of *Fulfillers* properties must match the values of NTFS Shares keys found in the system registry.** If you need to use a new path (or need to find out which paths are available), see [Section 11.1.2, "Add a Shared NTFS Path to the System Registry," on page 146.](#)

---

**NOTE:** Prepared Files are the assets that a user has ordered. Not all assets have files associated with them (for example, a user might request a copy of a printed magazine), so the two fields in this section are optional.

---

- 6 Verify the remaining values (click the button
  - ◆ Define the *Order Status Values* for this Fulfiller Category.
  - ◆ Define the *Asset Status Values* for this Fulfiller Category.
  - ◆ Define the *Output Format Values* for this Fulfiller Category.
- 7 To make the extra Fulfiller fields available to TSWeb users (for example, delivery location, date needed by, and additional comments), select the *Show Extra Fields* checkbox.
- 8 Click *Save*.

---

**NOTE:** A new Fulfiller Category cannot be saved until values have been assigned to the Order Statuses. If these are not assigned, an error message appears when you click the *Save* button.

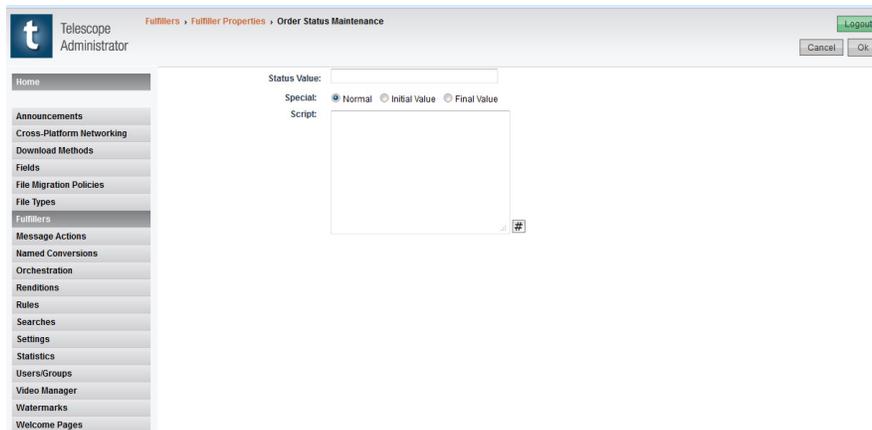
---

## 19.2.2 Add an Order Status Value

To add a new Order Status Value:

- 1 On the Fulfiller Properties page, click *Order Status Values*.
- 2 On the Order Status Maintenance page, click the *Add* button.

**Figure 19.3** Order Status Maintenance



- 3 In the *Status Value* text box, enter a name in the *Status Value* field.
- 4 Select a *Special* value for this Order Status:

Option	Description
Normal	Select Normal if this Order Status represents the status of an order in the middle of the order process workflow (after it has been submitted, but before processing is complete).
Initial Value	Select Initial Value if this Order Status represents an order when it is first submitted.
Final Value	Select Final Value if this Order Status represents the end of the workflow when order processing is complete.

---

**NOTE:** You can only assign the Initial and Final Value statuses to one Order Status Value each. A Fulfiller Category must include one (and only one) Initial Order Status Value, and one (and only one) Final Order Status Value. You can add as many Normal Order Status Values as you need.

---

**Script:** (Optional) Enter an SQL script that executes when the order status changes to this value. This script can be any syntactically correct SQL and does not need to return a value.

**#:** Click the hash button (#) to insert the string `<!order_id!>` at the cursor position in the Script text box. This string is replaced with the order number when the script is run.

- 5 Click *OK*.

## 19.2.3 Delete an Order Status Value

To delete an Order Status Value:

- 1 On the Order Status Maintenance page, select the Order Status Value you want to delete.
- 2 Click *Delete Selected*.
- 3 Click *OK* to confirm deletion.

## 19.3 Add an Asset Status Value

To add an Asset Status Value:

- 1 In the Fulfiller page, click the *Add* button.
- 2 In the Fulfiller Properties page, click *Asset Status Values*.
- 3 In the Asset Status Maintenance page, click *Add*.

**Figure 19.4** *Asset Status Maintenance*

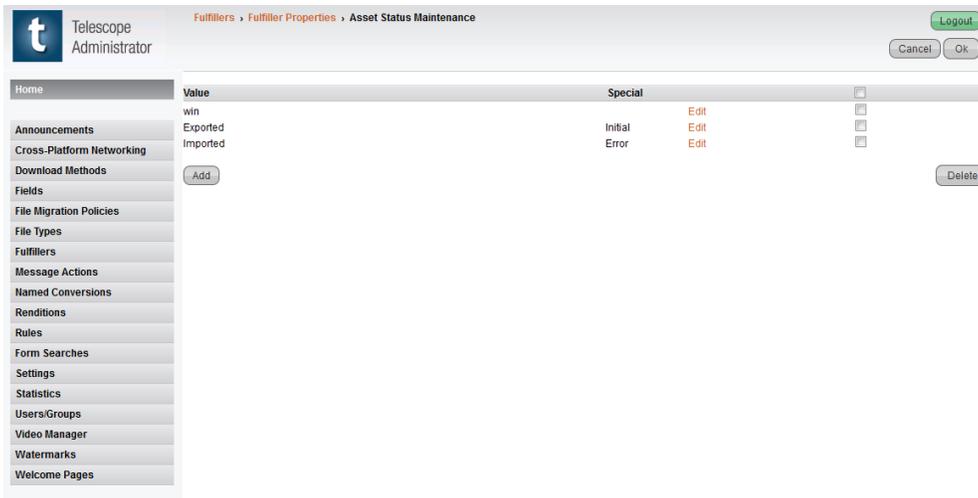
The screenshot shows the Telescope Administrator interface. The breadcrumb trail at the top reads 'Fulfillers > Fulfiller Properties > Asset Status Maintenance'. The left navigation menu includes items like Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers (highlighted), Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main content area contains a form with a 'Status Value' text box and a 'Special' section with three radio button options: 'Normal' (selected), 'Initial Value', and 'Error Value'. There are 'Cancel' and 'Ok' buttons at the bottom right of the form area.

- 4 In the *Status Value* text box enter a name for the Asset Status.
- 5 Select a *Special value*. The value choices are:
  - ◆ **Normal Value:** any other status the asset might be set to as part of the order processing workflow.
  - ◆ **Initial Value:** the status of an asset when an order is first submitted.
  - ◆ **Error Value:** the status displayed for the asset if an order processing script returns an error.
- 6 Click *OK*.

### 19.3.1 Edit an Asset Status Value

- 1 In the Fulfiller page, select the fulfiller from the Fulfiller category.
- 2 In the Fulfiller Properties page, click *Asset Status Values*.
- 3 In the Asset Status Maintenance page, click *Edit* next to the Value you want to change.

**Figure 19.5** *Edit Asset Status Maintenance*



- 4 Make the required changes.
- 5 Click *OK*.

### 19.3.2 Delete an Asset Status Value

To delete an Asset Status Value:

- 1 In the Fulfiller page, select the fulfiller from the Fulfiller category.
- 2 In the Fulfiller Properties page, click *Asset Status Values*.
- 3 Select a checkbox on the right of the *Asset Status Value* to be deleted.
- 4 Click *Delete*.
- 5 Click *OK* in the confirmation dialog.

## 19.4 Output Status Values

Output Status Values is comprised of Order Formats and Asset Formats.

### 19.4.1 Add an Order Format or an Asset Format

To add an Order Format or an Asset Format:

- 1 On the Fulfiller page, click the *Add*.
- 2 On the Fulfiller Properties page, click *Output Status Values*.

**Figure 19.6** *Output Format Maintenance*

The screenshot shows the Telescope Administrator interface. The breadcrumb trail is 'Fulfillers > Fulfiller Properties > Output Format Maintenance'. The left navigation menu includes: Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers (selected), Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main content area is divided into two sections: 'Order Formats' and 'Asset Formats'. Each section has a 'Value' field and an 'Add:' field. The 'Asset Formats' section also includes a 'Qty?' field. There are checkboxes and a trash can icon next to the 'Add:' fields. At the top right, there are 'Logout', 'Cancel', and 'OK' buttons.

- 3 Enter the name of the Format in the corresponding *Add* field. If you are adding an Asset Format, click the checkbox if you want to allow ordering users to enter a quantity for the asset.
- 4 Click the *Go* button to add the Format.
- 5 Click *OK*.
- 6 On the Fulfiller Properties page, click *Save*.

### 19.4.2 Delete an Order Format or an Asset Format

To delete an Order Format or an Asset Format:

- 1 On the Fulfiller page, select the fulfiller from the Fulfiller category.
- 2 On the Fulfiller Properties page, click *Output Status Values*.
- 3 Click the trash can icon to the right of its *Value* field.
- 4 Click *OK* in the confirmation dialog.

## 19.5 Configure Auto-Archiving for Order Processing

The Telescope Auto-Archive feature for order processing allows you to remove order records from the OE\_ORDERS table in the Telescope database and save them as XML text files in the OE\_ARCHIVE table. This helps to contain the size of the database, but preserves all order information. You can configure Telescope to automatically archive orders based on the status of the order and the date it was submitted or fulfilled.

The Auto-Archive settings appear on the Fulfiller Administration page.

**Figure 19.7** Auto-Archiving Order Processing

The screenshot shows the Telescope Administrator interface. On the left is a navigation menu with items like Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers, Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main area is titled 'Fulfillers' and shows 'Fulfiller Category' with 'Add to catalog' and 'Purchasing' options. The 'Auto-Archive Settings' section is active, showing 'Run Auto-Archive' checked, 'Run At' set to '07:00:00', and 'Every' set to '1' days. Below this, 'Choose orders for archive based on:' is expanded to show 'Order Status' with 'Select/Deselect ALL' selected, and 'Older than' set to '1' days. The 'Based on date' radio buttons are set to 'submitted, or fulfilled'. A 'Selection SQL' field contains the query: `SELECT ORDER_ID FROM OE_ORDERS WHERE ( datediff( d, DATE_FULFILLED, getdate()) > 1 )`. 'Add' and 'Delete' buttons are at the bottom of the list.

---

**NOTE:** Auto-Archive settings are global and apply to all orders; they are not connected to any Fulfiller Category.

---

- 1 Select *Run Auto-Archive* to enable the Auto-Archive feature.
- 2 Enter the time of day you want the Auto-Archive process to run in the *Run At* text box. The format time format is hh:mm:ss.
- 3 Enter the frequency in days you want the Auto-Archive process to run in the *Every ... days* text box.

Choose orders for archive based on:

**Order Status:** This list contains the Order Status Values you have configured for your Fulfiller Categories. Select the Order Status you want to archive.

**Older than ... days:** Enter the age (in days) the order must be older than to be considered for archiving.

**Based on date:** Select whether the age of the order should be calculated from the date it was submitted or from the date it was fulfilled.

**Selection SQL:** This field displays an SQL statement representing the information you selected in the form. You can edit this statement to further refine the criteria for archiving an order.

- 4 Click *Submit*.

## 19.6 Assign Fulfiller Categories to Users

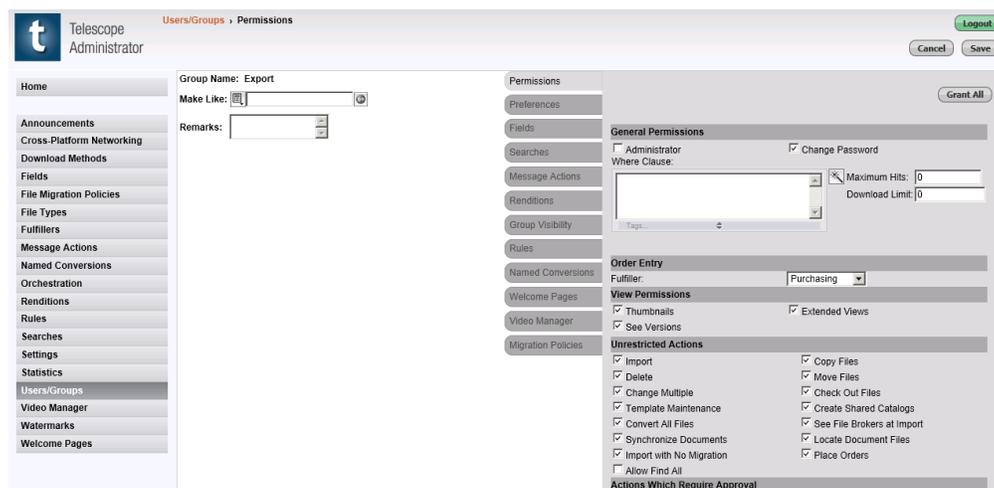
Once you have created the Fulfiller Categories appropriate to your order processing workflows, you must assign them to Telescope users. You can assign Fulfiller Categories at the group level, or to individual users. Only one Fulfiller Category can be assigned to a user or group.

The Order Entry permission appears on the Permissions tab in the General Info and Edit Users pages in Group Administration.

To make the user or all the users in a group a fulfiller for an order processing workflow:

- 1 Click *Users/Groups* in the navigation pane.
- 2 Click the Group you want to assign to the Fulfiller.
- 3 In the Permissions tab, below Order Entry select a Fulfiller Category from the *Fulfiller* list.

**Figure 19.8** Assign Fulfillers to Users



- 4 Click *Save*.

# 20. Provide Multilanguage Support

This chapter provides details on how to implement a multilanguage interface for Telescope.

- ◆ [Section 20.1, "Overview," on page 302](#)
- ◆ [Section 20.2, "Set Multilanguage Support for the Telescope Interface," on page 303](#)
- ◆ [Section 20.3, "Add Multilanguage Support for Metadata Labels," on page 305](#)
- ◆ [Section 20.4, "Provide Translated Text for Popup Menus," on page 308](#)

## 20.1 Overview

### 20.1.1 What can be viewed in multiple languages?

The following parts of the Telescope TSWeb user interface can be configured for users to use multiple languages:

- ◆ Telescope user interface, including the Downloader/Uploader interface. This category includes labels for menus, tabs, tool tips, and so on.
- ◆ Metadata labels.
- ◆ Metadata popup fields that list available choices.

The language shown in TSWeb is determined by the TSWeb user's language preference setting.

### 20.1.2 Limitations

- ◆ North Plains currently provides translations in English and Canadian French for the Telescope user interface.
- ◆ Right-to-left languages (such as Arabic or Hebrew) are not supported.
- ◆ If users switch languages, metadata labels and popup values will change (if provided by the Telescope administrators). However, there is no support for translating metadata content itself (or the refine search/facet labels). Instead, metadata fields can be created for each language, and TSWeb viewers will see all of these fields in their interface.
- ◆ Controls are not available in TSAdmin to supply translated text for popup fields. (SOAP APIs are required, as outlined in this document.)
- ◆ Functional rules depend on actual values in the database.
- ◆ The Administrator's interface (TSAdmin) is in English only.

### 20.1.3 Note on Language Codes

The standard language-country codes mentioned in this chapter should be separated by an underscore. The first language code must be ISO-639 compliant; the second country code ISO-3166 compliant.

For example: `en_US` for USA English, `fr_CA` for Canadian French, `es_US` for American Spanish, `de_DE` for German, or `ja_JP` for Japanese.

---

**NOTE:** There is a Telescope lookup table you can access to make sure the country-language code is spelled correctly. Issue the following SQL command against the Telescope database to verify your choice:

```
select * from language_local
```

---

## 20.2 Set Multilanguage Support for the Telescope Interface

The Telescope system is shipped with user interface labels in a number of languages. The Administrator does not need to toggle this feature on—these languages as provided will always be available to TSWeb users when they choose to update their default language from the TSWeb user preferences. (They need to log out and back in to see their changes take effect.)

The screenshot shows the 'General' tab of the TSWeb user preferences dialog. The 'UI Language' dropdown is open, showing three options: 'English (United States) - English (US)', 'English (United States) - English (US)', and 'French (Canada) - Français (Canada)'. The first option is selected. Other fields include: Login Name: AgencySupervisor; Password: Change Password; First Name: Agency; Last Name: Supervisor; Company: Acme Advertising Agency; Phone: 123-456-7890; Email: sgaebel@northplains.com; Date Format: MM/DD/YYYY; Time Format: HH:MM:SS; Local Time Zone: (GMT -6:00) Central Time; Home Page: Welcome Page (selected); Show: 5 recent searches in "More Searches" menu; Display the Video Manager timecode relative to tape (checked); Show Hidden Files and Directories (unchecked). Buttons for 'Cancel' and 'Save' are at the bottom right.

Figure 20.1 TSWeb Language Preference

### 20.2.1 Customize the Languages Available to Users

The Telescope system provides TSWeb users access through their user preferences to any language that has a folder located on the web application server at the following path location (default installation shown):

```
C:\TeleScope\Applications\tsweb.woa\Contents\Resources\Sites\default\Resources\Language
```

Administrators can define which languages are supported for their installation by creating or modifying folders in this folder. By default, the following folders are provided: en\_US, fr\_CA, meaning that TSWeb users can choose from U.S. English or Canadian French.

- ◆ To remove one of these languages, rename its folder (or move it to another location) so that it does not exist in the path.
- ◆ To tweak the text for any Telescope UI element, edit the respective files. Be careful to keep the same meaning as the original text so the strings stay in context.  
**Note:** Resource files must be opened in text editors that preserve their UTF-8 character set.
- ◆ To add a new language, copy one of these folders, rename it to the standard language-country code for the new language, and replace all translatable strings in all files in the folder with the appropriate text in the new language.

## Adding Multilanguage Support to Additional Sites

If you are adding multilanguage support to a non-default site (for example, “mysite”), be sure to copy the contents in the following directory:

```
Applications\tswb.woa\Contents\Resources\Sites\Default
```

To the following:

```
Applications\tswb.woa\Contents\Resources\Sites\mySite
```

## 20.2.2 Set the Default System Language

English (en\_US) is the default language when Telescope is installed.

The default language is used for:

- ◆ Displaying the TSWeb interface when new users log in for the first time
- ◆ Rendering the user interface when there is no indication of the user’s language (for example, the login screen or the forget password screen)
- ◆ Determining the language of the values stored in the database, and consequently the language that should be used for Functional Rules.

To change the default language:

- 1 On the web application server, navigate to the following file:  
`C:\Telescope\Applications\tswb.woa\Content\Resources\Config.plist`
- 2 Open the file in a UTF-8 compliant text editor.
- 3 Find the following parameter:  
`defaultLanguage = "en_US";`  
(This parameter is U.S. English by default.)
- 4 Replace the language-country code with another code to change the default.  
Make sure to use a language that is included as a folder at the following path:  
`C:\Telescope\Applications\tswb.woa\Contents\Resources\Sites\default\Resources\Language`
- 5 Save the file, and restart all TSWeb instances.

## 20.2.3 Set the Default User Language

By default, when users first log in to TSWeb they are shown items in the default system language. They can use the TSWeb user’s language preference setting to change to another available language and this setting will remain for future sessions.

To set a language that is different from the default system language on login, you must update the lang\_id value in the USERS table for that particular user or group of users. For example, you could use an LDAP attribute to populate this value as required when new users are added.

## 20.3 Add Multilanguage Support for Metadata Labels

### 20.3.1 Introduction

When users change their default language, it is possible for them to see translations for metadata labels. (The metadata itself remains unchanged in its original language.)

To configure multilingual metadata labels, you must have already set up the metadata fields using the default language. To add an additional language for metadata labels, you need to first add the support for that language, and then use the TSAAdmin interface to manually add translations for every metadata field. The following sections will step you through how to do this.

Typically, metadata fields are controlled vocabulary fields (meaning there are populated with predetermined values to be chosen for input or faceting). Translations can be provided for these “popup fields” using SOAP API calls, as described in a later section.

Note that there is no provision for providing various translations of free-form content for individual metadata fields. Instead, you would need to provide multiple metadata fields, one for each language. To provide a more seamless multilingual experience, it is therefore recommended where possible to use pop-up menus for metadata.

### 20.3.2 Add New Language Support for Metadata Labels

To provide metadata labels in languages other than the default language, you need to add them to the 'system\_language\_ids' entry in the db\_settings table. This update is currently only possible by issuing SQL statements.

To see which languages are currently being translated for metadata labels, run this SQL command against the Telescope database:

```
select * from db_settings where keyword = 'system_language_ids';
```

You could see results like the following:

```
en_US, fr_CA
```

(indicating that U.S. English and Canadian French are currently available for translation in the TSAAdmin interface).

To modify the database to support metadata labels in additional languages, run a set of SQL commands like in this sample:

```
update db_settings
set valustr = 'en_US, fr_CA, es_US'
where keyword = 'system_language_ids'
```

(This set of sample commands will add U.S. Spanish metadata labels to the database, in addition to U.S. English and Canadian French. You must include all languages you want to make available; do not leave out languages already translated or you may need to roll back the database.)

**Important!** Your changes will not come into effect until you restart the TSAAdmin service.

The `valustr` options should be standard country-language codes separated by an underscore. Separate them with a comma; **do not add spaces between any of the values.**

---

**NOTE:** There is a lookup table you can access to make sure the country-language code is spelled correctly. Issue the following SQL command against the Telescope database to verify your choice:

```
select * from language_local
```

---

You can use as many languages as you want for metadata labels, but note that the Telescope menus and other user interface elements will not be available to Telescope users in these same languages unless they are translated and made available to users. (See Section 20.1, "Set Multilanguage Support for the Telescope Interface," on page 303.)

Conversely, if you do not provide translations for particular languages that have been made available to users, the metadata labels will remain in the default language when users are viewing the interface in those languages. (You can set the default language for metadata labels from the `default_language_id` entry in the `db_settings` table.)

### 20.3.3 Add New Language Text for Metadata Field Labels

To add new language text for metadata field labels, you must input this text for each and every metadata field label.

Repeat the following steps for every metadata field to add label text in the new language:

- 1 Go to the TSAdmin user interface.
- 2 Click on the *Fields* tab.
- 3 Select each field.
- 4 Enter the display name you want to appear for the new language.

---

**NOTE:** The display name is what is shown in the TSWeb interface; the field name is used internally. In the following example, Spanish translations can be added. However, note that Spanish would not be shown to TSWeb users (despite it appearing here in the TSAdmin interface) unless a Spanish folder existed in the `Resources\Language` path, as outlined in Section 20.1, "Set Multilanguage Support for the Telescope Interface," on page 303.

---

Figure 20.2 Entering display names for metadata fields.

The screenshot shows the Telescope Administrator interface. The top navigation bar includes the Telescope logo, the text 'Telescope Administrator', and the breadcrumb 'Fields > Field Detail'. On the right of the top bar are 'Log out', 'Cancel', and 'Save' buttons. A left sidebar contains a menu with items like Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers, Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main content area is titled 'Metadata Field' and contains the following configuration options:

- Table Name: Editorial (dropdown)
- Field Name: country (text input)
- English Display Name: Country (text input, highlighted with a red box)
- French Display Name: Pays (text input)
- Spanish Display Name: Pais (text input)
- Data Type: Char (dropdown)
- Maximum Length: 32 (text input)
- This field is **mandatory**.
- The value of the field can be **translated** to different languages.

Below these options are three sections:

- Search**:
  - This field is **searchable**.
  - This field is **facettable**.
- Pop up Menu**:
  - Field has a pop up menu.

## 20.4 Provide Translated Text for Popup Menus

### 20.4.1 How Multilanguage Support Works for Popup Menus

Popup menus are lists of predefined options that categorize an asset. They are also used for faceting search results, appearing in the Refine Search panel.

For pop-up menus, values are stored in the default language in the `popups` table of the Telescope database. When users are viewing the interface in another language, popup menu choices in the user's selected language are retrieved at run time from a second `popups_lang` table and displayed in the TSWeb interface. Popup menu values remain in the same order, regardless of which language they are being viewed in.

---

**NOTE:** Functional rules must be designed to operate in the default language

---

### 20.4.2 Workflow for Providing Multilanguage Popup Menu Values

If a metadata field has a popup menu (a list of predefined options), you can use SOAP APIs to populate the database so that the popup menu will appear in different languages.

- 1 Ensure you have followed the steps in the previous section to Add New Language Support for Metadata Labels (so that the popup menu will have a translated label).
- 2 In TSAdmin, the metadata field must be set as visible, and the **Popup Menu** check box checked.
- 3 Save your changes in TSAdmin.
- 4 Run the SOAP API described in the next section for every popup menu contained in the `popups` table.
- 5 Log in to TSWeb. You should test to see the new popup values appear when you are viewing the interface in the new language.

### 20.4.3 PopulatePopupValues SOAP API

The `PopulatePopupValues` SOAP API call requires the following parameters. The call must be issued separately for each popup menu, for each language. There is a full code example in the next section.

#### `in_arNewPopupsValues` Array

The `in_arNewPopupsValues` array contains the translations for each menu item. This array must contain exactly the same number of popup items, in exactly the same order, as appear for the default language in the `popup` table.

Example:

```
<in_arNewPopupsValues xsi:type="impl:ArrayOf_soapenc_string">
<in_arNewPopupsValues xsi:type="xsd:string">un</in_arNewPopupsValues>
<in_arNewPopupsValues xsi:type="xsd:string">deux</in_arNewPopupsValues>
<in_arNewPopupsValues xsi:type="xsd:string">trois</in_arNewPopupsValues>
</in_arNewPopupsValues>
```

## in\_iColumnId

The `in_iColumnId` parameter identifies the popup menu. Its value should be the integer that appears in the `column_idx` column of the `popups` table beside the default popup menu values. (You will need to perform an SQL query on the `popups` table to discover this value.)

Example:

```
<in_iColumnId xsi:type="xsd:int">12</in_iColumnId>
```

## in\_strLangId

The `in_strLangId` parameter identifies the language. Standard language-country codes separated by an underscore are required.

Example (for Canadian French):

```
<in_strLangId xsi:type="soapenc:string" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/">fr_CA</in_strLangId>
```

## 20.4.4 Sample SOAP API Call to Populate Popup Values

The following SOAP API call will populate the `popups_lang` table with French equivalents for a popup menu with values “one”, “two”, and three”. This popup menu is identified with a column ID value of “12”, which appears in the `column_idx` column of the `popups` table.

```
<soapenv:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:impl="http://com/northplains/web/tsweb/soap/impl">
  <soapenv:Header/>
  <soapenv:Body>
    <impl:PopulatePopupValues soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/">
      <in_arNewPopupsValues xsi:type="impl:ArrayOf_soapenc_string">
        <in_arNewPopupsValues xsi:type="xsd:string">un</in_arNewPopupsValues>
        <in_arNewPopupsValues xsi:type="xsd:string">deux</in_arNewPopupsValues>
        <in_arNewPopupsValues xsi:type="xsd:string">trois</in_arNewPopupsValues>
      </in_arNewPopupsValues>
      <in_iColumnId xsi:type="xsd:int">12</in_iColumnId>
      <in_strLangId xsi:type="soapenc:string"
        xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/">fr_CA</in_strLangId>
    </impl:PopulatePopupValues>
  </soapenv:Body>
</soapenv:Envelope>
```



# 21. Welcome Pages

Welcome Pages are displayed on the home page of Telescope and help direct users toward the content they are seeking. These pages display:

- ◆ Announcements and system messages
- ◆ Iconic Tree Searches

This chapter provides information about creating, adding, editing, and deleting Telescope Welcome Pages.

- ◆ [Section 21.1, "Welcome Pages," on page 312](#)
- ◆ [Section 21.2, "Iconic Searches," on page 315](#)

## **Also:**

The following resources are available to help you customize the Telescope interface in other ways:

- ◆ To find out how to customize the Telescope interface to meet the specific needs of your organization, see the *TSWeb Interface Customization Guide*.

## 21.1 Welcome Pages

Welcome Pages are displayed on the home page of Telescope. Welcome Pages display announcements and system messages, and help direct users toward the content they are seeking.

There are two components to the Welcome Pages: Announcements and Iconic Tree Searches.

### 21.1.1 Welcome Pages Location

Telescope comes with a number of predefined Welcome Pages, which are located in the following folders:

- ◆ ..\Telescope\Applications\tsweb.woa\Contents\Resources\WelcomePages
- ◆ ..\Telescope\Applications\tsadmin.woa\Contents\Resources\WelcomePages

Each Welcome Page consists of two files in these folders: an HTML file, and a WOD file. The HTML file contains the template, and the WOD (Web Objects) file contains the dynamic element bindings.

To create your own Welcome Page you must create an HTML file and a WOD file and save these files in both the directories above.

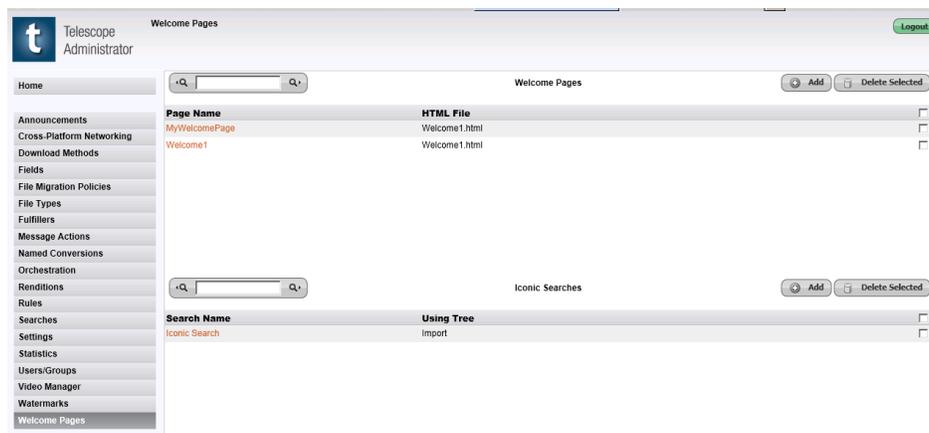
### 21.1.2 Set Up Welcome Pages

Welcome Pages are set up and maintained by the Telescope Administrator. Telescope users do not have the ability to create, modify or delete Welcome Pages.

To view the Welcome Pages configured for the site:

- ◆ Click *Welcome Pages* in the navigation pane.

**Figure 21.1** *Welcome Pages*

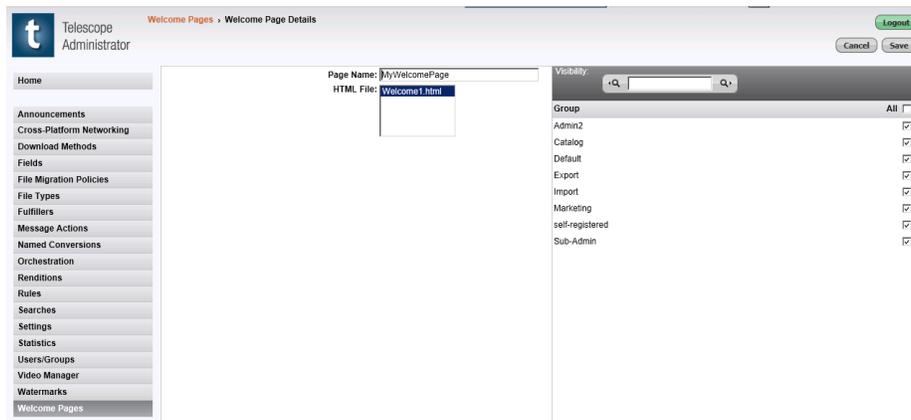


### 21.1.3 Add a Welcome Page

To make a new Welcome Page available to Telescope client users:

- 1 Click on the *Add* button under the Welcome Pages section.

**Figure 21.2** Welcome Page Details



- 2 Enter a title in the *Page Name* text box.
- 3 Select an *HTML File*. The new Welcome Page is based on this file.

---

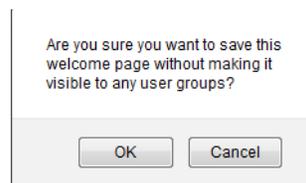
**NOTE:** The *HTML File* field lists the available Welcome Pages. If you want to use a custom Welcome Page, HTML and WOD files for the new Welcome Page must have already been created. For more information, see [Section 21.1.1, "Welcome Pages Location,"](#) on page 312.

---

- 4 Select one or more Telescope user groups, by selecting the box to the right of its name. This allows all members of that group to view the new Welcome Page. Select the *All* checkbox to allow all groups to see the Welcome Page.
- 5 Click *Save*.

If you try to save a newly-created Welcome Page without allowing any user groups to view it, a dialog appears asking you to confirm your decision before proceeding.

**Figure 21.3** Save Welcome Page Confirmation



The newly created Welcome Page is available to users the next time they log in to Telescope. To view the Welcome Page, users must select it in the User Preferences page. For more information about setting user preferences, see the *Telescope User's Guide*.

## 21.1.4 Delete a Welcome Page

To delete a Welcome Page:

- 1 On the Welcome Pages page, select the checkbox next to the Welcome Page you want to delete.
- 2 Click *Delete Selected*.

The Welcome Page is no longer available to Telescope client users, but the HTML and WOD files are not deleted.

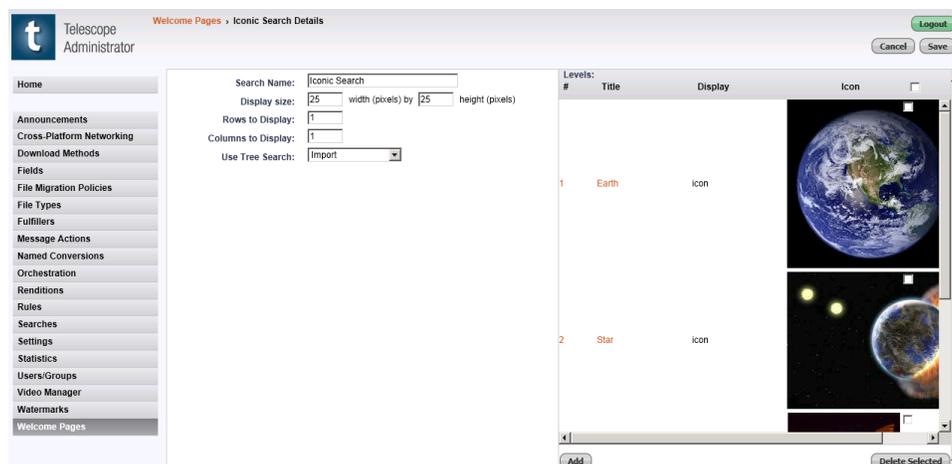
## 21.2 Iconic Searches

An iconic search is a graphical representation of a tree search, with each level in the tree represented by an icon you specify. The bottom half of the Welcome Pages page displays the Iconic searches configured for the site.

### 21.2.1 Add an Iconic Search

To add a new Iconic Search:

- 1 Click *Welcome Pages* in the navigation pane.
- 2 Click the *Add* button under the Iconic Search section of the Welcome Pages page.



**Search Name:** Enter the search name in this text box.

**Display Size (width, height):** An area in the lower part of the page is allocated for the search results. Enter its width and height in pixels.

**Rows To Display and Columns To Display:** The icons representing the results of the search level are displayed in a grid in the search results area. Enter the number of rows and columns for this grid.

---

**NOTE:** The number of rows and columns specified here affect only search levels two and higher.

---

**Use Tree Search:** Select a previously-defined search from the menu to be used in this Iconic Search.

**Levels:** This section lists the levels in the tree search that are included in the iconic search. For more information, see [Section 21.2.2, "Create an Iconic Search Level," on page 316](#).

- 3 Click *Add* to open the Iconic Levels Details page. At least one level must be defined.

When you have created an iconic search you must assign it to a Welcome Page to make it visible to users.

## 21.2.2 Create an Iconic Search Level

An iconic search must have at least one level. If you try to save an iconic search without first creating a level, an error message is displayed. Searches can be as many levels deep as you like; there is no maximum number of levels.

To create an iconic search level:

- 1 Click the *Add* button at the bottom of the Iconic Search Details page.

**Figure 21.4** Iconic Level Details

- 2 Specify the following information for the Search Level:
  - ◆ **Level Number:** Enter a number to represent the search level. The first search level is assigned a value of 1.
  - ◆ **Show:** Select Icon, Text Only or Icon and Text from the menu.
  - ◆ **Title:** Enter a title for this search level. This is a mandatory field.
  - ◆ **Default Icon:** Click *Browse* to select a default icon for search terms at this level, then click *Apply*. Icon file formats can be either JPG, GIF or PNG; there is no maximum image size. You can also add icons to represent specific search terms for this level which overrides the default icon. For more information, see [Section 21.2.3, "Customize Search Terms," on page 317](#).
  - ◆ **Default Description:** Enter a description of the search level. This text appears on the Welcome Page, above the icons. You can enter up to 4,000 characters.
  - ◆ **Default Action:** Select the default action Telescope should perform when a user clicks an icon at this level. When you add the icons for the search terms at this level, you can set a specific action for each icon that overrides the default action.

Action	Description
Reveal, or search on last level	Reveals the next search level, or if this level is the last level in the tree search, searches for assets that meet the criteria this icon represents.
Reveal the next search level	Reveals the next search level.

Action	Description
Execute the element's search	Searches for assets that meet the criteria this icon represents.
Search, and show first asset's details	Searches for assets that meet the criteria this icon represents and displays the details of the first asset in the search results.
Search, and show first asset's preview	Searches for assets that meet the criteria this icon represents and displays the preview of the first asset in the search results.

- 3 Click *OK* to create the search level and return to the Iconic Search Details page.

**NOTE:** You must click *Save* on the Iconic Search Details page to apply the new or changed information.

## 21.2.3 Customize Search Terms

You can customize the appearance and behavior of individual search terms.

- 1 On the Iconic Level Details page, click *Add*.

**Figure 21.5** *Iconic Element Details*

**For Level:** This label comes from the Title field on the Iconic Search Details page. This is a read-only field, and cannot be modified from this page.

**Match Value:** Enter the search term you want to customize.

**Icon:** This icon is displayed in the Iconic Search section of the Welcome Page, when a search result matches the term you entered in the Match Value field. Click the *Browse* button to select an icon image for this term, and then click *Apply* to create the association.

**Description:** Enter a description for the term.

**Action:** Select the action Telescope should perform when a user clicks the icon.

Action	Description
Reveal the next search level	Displays the next search level.
Execute the element's search	Searches for assets that meet the criteria this icon represents.
Show the following collection	Displays the collection you select from the menu.
Display details for record_id	Displays the details of the asset identified by the record_id you enter in the field. Or, if no record_id is specified, searches for assets that meet the criteria this icon represents and displays the details of the first asset in the search results.
Display a preview for record_id	Displays the preview of the asset identified by the record_id you enter in the field. Or, if no record_id is specified, searches for assets that meet the criteria this icon represents and displays the preview of the first asset in the search results.

- 2 Click *OK* to save the search term details and return to the Iconic Level Details page.
- 3 Click *Save*.

---

**NOTE:** You must click *OK* on the Iconic Level Details page, then *Save* on the Iconic Search Details page to apply the new or changed information.

---

## 21.2.4 Specify the Iconic Search for a Welcome Page

If you have multiple iconic searches, you must specify which iconic search is to be used on each Welcome Page you have created.

The iconic search setting is configured in the WOD (Web Objects) file for each Welcome Page. These files are located in the \Telescope\Applications\tsweb.woa\Contents\Resources>WelcomePages directory. Open the WOD file for the Welcome Page you want to assign an iconic search to and find the following key:

```
IconicSearch1:IconicSearch {
  search_name = "IC Search 2";
}
```

Change the search\_name value to the iconic search name, then save the WOD file. That search is displayed on the Welcome Page the next time the user logs in to Telescope.

## 21.2.5 Edit the Details of an Iconic Search

To edit an Iconic Search:

- 1 Click the search name.
- 2 Make the required changes.
- 3 Click *Save*.

## 21.2.6 Delete an Iconic Search

To delete an Iconic Search:

- 1 Select the associated *Iconic Search* checkbox.
- 2 Click *Delete Selected*.



# 22. Announcements

This chapter provides information about creating system announcements in Telescope.

- ◆ [Section 22.1, "Overview," on page 322](#)
- ◆ [Section 22.2, "Add a New Announcement," on page 323](#)
- ◆ [Section 22.3, "Manage User Lists for Announcements," on page 324](#)

## 22.1 Overview

Announcements are displayed inside a box in the top-right quadrant of the main Telescope page. These are created and administered using Telescope Administrator. The Announcements are displayed in chronological order, with the most recent at the top of the list. In Telescope announcements scroll upwards, and the scrolling repeats when the bottom of the list has been reached.

If users are not connected to Telescope, they can still view the announcements as long as they are connected to the company's Intranet. Telescope automatically compiles the announcements, and saves them to a file on the company's network. To give an unconnected user the ability to view Telescope Announcements:

- 1 Click the  button on the Telescope home page.
- 2 In the browser window click once on the *Address Bar* to highlight the URL.
- 3 Press *CTRL-C* to copy the address to the clipboard.
- 4 Open a new email message, and press *CTRL-V* to paste the URL into the message body.
- 5 When the recipient of your message clicks on the URL, the Telescope Announcements appears in a browser window.

Each entry in the Welcome Page is composed of a Title, a textual description, a timestamp, the user name and the database name.

**New collection announcement Icon:** If a Welcome Page Announcement is associated with a collection, then a small icon (an arrow inside a circle)  is displayed along the right side of the scrolling text box. Clicking this icon performs one of three actions:

- ◆ Displays Collection
- ◆ Displays Details
- ◆ Displays Preview

The action performed is set by the Telescope Administrator, in the New Announcement page of the Telescope Administrator application. If the current user does not have permission to view the associated collection, then no icon is displayed.

After viewing a collection, click the *Home* link to display the Welcome Pages again.

**New Announcement Icon:** If an administrator posts a new announcement, attention is drawn to it by placing a bright yellow  icon beside it. This setting is made by making a change to the Welcome Page WOD file.

To display the New Announcement icon, change the following setting to “true” as indicated by the bold text. To prevent the icon from being displayed, change the setting in the line below to “false”. This code is located in the Welcome Page's WOD file, lines 5-8 which is located in `\Telescope\Applications\tsweb.woa\Contents\Resources\WelcomePages.`

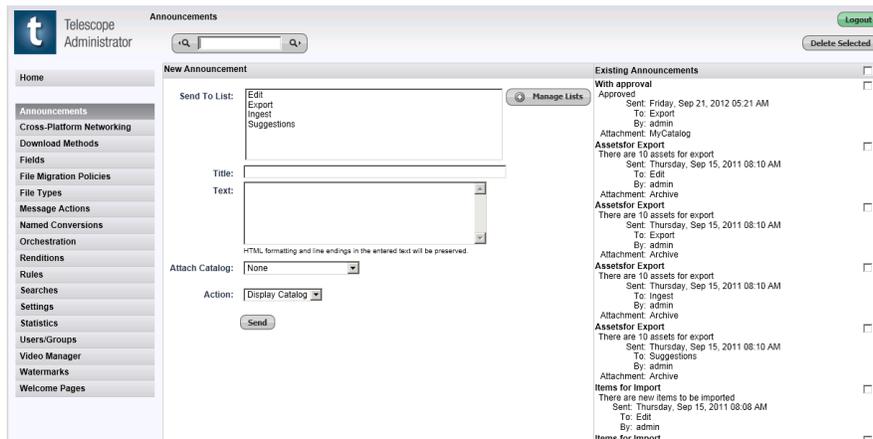
```
AnnouncementsComponent1:AnnouncementsComponent {  
    auto_scroll = false;  
    show_rss = true;  
    show_newflash = true;
```

When a new announcement is created, the New Announcement icon is displayed beside it for the next two user sessions.

## 22.2 Add a New Announcement

- ◆ Click *Announcements* in the left navigation pane.

Figure 22.1 *Announcements*



**Send To List:** This is a list of user groups to which the Announcement is sent. Select one or more groups from this list. Multiple groups can be selected by holding down the Ctrl key (Windows) or the Command key (Macintosh).

**Manage Lists:** Click this button to display the Manage Lists page.

**Title:** Enter the Announcement's title in this text box. The title can be up to 255 characters in length.

**Text:** Enter the actual Announcement in this text box. A maximum of 4,000 characters can be entered.

**Attach Collection:** If you would like the Announcement to be associated with a particular collection, select it from this drop-down menu.

**Action:** Select an action to be performed when the user clicks on an Announcement's Attached Collection icon. The choices are:

- ◆ Display Collection
- ◆ Display Details
- ◆ Display Preview

**Send:** Click this button to send the Announcement to Telescope.

**Existing Announcements:** This pane contains all of the existing Announcements, the date and time that each was sent, as well as the author and the recipient(s).

**Delete Selected:** There is a checkbox to the right of each Announcement in the Existing Announcements text box. Click the corresponding checkbox of the Announcements you want to remove, and then press this button to delete them. Click *OK* on the confirmation dialog.

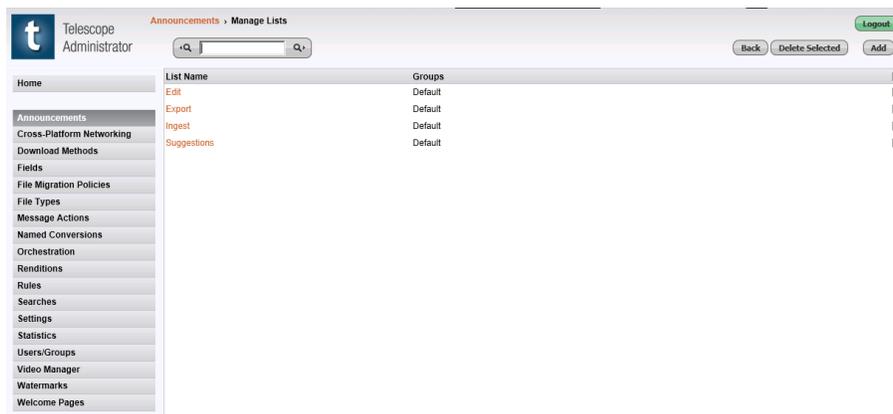
## 22.3 Manage User Lists for Announcements

Announcements can be sent to one or more user groups, as set up by the Telescope Administrator. These user groups are created and maintained in the Manage Lists page.

To access the Manage Lists page:

- ◆ Click on the *Manage Lists* button in the Announcements page.

**Figure 22.2** *Manage Lists*



Each List is a collection of user groups, and each user group is a collection of Telescope users. This page displays all of the Announcement Lists and the user groups in each one.

---

**NOTE:** Only user groups can be added to Announcement Lists. If you would like to add an individual user to an Announcement List, then create a user group with a single user.

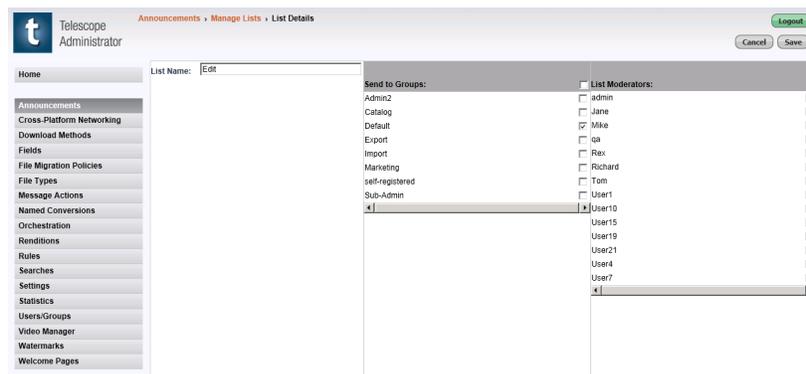
---

### 22.3.1 Add a List

To add a new user list:

- 1 Click *Add* on the Manage Lists page.

**Figure 22.3** *List Details*



- 2 In *List Name*, enter a name for the User List. The user group name can have a maximum of 32 characters.

- 3 Select *Send To Groups* to send announcements to all User Groups. Alternatively, select the checkbox to the right of each group that you want to add to the User List.

---

**NOTE:** Each User List must have at least one User Group assigned to it. If you try to save a User List without assigning at least one User Group, then a warning box will appear.

---

- 4 Select *List Moderators* to add all listed moderators. The new User List should have at least one moderator. A moderator is a user with add / change / delete privileges. Alternatively, select the checkbox to the right of an individual moderator from the list.
- 5 Click *Save*.

These users are now Moderators for this newly-created User List.

List Moderators have special privileges which include:

- ◆ Add User Groups to their list
- ◆ Delete User Groups from their list
- ◆ Create new User Groups and assign them to their list
- ◆ Create new User Lists

List Moderators are able to view only those User Lists to which they have been assigned; all other User Groups are invisible to them.

---

**NOTE:** Each User List must have at least one Moderator assigned to it. If you try to save a User List without assigning a list moderator, then a warning message appears. You can save the list until a moderator has been added.

---

## 22.3.2 Delete a List

To remove an announcement list:

- 1 Select one or more of the checkboxes to the right of each user group.
- 2 Click *Delete Selected*.
- 3 Click *OK* to confirm and delete the list(s).

---

**NOTE:** Once a user group has been deleted, this action cannot be undone.

---



# 23. Cross Platform Networking

This chapter provides information about using Cross Platform Networking.

- ◆ [Section 23.1, "Overview," on page 328](#)
- ◆ [Section 23.2, "Add a Network Share," on page 329](#)
- ◆ [Section 23.3, "Network Share Examples," on page 331](#)

## 23.1 Overview

Telescope uses its Cross-Platform Networking ability to track files to ensure that both Windows and Macintosh users are able to locate the files in a Telescope database. This is important because it enables the accurate tracking of locations of managed media files. From the main Cross-Platform Networking page, you can add, modify, and delete Telescope network shares.

Telescope provides a method of defining common “network share” points on networks, which both the Windows and Macintosh users can have access to, and share files from, using their native file-sharing techniques.

A network share is a disk, volume, or directory that is shared on the network (either using standard Windows file-sharing under Windows or using AppleShare on the Macintosh) and that both Windows and Macintosh machines can access using their native file-sharing techniques.

## 23.2 Add a Network Share

To add a network share:

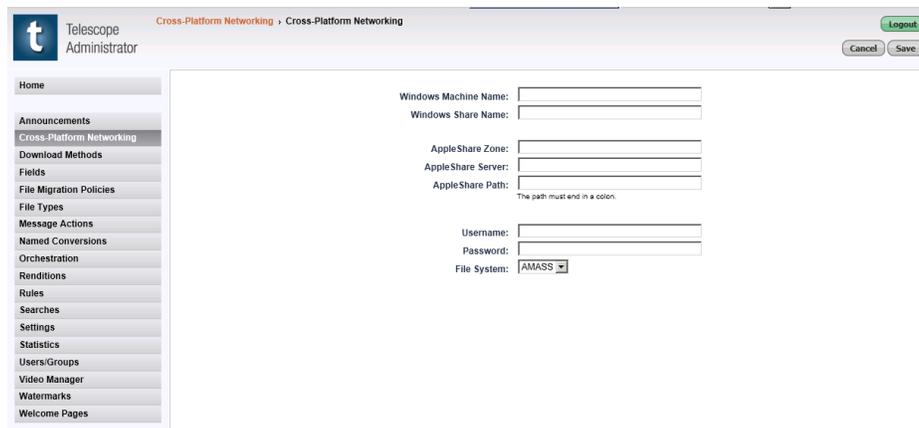
- 1 Click *Cross-Platform Networking* in the left navigation pane.

**Figure 23.1** *Cross-Platform Networking*



- 2 Click *Add*.

**Figure 23.2** *Add Cross-Platform Networking*



- 3 In the *Windows Machine Name* field, enter the name of the computer on which the shared folder is located. For Windows computers, this name can be found in the Windows System dialog and should be entered in the same case as displayed.
- 4 In the *Windows Share Name* field, enter the name of the shared volume or folder as it appears to the Windows operating system. This name can either be a Windows “share” name, or a Windows share name followed by the path from the Windows shared folder to the directory which is shared for Macintosh computers. For more information see [Section 23.3, "Network Share Examples," on page 331](#).
- 5 In the *AppleShare Zone* field, enter the AppleShare Zone in which the server is located. Leave this field blank in networks that have no zones; an asterisk (\*) is automatically entered by Telescope.

- 6 In the *AppleShare Server* field, enter the name of the server on which the shared volume is located. Enter the server name exactly as displayed (case-sensitive).
- 7 In the *AppleShare Path* field, enter the path to the shared volume or directory as it appears to users of Macintosh computers on the network. Typically, this is the name of the shared volume followed by a colon (:). For more information see [Section 23.3, "Network Share Examples,"](#) on page 331.
- 8 Enter the *User Name* and *Password* to connect to that share volume or directory. If this information is specified, an additional login to the share is not displayed later.
- 9 Select a *File System* (AMAS, NTFS, UNIX, XINET, MacOS).
- 10 Click *Save*.

### 23.2.1 Delete a Network Share

To delete a network share:

- 1 Click *Cross-Platform Networking* in the left navigation pane.
- 2 Click the checkbox next to the network share you want to delete.
- 3 Click *Delete Selected*.

## 23.3 Network Share Examples

The following examples are included to clarify the concept of network shares.

### Example 1

On a Windows Server computer, the folder c:\images is shared under Windows as ImageShare, as above.

A subfolder, called c:\images\LoRes is defined (using MacFile in the File Manager) as a Macintosh-accessible volume, called LoRes. The Windows computer is called Server1.

Assuming the LoRes volume is mounted on the Macintosh computer running the Telescope Administrator, the following information defines this network share:

Windows Share Name	ImageShare
Windows Machine Name	Server1
AppleShare Equivalent	LoRes:

### Example 2

On a Macintosh computer called “Jay’s Macintosh”, the folder Macintosh HD:Common Files is shared using Macintosh File Sharing.

A Windows computer on the network, using a software application that allows linking to the Macintosh platform, that can connect to this shared folder.

Windows Share Name	Common Files (With this type of share, the name entered here is the name of the share as it appears in Windows Explorer when connecting to the shared folder. It is usually the name of the folder).
Windows Machine Name	Jay’s Macintosh.
AppleShare Equivalent	Macintosh HD:Common Files.

Setting up a network share like this permits any of the Windows computers using a software application that allows linking to the Macintosh platform to locate files in the shared Common Files folder on the Macintosh.



# 24. Message Actions

This chapter provides information about creating and using Message Actions in Telescope.

- ◆ [Section 24.1, "Overview," on page 334](#)
- ◆ [Section 24.2, "Create Message Actions," on page 335](#)

## 24.1 Overview

Message Actions provides:

- ◆ The ability to communicate with one or more Telescope users with a single message.
- ◆ The ability to bring assets to the attention of other users by attaching (linking) assets to messages.
- ◆ Asset and system security as well as enforcing predefined workflows by forcing users to request authorization from administrators to perform predefined actions.

## 24.2 Create Message Actions

Messages require an action to be taken. The actions are predefined through Telescope Administrator. Each action is tied to an action script. Action scripts are predefined SQL statements that support parameter substitution. When a user views a message, the available action options appear at the bottom of the message as buttons. Clicking on the button executes the associated script.

### 24.2.1 Create a message action:

- 1 Click *Message Actions* in the navigation pane.
- 2 In the Message Actions page, click the *Add* button.

**Figure 24.1** Message Action Details

- 3 Enter a *Code Name*. It is recommended that you use a short abbreviation to keep it simple for customizations (for example, use PROC-REQ for Procedure Request).
- 4 Enter a *Visible Name* for this action that is shown in the Telescope Clients (for example, Procedure Request).
- 5 Enter an *Action Script*. For more information, see [Section 24.2.2, "Message Action Scripts," on page 335](#).
- 6 If you want this Message Action to appear on the system to generate approval messages for import, download and delete, select the bottom checkbox.
- 7 In the Visibility pane, select the Telescope user groups you want this action to be visible to. If a message that has an action code that is not visible to a user group is received by a user within that group, the action code is not visible in the message and the user is not able to trigger the associated action.
- 8 Click *Save*.

### 24.2.2 Message Action Scripts

The message action script is an SQL statement which returns a single value of “0” for success. If anything else is returned, the action is considered to have failed by Telescope. If the action “succeeds” then the message is flagged as processed. The message can only be processed once. If the Action Script fails, the message remains in the user’s queue waiting to be processed.

Two parameter *s* can be used in message action scripts:

<!msgid!> The ID of the message being responded to. All other message-related information (sending user, attached assets, etc.) can be obtained by the response script going to the database directly.

<!recipient!> The user\_name (from the users table) of the user initiating the response by clicking on the response button.

For example:

```
tsApproveAll(<!msgid!>, '<!recipients!>')
```

---

**NOTE:** Messages (aside from the default Telescope generated approval messages) are generated through custom Functional Rules. All Functional Rules, with the exception of Menu rules, can manufacture a message with attached assets when a code of “-2” is returned. For more control over the content of messages, custom stored database code can be created to manufacture your messages when a functional rule is triggered. For more information on creating custom messages, contact the Professional Services group at North Plains Systems.

---

### 24.2.3 Update the URL Shown in Messages

To change the URL shown in message text:

- 1 From the command prompt of the hub server (where the Message Broker service runs ), type `regedit` to open the Registry editor.

- 2 Go to the following registry:

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\North Plains Systems\Message  
Broker\CurrentVersion]
```

- 3 Add or change the following string to include the URL for your Telescope installation:

```
"TSWEB_LOGIN_PAGE"="http://retriever.nps.com/Scripts/WebObjects.dll/TSWeb" (YOUR URL HERE)
```

(Typically, you need to create this string.)

- 4 Restart the Message Broker service.

### 24.2.4 Change Message Headers and Footers

To change the text of the message email (for example, the text that by default reads, “Follow the link below to log into TeleScope and see your messages”), you can customize the default template text stored in the [emailNotificationBody] and [emailOriginalSenderFooter] fields of the M\_TEMPLATE table stored in the Telescope relational database management system (RDBMS). (See the Telescope Database Internals Guide for the syntax of these fields.)

### 24.2.5 Assign Message Actions to User Groups

You can also define the Telescope user groups that have access to Message Actions through the Users/Groups Permissions page.

# 25. Named Conversions

This chapter provides information about adding and using Named Conversions in Telescope.

- ◆ [Section 25.1, "Overview," on page 338](#)
- ◆ [Section 25.2, "Manage Named Conversions," on page 339](#)
- ◆ [Section 25.3, "Add a Chained Conversion," on page 342](#)

## 25.1 Overview

Named conversions are conversion settings grouped under an identifier. They provide a convenient way for Telescope users to select predefined formats for the assets they copy or download.

## 25.2 Manage Named Conversions

Managing Named Conversions you can:

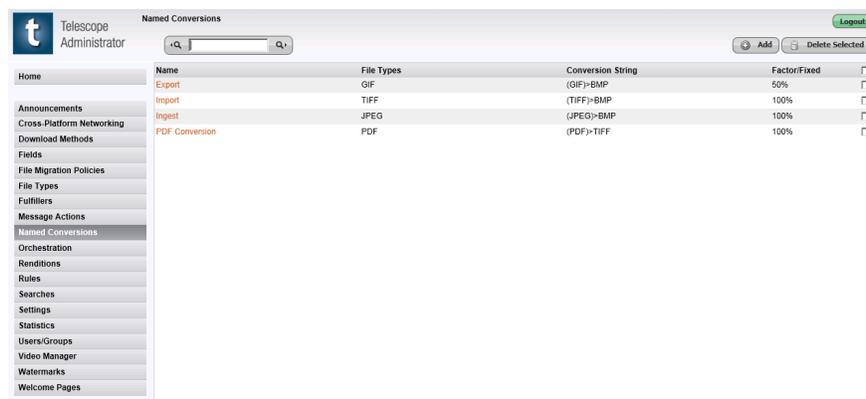
- ◆ View existing conversions
- ◆ Add conversions
- ◆ Modify conversions
- ◆ Delete conversions

### 25.2.1 View Named Conversions

To view existing named conversions:

- 1 Select *Named Conversions* in the navigation pane.

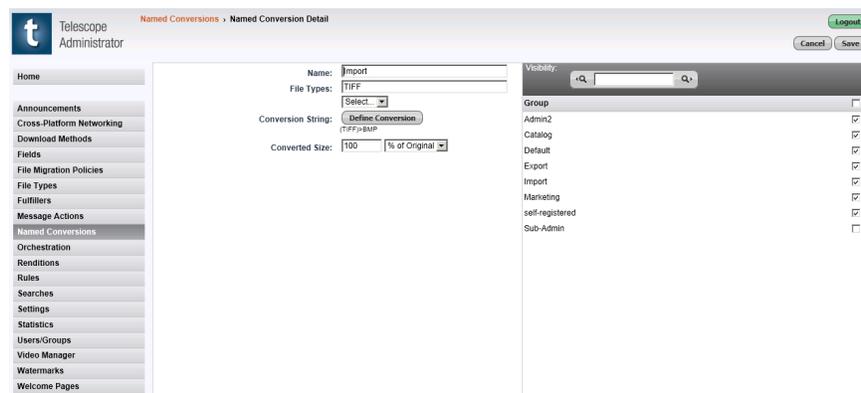
**Figure 25.1** *Named Conversions*



Name	File Types	Conversion String	Factor/Fixed	
Export	GIF	(GIF)>BMP	50%	<input type="checkbox"/>
Import	TIFF	(TIFF)>BMP	100%	<input type="checkbox"/>
Ingest	JPEG	(JPEG)>BMP	100%	<input type="checkbox"/>
PDF Conversion	PDF	(PDF)>TIFF	100%	<input type="checkbox"/>

- 2 To view the characteristics of a named conversion, click its name.

**Figure 25.2** *Named Conversions Details*



Named Conversion Detail

Name: Import

File Types: TIFF

Conversion String: (TIFF)>BMP

Converted Size: 100 % of Original

Group: Admin2, Catalog, Default, Export, Import, Marketing, self-registered, Sub-Admin

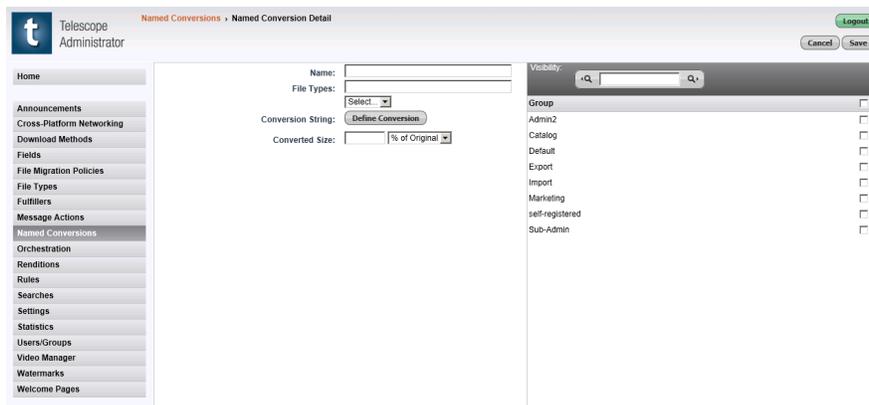
## 25.2.2 Add a Single Named Conversion

You can name groups of conversion settings so that Telescope users can easily select a predefined profile for the assets they download.

To define a named conversion:

- 1 In the Named Conversions page, click *Add Named Conversion*.

**Figure 25.3** *Add Named Conversion*

The screenshot shows the 'Named Conversion Detail' page in the Telescope Administrator. On the left is a navigation menu with 'Named Conversions' selected. The main area contains a form with the following fields: 'Name' (text input), 'File Types' (pull-down menu), 'Conversion String' (text input with a 'Define Conversion' button), and 'Converted Size' (text input with a '% of Original' dropdown). On the right, there is a 'Visibility' section with a search box and a list of groups with checkboxes: Admin2, Catalog, Default, Export, Import, Marketing, self-registered, and Sub-Admin. At the top right are 'Logout', 'Cancel', and 'Save' buttons.

- 2 In the *Name* field, provide an identifier name for the group of settings.
- 3 In the *File Types* field, select from the pull-down list the file types to which the named conversion applies. You can select more than one, and they are shown in the text field separated by commas. (We recommend you select from the list, rather than trying to type in values.) The named conversion will be available in the Download Basket only for the file types you select.

The file types you select must be supported. If a type or a combination of types is not supported, an error message will tell you that the conversion is not available when you try to define the conversion.

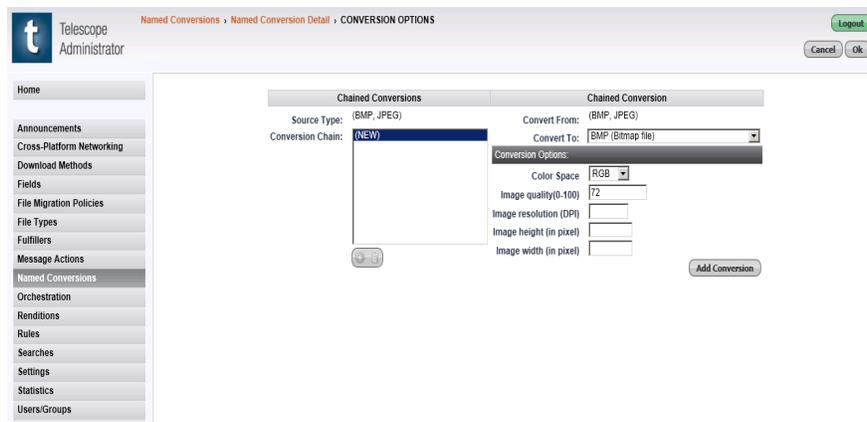
---

**NOTE:** The pull-down list shows entries that exist in the type\_codes table.

---

- 4 Click the *Define Conversion String* button to open the Conversion Options page where you can select a format to convert to and the conversion options. The options on this page change to suit the format you are converting to. An example for the BMP format:

Figure 25.4 Define Conversion String Example



- 5 When you have finished setting conversion options, click *OK* to return to the Named Conversion Detail page.
- 6 In the *Converted Size* list, select the means of specifying the size of the converted file. The options are:
  - ◆ Percentage (%) of the original file
  - ◆ **MB**: specific size in megabytes
  - ◆ **KB**: specific size in kilobytes
- 7 In the *Converted Size* field, specify the value for the size. This value is used in the Download Basket to determine when the user's download limit is reached.
- 8 In the *Visibility* pane, select the groups for which the named conversion is available.
- 9 Click *Save*.

### 25.2.3 Edit a Named Conversion

- 1 Select *Named Conversions* in the navigation pane.
- 2 Click the *Named Conversion* you want to edit.
- 3 Make the required changes.
- 4 Click *OK*.
- 5 Click *Save*.

### 25.2.4 Delete a Named Conversion

- 1 Select *Named Conversions* in the navigation pane.
- 2 Click the checkbox to the right of the Named Conversion you want to delete. To select all of the named conversions on the page, select the checkbox at the top of the column. (To clear the named conversions, click the checkbox again.)
- 3 Click *Delete Selected*.
- 4 Click *OK* on the confirmation dialog.

## 25.3 Add a Chained Conversion

You can create a chained conversion which permits multiple conversions to be applied to the same file to produce the desired destination file. For example, if there is no direct conversion from JPEG to PDF, however there are conversions from JPEG to EPS, and also from EPS to PDF, then the desired conversion could be achieved by chaining the two: JPEG to EPS to PDF.

Chained conversions can be created using either named conversions or the conversion functional rule.

- 1 In the Named Conversions page, click *Add*.
- 2 In the Name field, provide an identifier name for the group of settings.
- 3 In the File Types field, select the file types to which the named conversion applies. Or you can enter the types in the *Field Types* field, using commas to separate the items in the list. The named conversion is available in the Download Basket only for these file types.

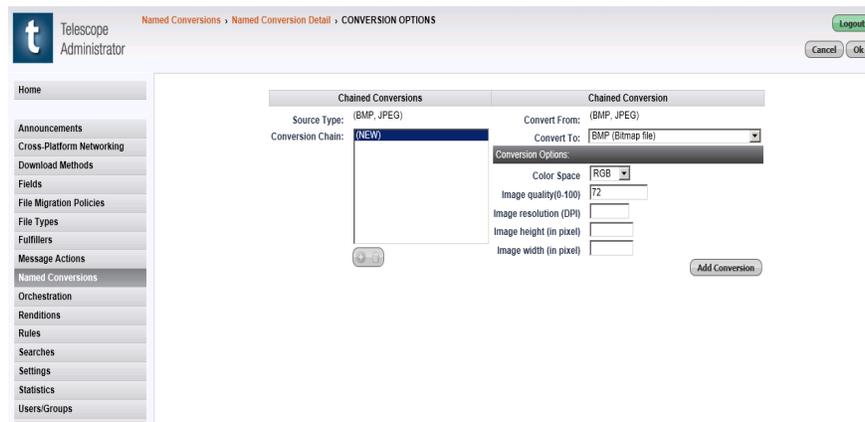
---

**NOTE:** The file types that you select to convert from and to must be supported by the Graphics Broker. If a type or a combination of types is not supported, an error message appears to inform you that the conversion is not available.

---

- 4 Click the *Define Conversion* button.

**Figure 25.5** Conversion Options



- 5 Select the first file type you want to convert to from the *Convert To* menu and fill in the conversion options.
- 6 Click *Add Conversion*.
- 7 Click *OK*.
- 8 Click *Save*.

### 25.3.1 Add another conversion to the chain

- 1 Click *Add* and repeat steps 5 and 6 above. You can continue adding to the conversion chain in this way until the conversion chain is complete.
- 2 Click *OK*.

### 25.3.2 Edit a conversion in the chain

- 1 Select the conversion from the *Conversion Chain* menu.
- 2 Edit the conversion options as required
- 3 Click *Apply to Chain*.
- 4 Click *OK*.

### 25.3.3 Delete a conversion from the chain

- 1 Select the conversion from the *Conversion Chain* menu.
- 2 Click the Trash icon.
- 3 Click *OK*.

---

**NOTE:** User groups must have the "Conversions" rule assigned to them to perform chained conversions. Administrators can maintain this rule through the User Groups definition page.

---



# 26. Orchestration

This chapter provides information about creating an Orchestration workflow in Telescope.

- ◆ [Section 26.1, "Overview," on page 346](#)
- ◆ [Section 26.2, "Define the Work Week," on page 348](#)
- ◆ [Section 26.3, "Create a New Route Map," on page 349](#)

## 26.1 Overview

Orchestration automates workflows. It allows you to define workflows that control the movement of assets through the various stages of the creative process. Orchestration includes:

- ◆ A graphical method of defining workflows that does not require any programming.
- ◆ Event based workflows.
- ◆ Integration with assets, renditions, and metadata.

There are two very distinct aspects to Orchestration. The Telescope administrator creates the workflow while the user interacts with workflow.

### 26.1.1 Route Maps

Route maps are comprised of a sequence of steps involved in an asset workflow. Route maps are created and managed by the Telescope Administrator. Route Maps include:

- ◆ Name of the route map (for example, Client Approval).
- ◆ Description of the route map.
- ◆ “Type” of route map. “Types” are used to group route maps into manageable units.
- ◆ The route map’s visibility determines which Telescope users and groups can see and use it.
- ◆ A set of junctions that describe the steps in the process and their relationships.
- ◆ Notification of service failures such as a message cannot be sent.
- ◆ Optional route “monitors” who have permission to watch the progress of a route map.

### 26.1.2 Services

A service is a specific instance of a route map. A user in Telescope can select one or more assets and start a new service on that route. Any asset can be attached to a service. A user who starts a service automatically becomes the owner of that service. The service owner can modify the parameters of the route map. Multiple services, based on any route map, can be running at the same time.

### 26.1.3 Junctions

A junction is one step in the route map process. Junctions can be left blank to be completed by the service owner when the service is started. Service owners can add, change, or delete users assigned to a junction when starting a service run. Users then determine the next step of the workflow by completing the task required by the junction and then choosing one of several decisions.

“Decisions” determine the next step in the junction workflow. A junction with a single decision follows as linear route, while two or more decisions at a junction create “branches” or “loops”.

A Delay notification parameter determines who is notified, using Telescope messaging, when the service falls behind schedule.

A milestone parameter indicates if the junctions must be completed by a specific date. This date is determined by the service owner.

Each junction in Orchestration must have at least one decision.

## 26.1.4 Decisions

Each junction has one or more “decisions” which influences the flow of the route map. A junction with more than one decision creates a “branch” or “cycle” in the route. For example, a decision might require an “Approve” to advance the assets to the next junction. A “Reject” might cause the assets to return to a previous junction. A decision is made up of the following:

- ◆ The name of the decision becomes the name of the message action button which corresponds to the decision.
- ◆ The name of the junction the service is routed to, if this decision is selected. This can be any junction in the route map.
- ◆ An indication if the decision requires additional input from the user, for example, comments.
- ◆ An indication if the decision requires assets to be attached to the service.
- ◆ A “threshold” percentage that specifies the percentage of users who must choose this decision in order to activate it.

## 26.2 Define the Work Week

One of the key concepts associated with any work planning tool is the definition of the amount of time that a person works in a given week. Based on when a service arrives at a particular junction, and the duration assigned to that junction, Telescope Orchestration Services calculates what the “due date” should be for the junction’s Telescope message. If the service arrives at a junction on Friday afternoon, and the duration is 1 day, it might not be entirely realistic to set the “due date” to Saturday afternoon.

For this reason, the system stores an indication of what the “average” weekly work schedule looks like, so it can reasonably set the due dates for Telescope messages generated by the system. This is done once only for the entire system. Telescope Orchestration Services does not maintain individual work weeks, statutory holidays, or vacations.

The administrator defines the “work week” in the Telescope Settings page.

- 1 Click *Settings* in the navigation pane.

**Figure 26.1** *Settings*

The screenshot shows the Telescope Administrator Settings page. The navigation pane on the left includes: Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers, Message Actions, Named Conversions, Orchestration, Renditions, Rules, Searches, Settings (selected), Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main content area is titled 'Settings' and contains several sections:

- General Settings:** Server Name (WIN-SH3GLU339G), Share Name (Archive), Content Index High-Water Mark (1, None).
- Version Naming Convention:** Append version number to (Old file name), Version/Name Separator (example using '-', somefile-2.jpg).
- Telescope Orchestration Services:** Work Days (SUN, MON, TUE, WED, THU, FRI, SAT), Work Hours (12 AM to 11 PM), Service Archiving (Retain completed service traces for 50 days before archiving).
- SMTP Server Configuration**

- 2 In the main pane of the Settings page, under Telescope Orchestration Services, select the *Work Days*, *Work Hours*, and *Service Archiving*.  
*Service Archiving* defines the number of days before service traces are archived.

---

**NOTE:** The administrator sets the length of time service traces are stored. These can be used to regenerate reports.

---

## 26.3 Create a New Route Map

**NOTE:** A route map cannot be saved until one junction and one decision has been created.

To create a new route map:

- 1 Select *Orchestration* in the navigation pane.

**Figure 26.2** *Orchestration*



- 2 Click *New Route Map*.

**Figure 26.3** *Route Map Info*



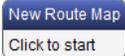
- 3 In the *Route Type & Name* field, enter the route map type (for example, Internal, External). In the second field, enter a name for the route map.
- 4 In the *Description* field, enter the purpose for the route map. This field is restricted to a maximum of 4000 characters.
- 5 In the *Failure Notification* field, list the Telescope users or groups, separated by a comma, who should be notified when a service based on this route map fails. Notification is by Telescope messaging.

- 6 Select *Notify Service Owner of Failures* checkbox to include the service owner in the notification should a service fail.
- 7 In the *Route Monitors* text box, list the Telescope users or groups, separated by a comma, of the route “monitors”. These are users who are given permission to view the status of services running on this route map. This field is optional.
- 8 Under *Route Map Visibility*, select the users and/or groups who are able to view the route map.

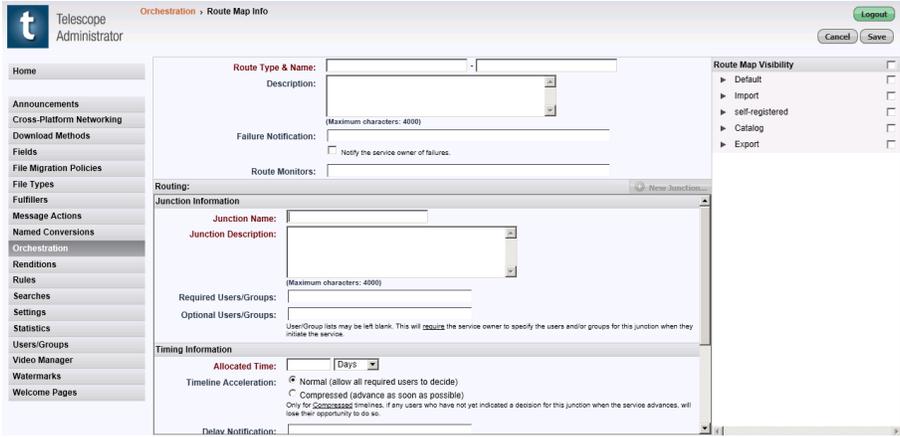
## 26.3.1 Define the Routing

Once the Route Map information has been completed you begin defining the route by creating a junction. Every route map must have at least one junction.

To define the routing:

- 1 In the Route Map Info page, click **New Route Map**/Click to start  .

**Figure 26.4** Defining a Route



- 2 In the *Junction Name* text box, enter a unique name for the junction. When a message is sent to users the message subject includes the service name and junction name.
- 3 In the *Junction Description* text box, enter a detailed description of the activities the user(s) must perform at this junction. This information is the body of the text of the message sent to users for this junction. This field is restricted to a maximum of 4000 characters.
- 4 In the *Required Users/Groups* text box, list the users and groups, separated by a comma, who are responsible for moving the service to the next junction. This field is optional.
- 5 In the *Optional Users/Groups* text box, list the users and groups, separated by a comma, who can respond by choosing one of the available decisions. However, they cannot move the service to the next junction. This field is optional.
- 6 Under *Timing Information*, in the *Allocated Time* text box, enter the amount of time allocated to the junction. This determines the “due date” setting in the junction’s message. Select either *Hours*, *Days*, or *Weeks* from the menu.

---

**NOTE:** When creating tasks that take less than one day, Orchestration uses the “working hours” information to calculate the “due date” for the junctions message. For example, a service arrives at a junction for which the allocated time is 4 hours at 4:00pm., then the message’s “due date” is set to 11:00am the next day.

---

- 7 For *Timeline Acceleration* field, select either Normal, or Compress.

**Normal:** All “Required” users must indicate their decision before the service can move on to the next junction.

**Compressed:** As soon as enough of the “Required” users have made their decision for a “majority” win (based on the threshold percentage), the service proceeds in that direction. Any users who have not registered a decision loses their opportunity to influence the outcome.

- 8 In the *Delay Notification* text box, list the users and groups, separated by a comma, that should be notified should the service be delayed at a junction. This field is optional.
- 9 Select *Notify Service Owner of Delay* checkbox, if the service is delayed at a junction.
- 10 Under *Milestone Information*, for Completion milestone, select either Always, Optional, or Never from the menu.

**Always:** The service owner must enter milestones for junctions in the route map.

**Optional:** The service owner can choose to leave the milestones blank for junctions in the route map.

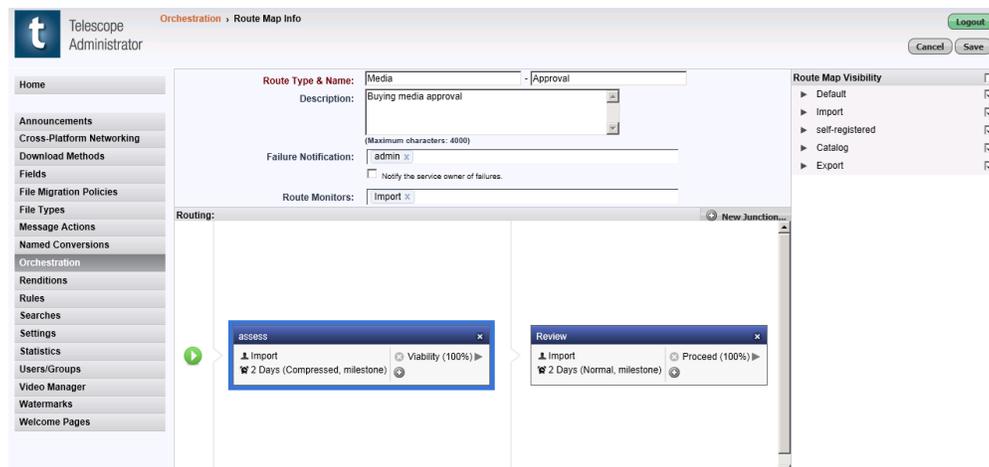
**Never:** Milestones are not require.

- 11 In the *Missed Milestones Notification* text box, list the users and groups, separated by a comma, to be notified should the milestone date for this junction be missed.

- 12 Click *OK*.

The display updates, showing the newly created junction.

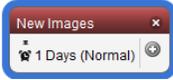
**Figure 26.5** *New Route Map Junction*



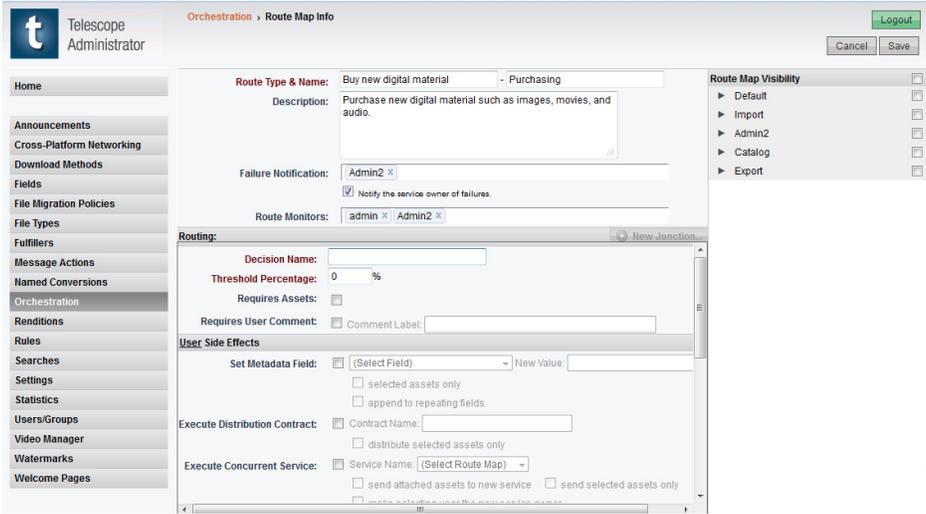
## 26.3.2 Create a Decision

A decision is the way users move the workflow forward. Each Junction must have at least one decision.

To create a decision:

- 1 Click the *Add Decision (+)* button  at the bottom section of the new Junction.

**Figure 26.6** Create a Decision



The screenshot shows the 'Telescope Administrator' interface. The main content area is titled 'Orchestration > Route Map Info'. On the left is a navigation menu with items like Home, Announcements, Cross-Platform Networking, etc. The main area contains several sections: 'Route Type & Name' (Buy new digital material - Purchasing), 'Description' (Purchase new digital material such as images, movies, and audio), 'Failure Notification' (Admin2), 'Route Monitors' (admin, Admin2), and 'Routing'. The 'Routing' section is expanded to show 'Decision Name' (empty), 'Threshold Percentage' (0 %), 'Requires Assets' (checkbox), 'Requires User Comment' (checkbox), and 'User Side Effects' (checkbox). Below 'User Side Effects' are options for 'Set Metadata Field', 'Execute Distribution Contract', and 'Execute Concurrent Service'.

- 2 Under Decision Information, in the *Decision Name* text box, enter a name. This name then becomes the message action button in the junction's message to the user(s).
- 3 In the Threshold Percentage text box, enter a number that stipulates the percentage of users who must choose this decision in order to activate it.
- 4 Select *Requires User Comment* checkbox if the decision requires information from the user.
- 5 In the *Comment Label*, enter a name for the comment that is used by the message action. This is only required if *Requires User Comment* is selected.

### User Side Effects

Side effects are used to modify the assets as they pass through the route map. They can be triggered by a user making their decision or only when the decision's branch is followed.

Figure 26.7 User Side Effects

- 1 Select the Set Metadata Field checkbox to enable the menu. The metadata fields can be of the following type:

- ◆ char
- ◆ longchar
- ◆ integer
- ◆ real
- ◆ date/time
- ◆ boolean
- ◆ repeating
- ◆ normalized repeating

- 2 Select a field and enter its new type in the *New Value* text box.

**selected assets only:** Update only those assets selected by the user when they activate the decision. If the selected metadata field is a repeating or normalized repeating field, the value is appended to the existing field values.

**append to repeating fields:** Adds the new value to the Values field. If it is not selected, the new value overwrites the existing field value.

- 3 Select *Execute Distribution Contract* checkbox to enable a Distribution Broker and choose the user's selected assets to distribute.

**Contract Name:** Enter the name of the Distribution Broker contract.

**distribute selected assets only:** Sends assets only selected by the user through the new service.

- 4 Select *Execute Concurrent Service* checkbox to start a concurrent service. This will be another Orchestration Route map.

**send attached assets to new service:** Sends the attached assets through the new service.

**send selected assets only:** Sends assets chosen by the user through the new service.

**make the selecting user the new service owner:** Transfers the ownership to the user making the decision.

- 5 Select *Execute Stored Procedure* checkbox to enable the Stored Procedure Name text box.

**Store Procedure Name:** Enter the name of a saved procedure to be used.

**Pass to Stored Procedure:**

**service id:** Move the service identifier to the stored procedure.

**user name:** Move the user name to the stored procedure.

**send attached assets:** Move all assets to the stored procedure.

**send selected assets:** Move selected assets to the stored procedure.

## Branch Side-Effects

A Branch Side-Effect is triggered when the decision's branch is followed by the system. They only execute once and only one branch side-effect will ever be triggered for each junction.

**Figure 26.8** Branch Side-Effects

The screenshot shows a configuration window titled "Branch Side Effects". It contains several sections with checkboxes and input fields:

- Enter the new value for the metadata field:** A checked checkbox, a dropdown menu with "Title (editorial.title)" selected, and a "New Value:" text box. Below it is an unchecked checkbox labeled "append to repeating fields".
- Execute Distribution Contract:** A checked checkbox and a "Contract Name:" text box.
- Start Concurrent Service:** A checked checkbox, a "Service Name:" dropdown menu with "(Select Route Map)" selected, and an unchecked checkbox labeled "send attached assets to new service".
- Execute Stored Procedure:** A checked checkbox and a "Stored Procedure Name:" text box.
- At the bottom, there is a label "Pass to Stored Procedure (as parameter):" followed by two unchecked checkboxes: "service id" and "send attached assets".

- 1 Select the *Set Metadata Field* checkbox to enable the menu. The metadata fields can be of the following type:

- ◆ char
- ◆ longchar
- ◆ integer
- ◆ real
- ◆ date/time
- ◆ boolean
- ◆ repeating
- ◆ normalized repeating

- 2 Select a field and enter its new type in the *New Value* text box.

**append to repeating fields:** Adds the new value to the values field. If it is not selected, the new value overwrites the existing field value.

- 3 Select *Execute Distribution Contract* checkbox to enable a Distribution Broker and choose the user's selected assets to distribute.

**Contract Name:** Enter the name of the Distribution Broker contract.

- 4 Select *Start Concurrent Service* checkbox to start a concurrent service.

**send attached assets to new service:** Sends the attached assets through the new service.

- 5 Select *Execute Stored Procedure* checkbox to enable the Stored Procedure Name text box.

**Store Procedure Name:** Enter the name of a saved procedure to be used.

**Pass to Stored Procedure:** Select one of the following:

**service id:** Move the service identifier to the stored procedure.

**all assets:** Move all assets to the stored procedure.

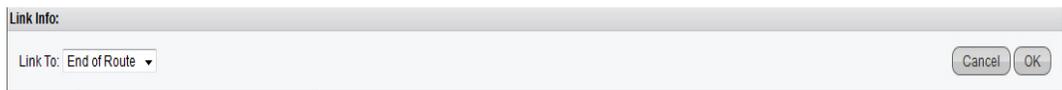
## Link Info

Link Info defines the link the decision makes in the workflow.

---

**IMPORTANT:** Any link that links to itself will cause Telescope to stop responding.

---



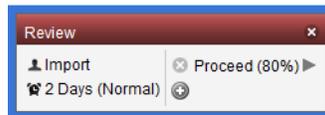
- 1 Select an option from the *Link To* menu:

**End of Route:** New decisions are always configured to start with this link.

<*Junction Name*>: Name of existing junctions.

- 2 Click *OK*.
- 3 Click *Save*.

The Route icon displays the information selected for the route map including its name, group(s) that are involved, time allocated to the decision and the threshold percentage required to proceed.



Repeat the above process to add as many junctions and decisions to your route map as required.



# 27. Database Statistics

This chapter provides information about the Telescope Database statistics.

- ◆ [Section 27.1, "Overview," on page 358](#)
- ◆ [Section 27.2, "View Statistics," on page 359](#)
- ◆ [Section 27.3, "Set the Number of Days for Retaining Statistics," on page 362](#)
- ◆ [Section 27.4, "Track Administrative Changes Made by User IDs," on page 363](#)

## 27.1 Overview

Telescope Administrator maintains statistical information for each database in your Telescope environment. You can view statistics and set the maximum number of days that statistics are stored.

## 27.2 View Statistics

You can view statistics for all users or view the activities of individual users.

### 27.2.1 View Database Statistics

To view the statistics for your database:

- ◆ Click *Statistics* in the navigation pane.

**Figure 27.1** *Statistics*

User	Logins	Searches	Downloads	Uploads	Requests
admin	457	1074	62	164	0
Al	1	0	0	0	0
Mike	7	1	0	0	0
Rex	7	12	0	0	0
Totals	472	1087	62	164	0

The page lists all of the users who have accessed the database since statistics were last saved. To reorganize the list according to the number of logins, searches, downloads, uploads, or requests, click the appropriate column heading.

The Statistics page displays the following information:

**Statistics Compiled Since:** The date from which the statistics started to be compiled.

**System Status:** Date and time when the database was last restarted.

**User:** Names of the users who are currently logged into the database, as well as the date and time that each user logged in and the last action each user performed.

**Logins:** Number of times each user has logged in.

**Searches:** Number of searches each user has performed.

**Downloads:** Number of times each user has successfully downloaded files.

**Uploads:** Number of times each user has successfully imported files.

**Requests:** Number of times each user has requested files from another user.

### 27.2.2 View User Statistics

- 1 Click a user name in the Statistics page.

Figure 27.2 User Statistics

Date	Action	Amount
Friday, Dec 21, 2012, 07:52:19 AM	Login	
Thursday, Dec 20, 2012, 01:40:43 PM	Login	
Thursday, Dec 20, 2012, 11:01:39 AM	Login	
Thursday, Dec 20, 2012, 08:10:54 AM	Login	
Wednesday, Dec 19, 2012, 01:17:07 PM	Login	
Wednesday, Dec 19, 2012, 11:13:01 AM	Login	
Wednesday, Dec 19, 2012, 10:47:42 AM	Login	
Wednesday, Dec 19, 2012, 10:29:23 AM	Login	
Wednesday, Dec 19, 2012, 09:02:26 AM	Login	
Wednesday, Dec 19, 2012, 08:12:59 AM	Login	
Wednesday, Dec 19, 2012, 08:03:29 AM	Login	
Wednesday, Dec 19, 2012, 08:02:02 AM	Login	
Tuesday, Dec 18, 2012, 11:58:07 AM	Login	
Tuesday, Dec 18, 2012, 11:40:33 AM	Login	
Tuesday, Dec 18, 2012, 11:30:38 AM	Login	
Tuesday, Dec 18, 2012, 11:01:00 AM	Login	
Tuesday, Dec 18, 2012, 10:18:13 AM	Login	
Tuesday, Dec 18, 2012, 07:45:36 AM	Logout	0h 1m
Tuesday, Dec 18, 2012, 07:44:29 AM	Search	110 document(s)
Tuesday, Dec 18, 2012, 07:44:24 AM	Login	
Tuesday, Dec 18, 2012, 07:08:48 AM	Logout	0h 5m
Tuesday, Dec 18, 2012, 07:03:46 AM	Login	
Monday, Dec 17, 2012, 03:13:14 PM	Logout	0h 5m
Monday, Dec 17, 2012, 03:08:09 PM	Login	
Monday, Dec 17, 2012, 03:01:16 PM	Login	
Monday, Dec 17, 2012, 02:59:18 PM	Login	
Monday, Dec 17, 2012, 02:24:38 PM	Logout	0h 52m
Monday, Dec 17, 2012, 01:53:31 PM	Search	110 document(s)

The user name appears at the top of the page. The page contains the information listed below.

**Date:** Date and time when the action occurred.

**Action:** Action the user performed, including logging in, searching, uploading, downloading, and requesting files.

**Amount:** Number of minutes that a session lasted, number of records retrieved by a search, or number of files uploaded or download.

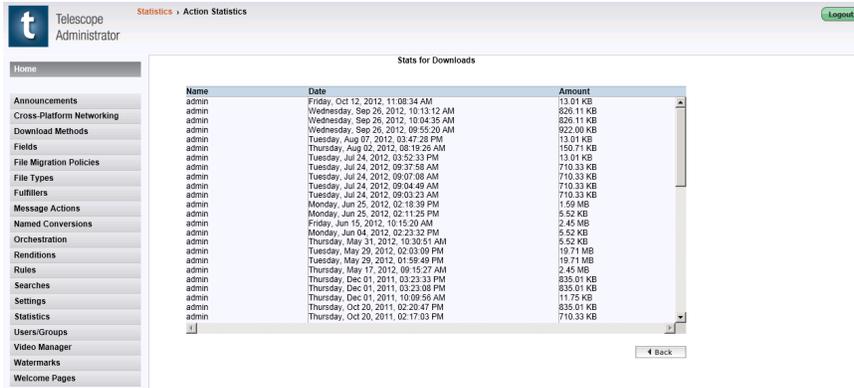
- 2 Click *Back* to return to the Statistics page.

### 27.2.3 Statistics For a Specific Action

You can display statistics for a specific user action. For example, you can display who downloaded images, the date, and the size of the asset downloaded.

- 1 On the Statistics page, click the action you want detailed information for.

Figure 27.3 Stats for Downloads



The screenshot shows the Telescope Administrator interface. The top navigation bar includes the Telescope logo, the text 'Telescope Administrator', and 'Statistics - Action Statistics'. A 'Logout' button is in the top right. A left sidebar contains a menu with categories like Home, Announcements, Cross-Platform Networking, Download Methods, Fields, File Migration Policies, File Types, Fulfillers, Message Actions, Named Conversations, Orchestration, Renditions, Rules, Searches, Settings, Statistics, Users/Groups, Video Manager, Watermarks, and Welcome Pages. The main content area is titled 'Stats for Downloads' and contains a table with three columns: Name, Date, and Amount. The table lists 20 rows of download statistics.

Name	Date	Amount
admin	Friday, Oct 12, 2012, 11:08:34 AM	13.01 KB
admin	Wednesday, Sep 26, 2012, 10:13:12 AM	826.11 KB
admin	Wednesday, Sep 26, 2012, 10:04:35 AM	826.11 KB
admin	Wednesday, Sep 26, 2012, 09:55:30 AM	822.80 KB
admin	Tuesday, Aug 07, 2012, 03:47:28 PM	13.01 KB
admin	Thursday, Aug 02, 2012, 08:19:26 AM	150.71 KB
admin	Tuesday, Jul 24, 2012, 03:52:33 PM	13.01 KB
admin	Tuesday, Jul 24, 2012, 09:37:58 AM	710.33 KB
admin	Tuesday, Jul 24, 2012, 09:07:08 AM	710.33 KB
admin	Tuesday, Jul 24, 2012, 09:04:49 AM	710.33 KB
admin	Tuesday, Jul 24, 2012, 09:03:23 AM	710.33 KB
admin	Monday, Jun 25, 2012, 02:16:39 PM	1.59 MB
admin	Monday, Jun 25, 2012, 02:11:25 PM	5.52 KB
admin	Friday, Jun 15, 2012, 10:15:20 AM	2.45 MB
admin	Monday, Jun 04, 2012, 02:23:32 PM	5.52 KB
admin	Thursday, May 31, 2012, 10:30:51 AM	5.52 KB
admin	Tuesday, May 29, 2012, 02:03:09 PM	19.71 MB
admin	Tuesday, May 29, 2012, 01:59:49 PM	19.71 MB
admin	Thursday, May 17, 2012, 06:15:27 AM	2.45 MB
admin	Thursday, Dec 01, 2011, 03:23:33 PM	835.01 KB
admin	Thursday, Dec 01, 2011, 03:23:08 PM	835.01 KB
admin	Thursday, Dec 01, 2011, 10:09:58 AM	11.75 KB
admin	Thursday, Oct 20, 2011, 02:20:47 PM	835.01 KB
admin	Thursday, Oct 20, 2011, 02:17:03 PM	710.33 KB

- 2 When you are finished reviewing the information, click *Back* to return to the Statistics page.

## 27.3 Set the Number of Days for Retaining Statistics

The Telescope Administrator can set the number of days that statistics are stored in the database. Every time that an administrator opens the Statistics page, Telescope checks this value and deletes records older than the maximum value specified.

To set the number of days for retaining statistics:

- 1 Enter the number of days in the *Days of Stats Recorded* field.  
You can enter an integer greater than or equal to one, to represent the number of days. If you enter zero (0), all statistics will be kept without a time limit.
- 2 Click *Save*.

## 27.4 Track Administrative Changes Made by User IDs

It is possible to use SQL queries to track administrative changes made by user IDs. To create this functionality in your Telescope installation, you need to create a new “Audit” table in the Telescope database (as described in this section).

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**NOTE:** This feature is not available if your Telescope database is an Oracle database.

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### What you can track

You will be able to query user IDs making the following actions:

- ◆ Creating and updating new users and groups (deleting both aren't tracking)
- ◆ Creating, updating, and deleting renditions
- ◆ Deleting new fields
- ◆ All other inserting/updating/deleting actions in:
  - ◆ Announcements
  - ◆ Cross-platform changes
  - ◆ Download methods
  - ◆ FMP
  - ◆ Fulfillers
  - ◆ Message Actions
  - ◆ Named conversions
  - ◆ Rules
  - ◆ Searches
  - ◆ Video Manager
  - ◆ Watermarks
  - ◆ Welcome Pages

### 27.4.1 About the Audit Table

A Telescope database table, called “Audit” in MS SQL, is used to track administrative changes. This table is created as part of the Telescope database installation or upgrade.

The Audit table includes the following fields:

**Table 27.1** *Fields in the Audit Table*

Field	Description
AuditID	The unique ID for the audit record
UpdateDate	Timestamp for the record
DBUser	The database account used to make the changes (TSAdmin uses a single account for all operations)

**Table 27.1** *Fields in the Audit Table*

Field	Description
TelescopeUser	The Telescope account (user name), to identify which account made the change
Type	Type of change: <ul style="list-style-type: none"> <li>◆ I - Insert new records</li> <li>◆ U - update record</li> <li>◆ D - delete record</li> </ul>
TableName	The name of the changed table
PrimaryKeyField	The name of the Primary key field in this table
PrimaryKeyValue	The value of the Primary key
FieldName	The name of the field that was changed.
OldValue	The old value of the field (the first 1000 characters). This is NULL for an Insert operation.
NewValue	The new value of the field (the first 1000 characters). This is NULL for a delete operation.

## 27.4.2 Examples of Audit Table Operations Tracking Administrative Changes

The following examples show the types of entries that would appear in the Audit table for particular types of operations. All operations are in reverse order, as per when they are logged in the table.

### Entry when admin user logs in:

The following entry would appear in the Audit table when the “admin” user logs in.

**Table 27.2** *Audit Table Addition when User Logs In.*

Audit ID	Update Date	DB User	TS User	Type	Table Name	Primary Key Field	Primary Key Value	Field Name	Old Value	New Value
171	21/08/2013 09:24:53	ABC	admin	U	users	user_name	admin	lastlogin	Aug 21 2013 9:16AM	Aug 21 2013 9:24AM

## Entries when the administrator changes a user account

The following entries would appear in the Audit table when the “admin” user changes a user account. One entry is provided for each field that was changed.

**Table 27.3** *Audit Table Additions with User Account Change.*

Audit ID	Update Date	DB User	TS User	Type	Table Name	Primary Key Field	Primary Key Value	Field Name	Old Value	New Value
173	21/08/2013 09:27:33	ABC	admin	U	users	user_name	Gre8	password	5aTlvOzF@Rmbwq11NeMwqNBeMV0eqBqe	YaTlvOzF%RBMwq11NeMwqNBeMV0eqBqe
174	21/08/2013 09:27:33	ABC	admin	U	users	user_name	Gre8	phonenu mber	423	123-456-7890
175	21/08/2013 09:27:33	ABC	admin	U	users	user_name	Gre8	fname	s	first
176	21/08/2013 09:27:33	ABC	admin	U	users	user_name	Gre8	lname	s	last
177	21/08/2013 09:27:33	ABC	admin	U	users	user_name	Gre8	remarks	NULL	password%1
172	21/08/2013 09:26:26	ABC	admin	U	users	user_name	Cool as ice	access_fl ags	Y0YYYYYYN NYYYYYYY YY	N0YYYYYYN NYYYYYYY YY

## Entries when the administrator adds a new rendition

The following entries would appear in the Audit table when the “admin” user adds a new rendition. One entry is provided for each field that is required to identify the rendition. Because these are new entries (rather than changes), the Old Value is NULL for the renditions table entries. The record ID in the sequences table is increased from 9 to 10 to reflect the increased number of renditions.

**Table 27.4** *Audit Table Additions with New Rendition.*

Audit ID	Update Date	DB User	TS User	Type	Table Name	Primary Key Field	Primary Key Value	Field Name	Old Value	New Value
180	21/08/2013 09:32:01	ABC	admin	I	renditions	rend_id	10	rend_id	NULL	10
181	21/08/2013 09:32:01	ABC	admin	I	renditions	rend_id	10	rend_name	NULL	Admin rendition

**Table 27.4** *Audit Table Additions with New Rendition.*

<b>Audit ID</b>	<b>Update Date</b>	<b>DB User</b>	<b>TS User</b>	<b>Type</b>	<b>Table Name</b>	<b>Primary Key Field</b>	<b>Primary Key Value</b>	<b>Field Name</b>	<b>Old Value</b>	<b>New Value</b>
182	21/08/ 2013 09:32:01	ABC	admin	I	renditions	rend_id	10	rend_order	NULL	5
179	21/08/ 2013 09:32:01	ABC	admin	U	sequences	sequence_name	renditions	record_id	9	10

# 28. Telescope Security

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**NOTE:** For details on how to adjust Telescope security features, see the *Telescope Installation and Configuration Guide*.

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## Strong Passwords

Strong passwords are the best way to protect your data from uninvited users. A Telescope password should conform to the following:

- ◆ Contain at least one uppercase letter.
- ◆ Contain at least one lowercase letter.
- ◆ Contain at least one number.
- ◆ The password length should be a minimum of 6 characters (complying with the above) to a maximum of 20 characters.
- ◆ Is different from other passwords you use on other systems.
- ◆ Is not shared with others.

Using a strong password lowers the risk of your account being compromised by an unauthorized user. The rules to access Telescope are similar to those employed by other enterprise applications. It is recommended that your password should not contain:

- ◆ Dictionary words, letter or number patterns, and proper names.
- ◆ Your name and/or company name.
- ◆ Names of sports teams, relatives, or pets.

Do NOT write your password down on paper and change your password often. Change your password if you suspect it has been compromised.



# Glossary of Terms

**Administrator:** A Telescope user who has the authority to use Telescope Administrator to manage Telescope.

**Ajax:** Asynchronous Java And XML. A web development technique for creating interactive web applications. The intent is to make web pages feel more responsive by exchanging small amounts of data with the server behind the scenes, so that the entire web page does not have to be reloaded each time the user requests a change. This is meant to increase the web page's interactivity, speed, and usability.

**API:** Application Programming Interface. A set of declarations of the functions (or procedures) that an operating system, library or service provides to support requests made by computer programs.

**AST:** Advanced Systems Format. A proprietary audio and video streaming container format, developed by Microsoft. The ASF format describes the structure of the audio or video stream, but does not specify how the file is to be encoded.

**Aspect Ratio:** The ratio (of an image or a video) of its width to its height. Standard television screens display a 4:3 aspect ratio (also known as “full screen” or 1.33:1). Widescreen television signals have a 16:9 aspect ratio (the square of 4:3).

**Apose:** A collection of .NET and Java components used in file management. These components allow developers to build applications that can open, edit and save files in a variety of popular formats (for example, Word documents, Excel Spreadsheets, PowerPoint Presentations, PDF Documents, Flash Presentations, Metafiles, Project Files, and InfoPath Forms).

**Asset:** A digital media file that is cataloged by Telescope for example. still images, vector drawings, video files, audio files, PowerPoint presentations etc. An asset can have one or more digital files attached to it, called renditions.

**Asset Repository:** Storage device that manages digital print and multimedia files, including video and music. Repository services include security, communications, file transformations, distribution, and permissions. Telescope supports the major RDBMSs from Sybase, Microsoft, and Oracle as its metadata storage system.

**Attach Rendition:** Action that attaches a file to an asset record.

**AVI:** Audio Video Interleave. A multimedia container format developed by Microsoft. AVI files are now more commonly used as a container for DivX and XviD encoded video files.

**Boolean:** Telescope data type for metadata fields. The only valid values are True and False, and (if it's not a required field), Not Specified.

**Browse Search:** A predefined search that reflects the structure of the metadata in the database. This action is available in Telescope OnDemand;

**CAPTCHA:** Completely Automated Public Turing test to tell Computers and Humans Apart. A challenge/response test used to ensure that a response has been generated by a human and not a computer. Users typically type into a text box, a sequence of distorted letters displayed on a graphic image.

**Char:** Data type accepted in the Telescope database to represent textual data.

**Check In:** An action that adds a new version of a file to the Telescope system.

**Check Out:** An action that copies a file from the Telescope File Broker to disk for review or editing. No one else can check out the file until it has been checked in again.

**Client:** A web browser or other application that accesses processes and data on a server computer, usually in a networked environment. Telescope OnDemand is a client applications that request services and assets from the Telescope Hub.

**Clip Definition Mode:** This can also be thought of as a “clip recording mode”. It is the state of Video Manager while a clip is being recorded – after the Mark In button is pressed and before the Mark Out button is pressed.

**Closed Captions:** Textual information encoded in the non-visible lines of a video signal (line 21). The text can be made visible with a closed-caption decoder.

**Codec:** An abbreviation meaning **C**ompressor / **D**ecompressor, or **C**oder / **D**ecoder. It is a software program or algorithm that encodes and decodes various media formats. The Flip4Mac™ codec allows Macintosh computers to play Windows Media files.

**Collection:** A container within Telescope used to organize media files (assets). A collection contains only a collection of links to assets, it does not contain the assets themselves. Therefore, deleting a collection will not delete the associated assets. Collections provide a convenient means of collecting assets you and others need to access frequently.

**Component Object View (COV):** A special case of the extended view that displays multiple-page files that have been imported with a suitable I-Piece. These files can contain embedded files, for example, a QuarkXPress file can contain placed art and text.

**Confidence Value:** A number between 0 and 100, assigned by the Speech-To-Text tool to each phrase that it is transcribing. The number reflects the percent of accuracy for the speech-to-text translation. The accuracy is also reflected visually, by the text color: Perfect translations are indicated by red text. Lower confidence levels are indicated by lighter shades of grey.

**Container Field:** Metadata field (and data type) used to store links to related assets. Linked files are represented in the container field by half-sized thumbnail images.

**Content Search:** Feature that searches the textual content of files using criteria that the user supplies.

**Conversion Broker:** A central repository that provides information about, and distributes file conversion requests between, File Brokers that have ConversionI-Pieces. It keeps track of which File Brokers can perform which types of file conversions. The ConversionI-Piece's Plug-in module performs file conversion on demand for files served by the File Broker.

**Conversion I-Piece:** Also known as C-Piece. A plug-in module that performs file conversion on demand for files served by the File Broker. For details on installing and using C-Pieces, see their respective manuals.

**Convert:** An action that occurs when a user copies a file from the Telescope system and converts it to another format at the same time. Telescope's ability to convert files depends on the presence of a Conversion Broker and I-Piece in the implementation.

**Copy:** Action that replicates one or more files from the Telescope File Broker on the user's computer. Also called download when the action is performed using Telescope.

**CORBA:** Common Object Request Broker Architecture is a standard that enables software components written in multiple computer languages and running on multiple computers to work together.

**COV Asset:** A term used to describe a multi-page extended view, such as an InDesign document or a Quark file.

**C-Piece:** See Conversion I-Piece.

**Data Type:** Classification of data that tells the compiler or interpreter how the data is supposed to be used or presented. For example, the process and result of adding two variables differs greatly according to whether they are integers, floating point numbers, or strings. Data types acceptable in the Telescope database are , char, container, integer, I-Piece, long char, normalized repeating, real, repeating, short integer, and timestamp.

**Delete:** An action that erases an asset's record from the Telescope database. Optionally, the original file may also be deleted from the Telescope File Broker.

**DHCP: Dynamic Host Configuration Protocol.** A set of rules used by a communications device such as a computer, router or network adaptor to allow the device to request and obtain an IP address from a server that has a list of addresses available for assignment.

**DIV:** An HTML tag that implements a generic block level object. It defines a division or section within an HTML document, and implies a logical grouping of elements enclosed within its tags.

**Document:** Also called a Record, a document is a complete set of information about an asset tracked by Telescope. Each document can contain the location of renditions anywhere on the network or in offline storage, thumbnail representations of file contents, information about the asset (*metadata*), and extended views or *previews* of files.

**DOM: Document Object Model.** A collection of objects that represent a page in a web browser, used by script programs to examine and dynamically change the page.

**Download:** An action that copies one or more files from the Telescope File Broker to the user's computer using Telescope OnDemand. Also called *copy*.

**DTD: Document Type Definition.** A DTD provides a list of the elements, attributes, comments, notes, and entities contained in the document, as well as their relationships to one another.

**DV25:** A digital video compression method that is used to compress all video recorded onto MiniDV, DVCAM and DVPRO tape. It has a compression ratio of 5:1, and gets its name from its fixed data rate of 25Mbps. This data rate is constant, regardless of the material being recorded – a blank screen and a sequence with a lot of movement will each be encoded at 25Mbps. This makes it easy to predict the resulting file size by knowing the length of the video.

**EDL: Edit Decision List.** The EDL is a text file that contains instructions that define the sequencing of a video clip. These instructions will include starting timecodes, ending timecodes, actions, fades, and the specified ordering of video segments. The EDL file is parsed and interpreted by an external application that actually carries out the instructions.

**Extended View:** A preview image of an asset, which is of a higher resolution than the thumbnail image.

**Field Search:** A feature that searches the selected metadata field in every record using an operator and a search target that the user supplies.

**File Broker:** A server component deployed on a file server used by Telescope as a repository for assets. Its main purpose is to provide a platform-independent method for Telescope to read or write the files on the server. It manages the check out and check in functions, reports file locations to the database, and manages location links. It can have one or more Conversion I-Pieces plugged into it to provide file conversion services.

**File Migration Policy:** A file migration policy is a set of rules that determines where a file is placed when it is imported into Telescope. Telescope OnDemand moves the files (usually to a server) according to a file migration

policy and then calls the Ingest Broker to add records for the files to the Telescope database. A policy can use an asset's metadata values to create directories where files are placed. Also, a policy includes a collision resolution procedure that determines what happens when a file's name duplicates another file name in the destination location.

**Form Search:** A predefined search that allows users to fill in a form to specify search criteria.

**Functional Rule:** Telescope's functional rule feature enables Telescope administrators to define a set of rules or scripts that execute when a user launches an action. Any number of rules (called a "rule set") can be associated with a particular action, such as copying files or changing metadata. When the user attempts to perform the action, the rules are executed in sequential order. Different rule sets can be associated with each user group in the Telescope system.

**Graphics Broker:** A server component of Telescope that handles the generation of thumbnails and extended views for graphic files.

**H.264:** A standard for video compression, also known as MPEG-4 part 10, or MPEG-AVC (Advanced Video Coding). It provides high-quality video at low bitrates (half the rate of MPEG-2).

**Hierarchical Search:** Search defined by the Telescope administrator to reflect the structure of the fields in the database and the items in their menus. For example, a simple search called `Hierarchy1` is defined with the structure Division, Object Type, and Asset Status. When you perform a `Hierarchy1` search, you could select criteria to locate all assets (Object Type) assigned to Marketing (Division) that have been approved (Asset Status).

**Hub:** A server component that coordinates the Telescope system on the network.

**I-Piece:** An I-Piece is a plug-in for Telescope that provides additional functionality, instructing Telescope on how to handle certain file formats. For example, they allow you to add and view many file types, including PDF, MS Office, InDesign, and video files. I-Pieces are also responsible for many internal processes, for example, converting files, importing files, creating PostScript versions, and importing metadata. For details on installing and using C-Pieces, see their respective manuals.

**IFrame:** Inline Frame. An HTML element that makes it possible to embed a web page inside another web page.

**IIOP:** Internet Inter-ORB Protocol. A protocol that makes it possible for distributed programs written in different languages to communicate over the Internet.

**IMX:** A video compression format, developed by Sony. It is a variant of the MPEG compression, and uses a higher bitrate than the Betacam SX format. There are three different bitrates used: 30Mbps (6:1 compression), 40Mbps (4:1 compression) and 50Mbps (3.3:1 compression).

**Ingest:** Same as Import – adding an external asset to the Telescope database, to be catalogued. This process involves importing the asset's information, thumbnail, and extended view into the database, defining metadata for the asset, and then moving the asset to the server where the Telescope File Broker is installed.

**JDBC:** Java DataBase Connectivity. An API for the Java programming language that defines how a client may access a database. It provides methods for querying and updating data.

**JDK:** Java Development Kit. A collection of programming tools developed by Sun Microsystems, and created for Java developers.

**JRE:** Java Runtime Environment. A software bundle developed by Sun Microsystems that allows a computer to run a Java application.

**JVM:** Java Virtual Machine. A virtual machine is a software emulation of a computer that executes programs like the actual machine. A virtual machine allows a computer to run software written for other platforms. A Java Virtual Machine allows a computer to run programs written in the Java programming language.

**Keyframe:** In video editing, a frame used to indicate the beginning or the end of a change made to the signal. Generally, it is the first frame after a significant change to the video image (for example, a change of scene or camera angle).

**Keyword Search:** A feature that searches on any user-supplied text in selected fields in the database.

**LDAP:** Lightweight Directory Access Protocol. A networking protocol (set of standard rules for data representation, signaling, authentication and error detection required to send information over a communications channel) for querying and modifying directory services running over TCP/IP.

**List View:** The display of metadata (without images) in a collection. (Previously “Text view”)

**Locate:** An action that tells Telescope the new location of a file that was moved outside of Telescope.

**Lookup Broker:** A server component of Telescope that enables users to search for and retrieve values from distributed, diverse, and very large sources of metadata in other databases.

**MD5:** Message-Digest Algorithm 5. A cryptographic hash function with a 128-bit hash value, used to verify the integrity of files. It is used by Telescope to check for file duplication.

**Metadata:** Information about an asset. Metadata is stored in the Telescope database, and the Telescope administrator defines the metadata fields. A metadata change is an action that occurs when a user modifies the contents of one or more metadata fields and saves the changes.

**MIME:** Multipurpose Internet Mail Extensions. A specification for formatting non-text email messages (those that contain images, audio files or videos) so that they can be transmitted over the Internet.

**MIMiX:** Metadata Interchange Model in XML. a dynamic data model for the exchange of assets and their metadata, providing easy integration between disparate systems.

**MPEG-2:** A video standard developed by the Moving Picture Experts Group for broadcast-quality television. It is used for over-the-air television as well as satellite and cable television signals. MPEG-2 video resolution is typically 720x480 at 30 frames per second (NTSC), or 720x576 at 25 frames per second (PAL).

**Move:** An action that relocates assets to the Telescope file server, making them globally available, as well as capable of being checked out and back in.

**MXF:** Material eXchange Format. A format for professional digital video and audio media, defined by a set of SMPTE standards. MXF is a container (similar to a ZIP file) that wraps around both media streams and associated metadata material that describes the media.

**Namespace:** An abstract container used to store all of the attributes of a variable or tag. In an XML file, the namespace for “Option” includes everything between the <OPTION> and </OPTION> tags.

**NTSC:** National Television Systems Committee. NTSC is the analog television system in use in Canada, the United States, Japan, South Korea and the Philippines. The NTSC video rate is 29.97 frames per second (1 frame per minute is used to re-calibrate the electron guns). The NTSC picture is 484 lines (out of 525 – the remainder are used for synchronization, vertical retrace and caption data). The NTSC frequency is 60Hz.

**NTSC Drop Frame Rate:** North American (NTSC) television signals aren't really 30 frames per second, the actual rate is 29.97. This variance is caused because frames are used from time to time to calibrate the electron guns. This difference is not noticeable to viewers, but results in a difference of 108 frames (or 3.6 seconds) per hour. To eliminate this difference, the first two frames of each minute are dropped, except during every tenth minute.

**Order Processing Module:** A product add-on that allows Telescope OnDemand users to place orders for digital assets. Users designated as fulfillers can then view orders, fill them, and update order status in Telescope OnDemand. Customers can view the status of their orders by clicking a link on their Home pages.

**PAL: Phase Alternating Line.** PAL is the analog television system used widely in Europe, Africa and Asia. The PAL specifications are: 625 lines (576 lines are used for video), 50Hz, and 25 frames per second.

**Pan:** The ability to navigate within a large image by dragging the image within the main display window or dragging the visible zone within the navigation window.

**Paragraph View:** A display of thumbnail images and text in a collection. This view is only available in Telescope OnDemand.

**PDF: Portable Document Format.** A device-independent and resolution-independent open file format created by Adobe Systems, used to display documents.

**PrefsML:** PrefsML is the name of any XML format file used in Telescope to define configuration. Any Telescope component can use a PrefsML file to store settings or preferences. PrefsML is a generic data structure, which means that it doesn't explicitly define the preferences for a particular component. Instead, it defines a well-organized and easy-to-read general-purpose data structure that the component uses to store preferences and configuration information.

**Private Collection:** A Telescope collection that can be used only by the user who created it.

**Proxy:** A proxy is a low-resolution copy of a video asset. Its file size is significantly less than the original video file, and its use for viewing and editing conserves bandwidth and reduces the amount of network traffic. The term Proxy generally refers to a copy of a video in a streaming format. The print industry equivalent concept is an FPO (For Position Only) image – a low-resolution image used for magazine layouts.

**Public Collection:** A collection that can be viewed by all Telescope users. Only the collection owner can modify it.

**Queue:** The definition of the steps involved to process a particular file type using the Telescope Flip Factory Import I-Piece.

**QuickTime:** A set of software libraries developed by Apple Computer Inc. that interprets media files on a computer and streaming through a network. QuickTime is able to interpret digital video, animation, sound, text, and images in a number of formats.

**RDBMS: Relational DataBase Management System.** a product that presents a view of data as a collection of rows and columns not based strictly upon relational theory – a model that uses predicate logic and set theory to express database queries and enforce referential integrity.

**Remove:** An action that deletes an asset from a collection but not from the Telescope system.

**Rendition:** A copy or version of a digital file, which is attached to an asset record. Telescope administrators define rendition types according to the needs of the organization or user group. For example, rendition types could be created for low-resolution and high-resolution flavors of graphic files. Or rendition types can be defined for Draft and Final versions of files. Renditions can also be used to indicate the location of files, for example, London, Paris, and New York.

**Repository:** A server component of Telescope that manages digital print and multimedia files, including video and music. Repository services include security, communications, file transformations, distribution, and permissions. Telescope supports the major RDBMSs from Sybase, Microsoft, and Oracle as its metadata storage system.

**RPC: Remote Procedure Call.** An Inter-process communication technology that allows a computer program to cause a subroutine or procedure to execute in another address space (commonly on another computer on a shared network) without the programmer explicitly coding the details for this remote interaction.

**RSS: Really Simple Syndication.** An XML-based system for aggregating and rapidly scanning information from blogs, news and current event Web sites, and other Web sites that update content frequently.

**SAMI: Synchronized Accessible Media Interchange.** A structured markup language developed by Microsoft, that is used to create closed captions for PC video files. SAMI files can be created with either text editors or specialized utility programs, and have a .smi or .sami file extension.

**SDK: Software Development Kit.** A set of development tools that allows a software engineer to create applications for a certain software package, software framework, hardware platform, computer system, video game console, operating system, or similar platform.

**SFTP: Secure File Transfer Protocol.** A network protocol that provides file transfer and manipulation functionality over any reliable data stream. It is typically used with version two of the SSH protocol (TCP port 22) to provide secure file transfer.

**SMIL: Synchronized Media Integration Language.** An XML markup language that is used for describing multimedia presentations. It defines timing, layout, animations, visual transitions, and media embedding. A subset of SMIL, called Multimedia Messaging Service (MMS) is being implemented on handheld and mobile devices.

**SMPT E Timecode:** A video and film timecode, developed by the Society of Motion Picture and Television Engineers. It is added to film and videotape to provide a time reference and to help producers and editors synchronize music and audio.

**SMTP: Simple Mail Transfer Protocol.** A relatively simple, text-based protocol, where one or more recipients of a message are specified (and in most cases verified to exist) and then the message text is transferred.

**SOAP: Simple Object Access Protocol.** A protocol for examining XML-based messages over computer networks, normally using HTTP (Hyper Text Transfer Protocol).

**Sorenson Encoding:** A proprietary encoding method developed by Sorenson Media. There are two versions: the Basic version is built into QuickTime 3. The Developer version utilizes a two-pass variable bitrate encoder with vector quantization, motion compensation, and temporal scalability (adapting to the player's ability to process video data), resulting in a higher picture quality.

**SQL: Structured Query Language.** SQL (sometimes pronounced "sequel") is a computer language used to create, retrieve, update and delete data from relational databases.

**Synchronize:** An action that causes Telescope to refresh a thumbnail by re-reading the original file. This action can be performed only on files that do not reside on the Telescope File Broker.

**Teletext:** A television information retrieval service developed in the United Kingdom in the early 1970s. It offers a range of text-based information, typically including national, international and sporting news, weather and TV schedules. Subtitle (or closed caption) information is also transmitted in the teletext signal. Teletext information is broadcast in the vertical blanking interval between image frames in a broadcast television signal.

**Template:** A collection of metadata associated with a video asset. Templates can be saved as a file, and pasted into the metadata fields of similar video assets, to reduce data entry and/or cataloguing time.

**Text Track:** Textual information encoded alongside a video track. Examples include: closed captions, Teletext, annotations, and Speech-to-Text. An unlimited number of text tracks may be added to a video track.

**Text View:** The display of metadata (without images) in a collection. (Updated name to “List view”)

**Text Element:** One entry in the Text Track database. This entry is defined by a start time, an end time, and a collection of text between the two.

**Thumbnail (Image):** A reduced-size version of an image, or frame of a video asset, making scanning and recognition easier for the user. Bandwidth is also saved, since the original asset does not have to be loaded. Thumbnail images serve the same function as an index, for textual information.

**TIFF: Tagged Image File Format.** This is a containerized image file format, developed by Adobe, used to store multiple images in a single file. Each image is stored in a separate layer of the TIFF. This format can handle multiple images and even data, through the use of “r;tags” in the file header. Tags can indicate the basic geometry of the image, such as its size, or define how the image data is arranged and whether various image compression options are used. Unlike JPG images, TIFF files using lossless compression (or no compression at all) can be edited and saved again without any reduction in image quality.

**Timecode:** A sequence of numeric codes generated at regular intervals by a timing system. Time codes are used extensively for synchronization, and for logging material in recorded media.

**Tomcat:** Apache Tomcat. A Servlet container developed by the Apache Software Foundation (ASF). Tomcat implements the Java Servlet and the JavaServer Pages (JSP) specifications from Sun Microsystems, and provides a “pure Java” HTTP web server environment for Java code to run. Apache Tomcat includes tools for configuration and management, but can also be configured by editing configuration files that are normally XML-formatted.

**UNC:** Universal / Unified Naming Convention. A standard format for paths referring to locations directly accessible on a local area network. The name of the computer is prefaced with two backslashes, and each directory is prefaced with one backslash.

**Upload:** An action specific to Telescope OnDemand that adds information about an asset into the Telescope database, including metadata, thumbnail, and extended view. The upload process also moves assets to the Telescope File Broker. Also called *import* in Telescope.

**URL: Uniform Resource Locator.** A compact string of characters used to represent a resource available on the Internet.

**User:** A person who has a Telescope user id and password.

**User Group:** A collection of Telescope users with common characteristics. An administrator might define several user groups to make it easier to assign and manage Telescope privileges. Users in the same user group normally have the same privileges.

**VTR: Video Tape Recorder.**

**Watermark:** An image or a code embedded into digital material (for example, a still image or a video) that is used to establish ownership, show identity and protect content. The watermark may be visible or invisible.

**Welcome Page:** A scrolling list of Telescope Announcements, displayed in the working area of the screen immediately after logging in to the application.

**Where Clause:** A setting that allows the system administrator to assign or limit view permissions for individual users or groups of users.

**WMV: Windows Media Video.** A generic name for the set of video codecs developed by Microsoft. Media files encoded with these codecs have the following file extensions: .wmv, .asf

**WSDL: Web Service Definition Language.** An XML format for describing network services as a set of endpoints operating on messages containing either document-oriented or procedure-oriented information.

**Xalan:** A popular open source software library from Apache that implements the XSLT XML transformational language and the XPath XML query language. Xalan is an XSL processor for transforming XML documents into HTML, text, or other XML document types.

**Xerces:** A group of software applications that parse and manipulate XML.

**XML: eXtensible Markup Language.** A subset and simplification of SGML (Standard Generalized Markup Language) used to enable the sharing of machine-readable documents.

**XML Gateway:** An automatic process that executes on schedule to push data from the Telescope database to a MIMiX file and then notifies the target system to retrieve the file. Each push process is controlled by a configuration file, and Telescope administrators can set up one or more to work in their systems.

**XMP: eXtensible Media Platform.** A specific type of extensible markup language, used in PDF, photography, and photo editing applications. It was first introduced by Adobe Systems in April 2001 as part of version 5.0 of the Adobe Acrobat software product.

**XSL: eXtensible Stylesheet Language.** A style sheet language for XML. More specifically, a group of three languages that allow a user to describe how files written in XML are to be formatted or transformed. The three languages are: XSL Transformations (XSLT) – a language for transforming XML documents; XSL Formatting Objects (XSL-FO) - a language for describing the formatting of an XML document; and the XML Path Language (XPath) – a language for addressing the parts of a document.

**Zoom:** An increase in the magnification factor on a selected portion of a viewed image. A software or hardware function that allows for the display of progressively smaller (zoom in) or larger (zoom out) areas of an image on an interactive display device.

