SAS® Business Data Network 3.1

User's Guide

SAS® Documentation

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SAS® Business Data Network 3.1: User's Guide

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Contents

Accessibility Features of SAS Business Data Network

Overview

SAS Business Data Network has not been tested for compliance with U.S. Section 508 standards and W3C web content accessibility guidelines. If you have specific questions about the accessibility of SAS products, send them to accessibility@sas.com or call SAS Technical Support.

Documentation Format

Please contact accessibility@sas.com if you need this document in an alternative digital format.

Part 1

Usage

Chapter 1

Introduction to SAS Business Data Network

What Is SAS Business Data Network?

SAS Business Data Network is an application that enables you to manage business terms. It supports a collaborative approach to managing the following information:

- descriptions of business terms, including their requirements and attributes
- related source data and reference data
- contacts (such as technical owners, business owners, and interested parties)
- relationships between terms and processes (such as SAS Data Management Studio jobs, services, and business rules)

By linking terms to business rules and data monitoring processes, SAS Business Data Network provides a single entry point for all data consumers to better understand their data. Data stewards, IT staff, and enterprise architects can use the terms to promote a common vocabulary across projects and business units. Permissions can be set to allow only specific users to access or control the data in Business Data Network.

SAS Business Data Network enables collaboration of domain knowledge between business users, technical users, and data stewards. SAS Business Data Network can be used as a single entry point for all data consumers to better understand their data. It consists of a web user interface that documents business terms and their associated rules, jobs, applications, data, documentation, and other information. Technical users use the network to document information about tables and columns that implement the business terminology. This information can be used to relate jobs and other information to terms and to share knowledge about data transformations. It serves as a data dictionary to describe details of data models and other data-related information. Data stewards can view data from a business standpoint to better visualize problem areas by domain in order to identify and fix data issues more effectively.

Benefits of SAS Business Data Network

SAS Business Data Network enables you to discover, document, and manage a glossary of business terms. The record for a term can include a definition of the term; the networked relationship of the term to other terms; and the relationship of the term to other content such as documents, web pages, tables, and business rules.

Typically, a user who understands the business terminology used in an organization provides the initial information in SAS Business Data Network. This user can also associate documents or rules that describe each term. Import and export features enable a user to quickly populate the SAS Business Data Network with terms. Then, a more technical user can add information related to the network of term. Examples of this information include jobs that are used to modify the term and data that is related to the network of terms. The network of terms is fully integrated with impact analysis to help you understand how your physical data and business processes interrelate. The user interface supports roles, capabilities and security for terms, and term attributes. The roles and capabilities are fully customizable to match your site requirements.

You can enter non-collaborative terms, which do not undergo a review and approval process, or collaborative terms, which are reviewed and approved. Simple collaboration consists of a review for business content and approval. Extended collaboration adds a technical review to the review and approval process.

Collaborative terms are enabled through integration with SAS Workflow Studio. Users can send terms into a collaborative flow for review and approval before publishing. Several default collaborative reviews are available for customization, or you can create your own collaborative reviews to match your business needs. The SAS Business Data Network user interface guides the user through the collaborative review flow for a term. Status is also shown at each step in the review.

You can quickly see collaborative review tasks that are waiting on their input in the Task Manager View in SAS Data Management Console and in views in the network. A number of quick actions enable users to update the review for multiple terms together. Different reviews can be used for different actions in the network of terms. For example, you can have one review that you use when creating terms and another when deleting terms. You can also tie different reviews to different term types. For example, you can have one review when working with supplier information types and a different one for working with your data dictionary tables and columns.

Another important new feature is support for multiple, customized term templates. These templates are defined by creating and editing term types. See "Managing Term Types" on page 43. Administrators are now able to create templates with custom attributes for terms and term hierarchies. You can also determine whether attributes are required and set default values for attributes in a term. Required attributes can be useful if you want to enforce the collection of standard information for every term that is built from the template.

Most of the attributes of a term are now fully customizable via the term type. For example, you might have a set of term types that represent the tables and columns in your data dictionary. You can create a term type for tables with the information that you want to use to describe tables in your system. Then you can create a different column template with the information that you want to capture about columns. You can have any number of custom term types. These term types serve as templates that match the information that you want to capture in your terms.

Chapter 2

Accessing SAS Business Data Network

Accessing SAS Business Data Network

Overview

You can access SAS Business Data Network in the following ways:

- "Use a Standard URL" on page 5
- "Connect from the Web Search Tool" on page 6
- "Connect from SAS Data Management Console" on page 6

Use a Standard URL

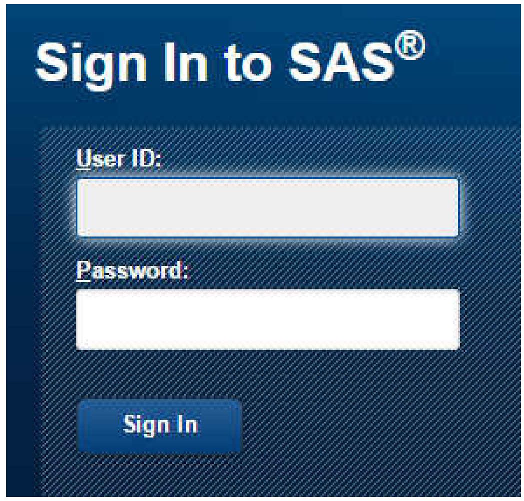
You might have been given a standard URL to use to log on to SAS Business Data Network. This URL follows this pattern: http://*hostname*/SASBusinessDataNetwork. However, the administrator can change the URL during installation.

To access SAS Business Data Network using a standard URL:

1. Click the URL that is supplied by your system administrator, or paste it into the address field of your browser.

The Sign In window for SAS web applications is shown in the following display:

Figure 2.1 *Sign In Window for SAS Web Applications*



2. Enter your user ID and password in the appropriate fields.

   Note: Your password is case-sensitive. Your user ID might be case-sensitive, depending on the operating system that is used to host the web application server. If you need assistance, contact your system administrator.

3. Click **Sign In** to access the SAS Lineage in a browser window.

4. To sign off, click **Sign Off** in the upper right corner of the window. If you are prompted about unsaved changes, click **Sign Off** to exit without saving, or click **Continue** to keep working.

Connect from the Web Search Tool

The Web Search Tool on page 30 is a separate web page that contains a field that you can use to search for terms in SAS Business Data Network. You can click a term listed in the search results to display it in SAS Business Data Network.

If you have already logged on to one of the SAS applications, you will be taken directly to SAS Business Data Network. If you have not logged on to a SAS application, you will see the Sign In window explained in "Use a Standard URL" on page 5. Follow the same steps to log on to SAS Business Data Network.

Connect from SAS Data Management Console

Another way to access SAS Business Data Network is to use the standard sign-in window to access the SAS Data Management Console home page. Then you can click the link in the Links section to access the SAS Business Data Network window. If a link to SAS Business Data Network is not displayed in the Links section, ask your administrator to follow the instructions in "Adding Links to the SAS Data Management Console Home Page" on page 7.

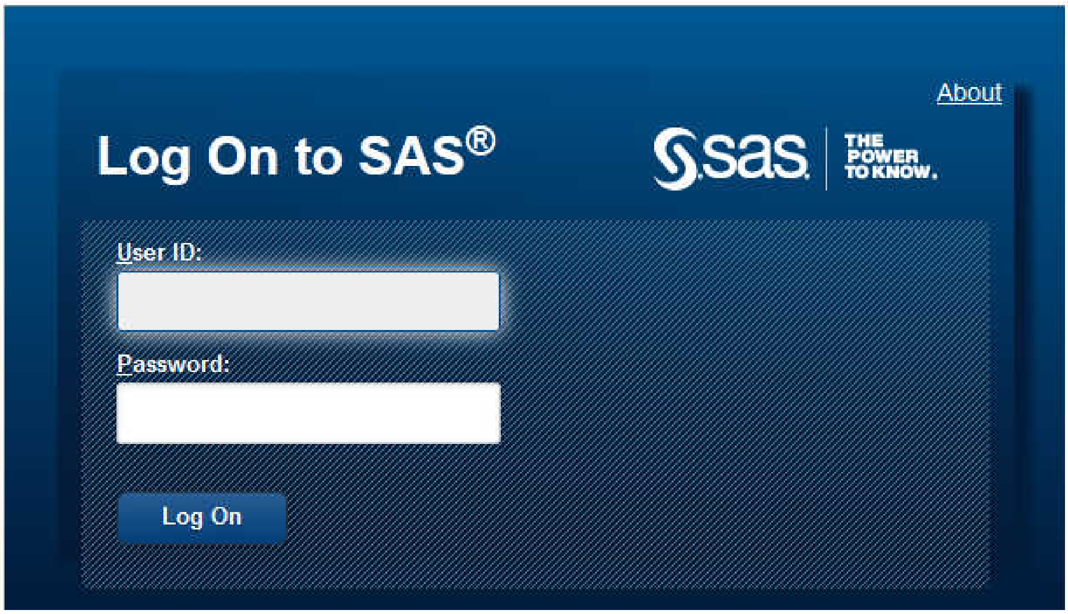
The port for all SAS Data Management web components is configured during installation. The default port number is 80. If your site is using the default port for these web components, you can access SAS Data Management Console from the following URL: http://*hostname*/SASDataManagement.

To log on to SAS Data Management Console:

1. Click the URL that is supplied by your system administrator, or paste it into the address field of your browser to display the SAS log on window.

   The window is shown in the following display:

Figure 2.2 *Log On Window for SAS Data Management Console*



2. In the **User ID** field, enter your user ID
3. In the **Password** field, enter the password for your user ID.

   Note: Your password is case-sensitive. Your user ID might be case-sensitive, depending on the operating system that is used to host the web application server. If you need assistance, contact your system administrator.

4. Click **Log On** to display the home page for SAS Data Management Console.

Adding Links to the SAS Data Management Console Home Page

An administrator can use SAS Management Console to define a web link to SAS Business Data Network on the SAS Data Management Console home page. The links appear under a Links heading on the home page.

To add the link:

1. Log on to SAS Management Console as an administrator.
2. Expand the following folders on the **Plugins** tab: **Application Management** ⇨ **Configuration Manager** ⇨ **Data Management Cnsle 2.1 Home Page**.
3. Right-click **Data Management Cnsle 2.1 Home Page** and select **Properties**.
4. Click the **Settings** tab.
5. Select **Home Page Settings** in the panel at left.

6. Use the **Home Page Settings** panel to add the URL for the desired web page.
7. Click **OK** to save your changes.
8. Restart the SAS Web Application Server in order for the new URL to show up on the home page for SAS Data Management Console.

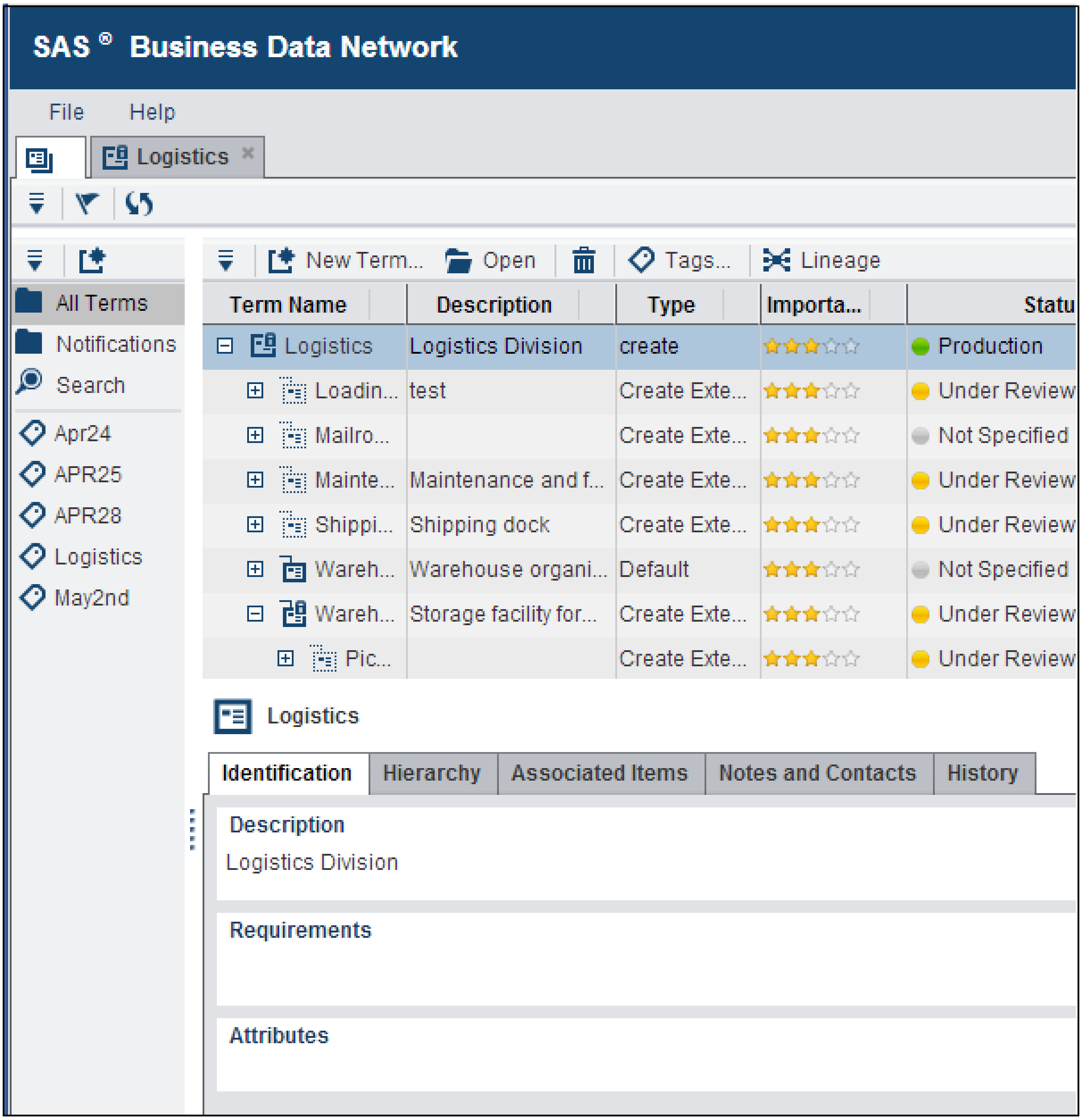
Chapter 3
Understanding the Interface

Main Window for Business Data Network

You can use the main window for SAS Business Data Network to review and maintain the terms that you have entered in a term list. If your login has been granted appropriate privileges, you can edit terms here. Otherwise, you can only view them.

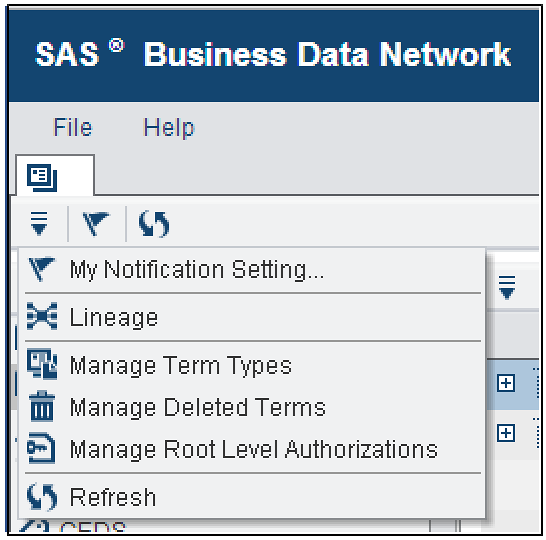
The following display shows a sample SAS Business Data Network main window:

Figure 3.1 *Main Window*



The **Action** button at the top of the window generates the menu shown in following display:

Figure 3.2 *Top Menu*

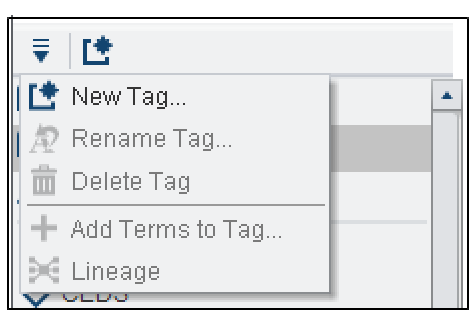


This top menu enables you to perform the following functions:

- Receive notification of new terms or changes to existing terms that specify you as a contact
- Display SAS Lineage
- Display Term Type Manager
- Display Deleted Terms
- Display the Authorization — Root Level window
- Refresh the SAS Business Data Network window

The toolbar above the navigation tree contains an **Action** button and tool buttons, as shown in the following display.

Figure 3.3 *Navigation Tree Menu*



You can use these tools to create and maintain tags with the following functions:

- Create new tags
- Rename a selected existing tag
- Delete a selected existing tag

- Display theAdd Terms to Tag window
- Display a selected tag in SAS Lineage

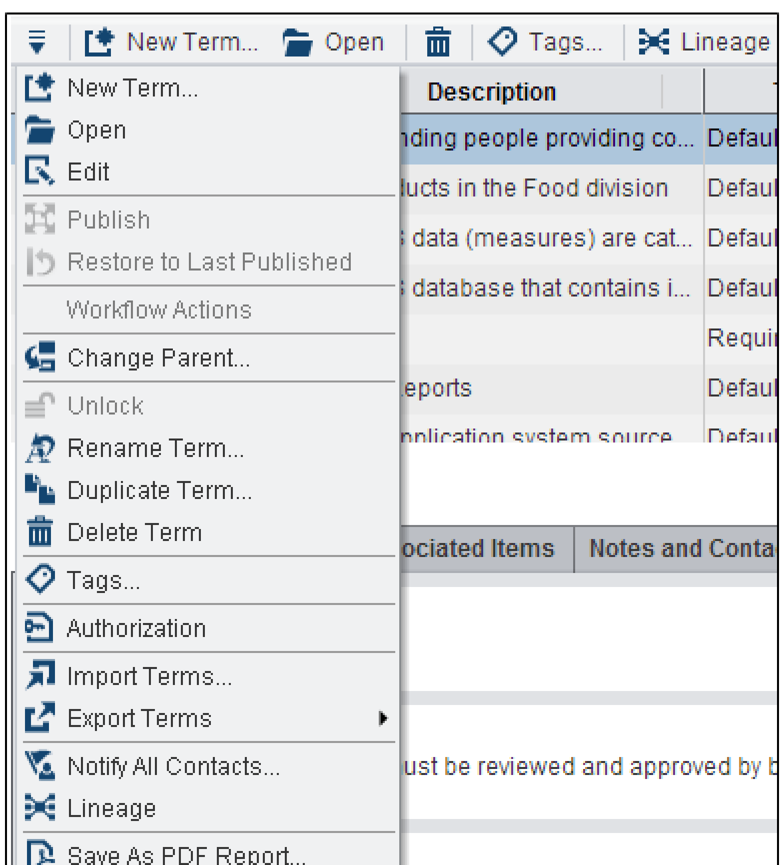
The navigation tree contains the following elements:

- **All Terms**
- **Notifications**
- **My Drafts**
- **Search**
- **Tags**
- **Filter**

The **All Terms** element displays a list of the non-collaborative terms entered into SAS Business Data Network by the user currently signed in to SAS Business Data Network. It also displays the terms in collaborative flows for which the current user is a potential or actual owner. Similarly, the **Notifications** element displays a list of the collaborative terms entered into SAS Business Data Network for which the current user is a potential or actual owner. The terms must be created and managed through a collaborative review and approval process. The same restriction applies to the My Drafts view for draft terms in collaborative flows, although it also shows all non-collaborative drafts that the current user has created. See “Approving Collaborative Terms” on page 27for more information.

The **Action** button and the toolbar above the list are shown in the following display:

Figure 3.4 Terms Menu



These tools enable you to perform the following functions that you can use to manage terms that you select in the list:

- Create a new term
- Open a selected term
- Open and edit a selected term
- Publish a selected term to the workflow
- Restore a selected term to the last published version
- Perform a selected workflow action on a selected term (such as claim and approve or reject changes)
- Select a parent for one or more selected terms (or remove it from a parent to child relationship)
- Unlock a selected term
- Rename a selected term
- Duplicate a selected term
- Delete one or more selected terms
- Display the Manage Tags window
- Display the Authorization window
- Import terms from a file. For information, see “Import Terms” on page 37.
- Export one or more selected terms to a file. For information, see “Export Terms” on page 38
- Send a message to all of the contacts attached to the selected term
- Display a diagram that shows how a selected term is related to other terms, tags, contacts, links, and other external items associated with the term
- Save a selected term as a PDF report that summarizes information about the term

Note that property tabs are displayed below the list of terms for the currently selected term. See “View or Edit Term Window” on page 14 for descriptions of the tabs.

The **Search** element is shown in the following display:

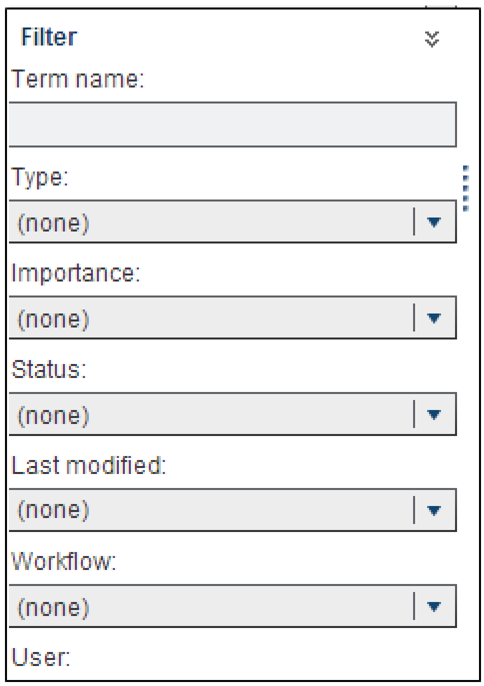
Figure 3.5 *Search Field*

The search feature provides a field to search for terms entered into SAS Business Data Network. The function searches the terms' names, descriptions, attribute values, and notes to find matching terms. The subset of terms that matches the search text is displayed in a terms table below the **Search** field. The first result in the list is selected and its property tabs are displayed. All of the term management functions that are enabled for the All Terms list are also available for this list.

The **Tags** element displays the tags that you add to your terms. When you click a tag, the terms list is constrained to display only the terms that are associated with the selected tag.

The **Filter** element is shown in the following display:

Figure 3.6 Filter



The filter feature provides a set of tools that you can use to filter the list of terms. You can filter by term name, type, importance, status, period of last modification, workflow, and user name. Note that you can filter on multiple types, level of importance, and status at once.

View or Edit Term Window

You can use this window to view or edit a term that you selected from the term table in the main SAS Business Data Network window. The View window appears when you perform one of the following actions:

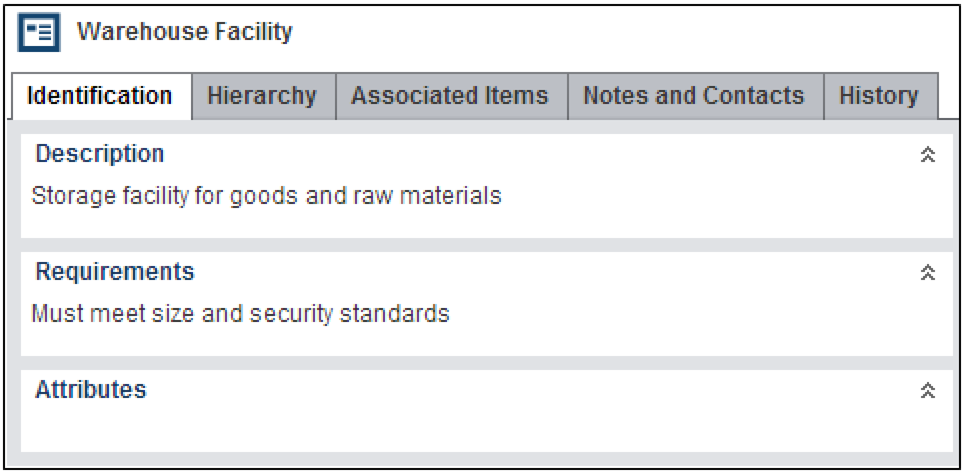
- Double-click a term
- Select a term and press Enter
- Select a term and click **Open**

You can click **Edit** to work with the term in the Edit window. You can also launch the Edit window directly by selecting a term, clicking the **Actions** button, and clicking the **Edit** item in the pop-up menu.

When you open a term, you display a series of tabs that contain information and settings that are related to the selected term.

The following display shows the tabs available in the View window for the term *Warehouse Facility*:

Figure 3.7 *View Window Tabs*



A collaborative term displays the same tabs, but it also contains an approvals toolbar.

The following display shows an example of an approvals toolbar:

Figure 3.8 *Collaborative Flow Status Toolbar*

You can use this toolbar to claim and unclaim a term. You can also perform a variety of task-appropriate actions, such as rejecting terms, adding comments, and submitting terms for approval. You can add comments when you click transitional steps in the flow, such as **Submit for Approval**.

The following tabs are available from this window:

- **Identification**
- **Hierarchy**
- **Associated Items**
- **Notes and Contacts**
- **History**

The **Identification** tab is displayed in both the View window and the Edit window. Note that the preceding display shows only the left side of this tab. More detailed information is shown on the right side. The tab contains the following elements:

Description
: Enables you to review or enter a text description of the term. For example, the description of the term *Warehouse* can be entered as *Storage facility for goods and raw materials*.

Requirements
: Enables you to view or enter detailed requirements related to the term. For example, the requirements for *Warehouse* can be entered as *Must meet size and security standards*.

Attributes
Enables you to review or specify attributes for the selected term. These attributes are determined by the term type, which is set in the **Details** section of the **Identification** tab. For example, the *Warehouse* term has a type of *Create Extended*.

Details
Enables you to view detailed information about the term, such as Type, Status, Importance, and a Locked by indicator. The default status indicators include the following: Production, Editing, On Hold, Under Review, and Not Specified. For example, *Warehouse* has a status of *Under Review*. The **`Locked by`** value is updated only by other actions that lock or unlock the term.

Links
Enables you to review or add links to external sources to the term. These links can provide access to background or conceptual information about the term. You can also edit or delete existing links in the Edit window .

Tags
(View window only) Enables you to review or add a tag to the term that clarifies the content of the term and its relationship to other terms. For example, you could add the *Logistics* tag to the term *Warehouse*.

Related Terms
(View window only) Enables you to review or connect the selected term to related terms. For example, *Mailroom* is entered as one of the related terms to *Warehouse*.

The **Associated Items** tab is available in the View and Edit windows. In the View window, it displays the items that you have associated with the selected term. In the Edit window, you can add and maintain associations with items. These items can also come from or be imported from other data management applications that can export items in a compatible format. Some of the items that can be associated are shown in the following list:

- collections
- data jobs
- fields
- process jobs
- profiles
- reference data domains
- rules
- SAS columns
- SAS jobs
- SAS libraries
- tables
- tasks
- work tables
- transformations

The full list of possible associations is available in the Add Other Items from Lineage window that you use to search for associations.

The **Notes and Contacts** tab is available in the View window. The Add Contact window enables you to add contacts with an interest in or responsibility for the term, such as a

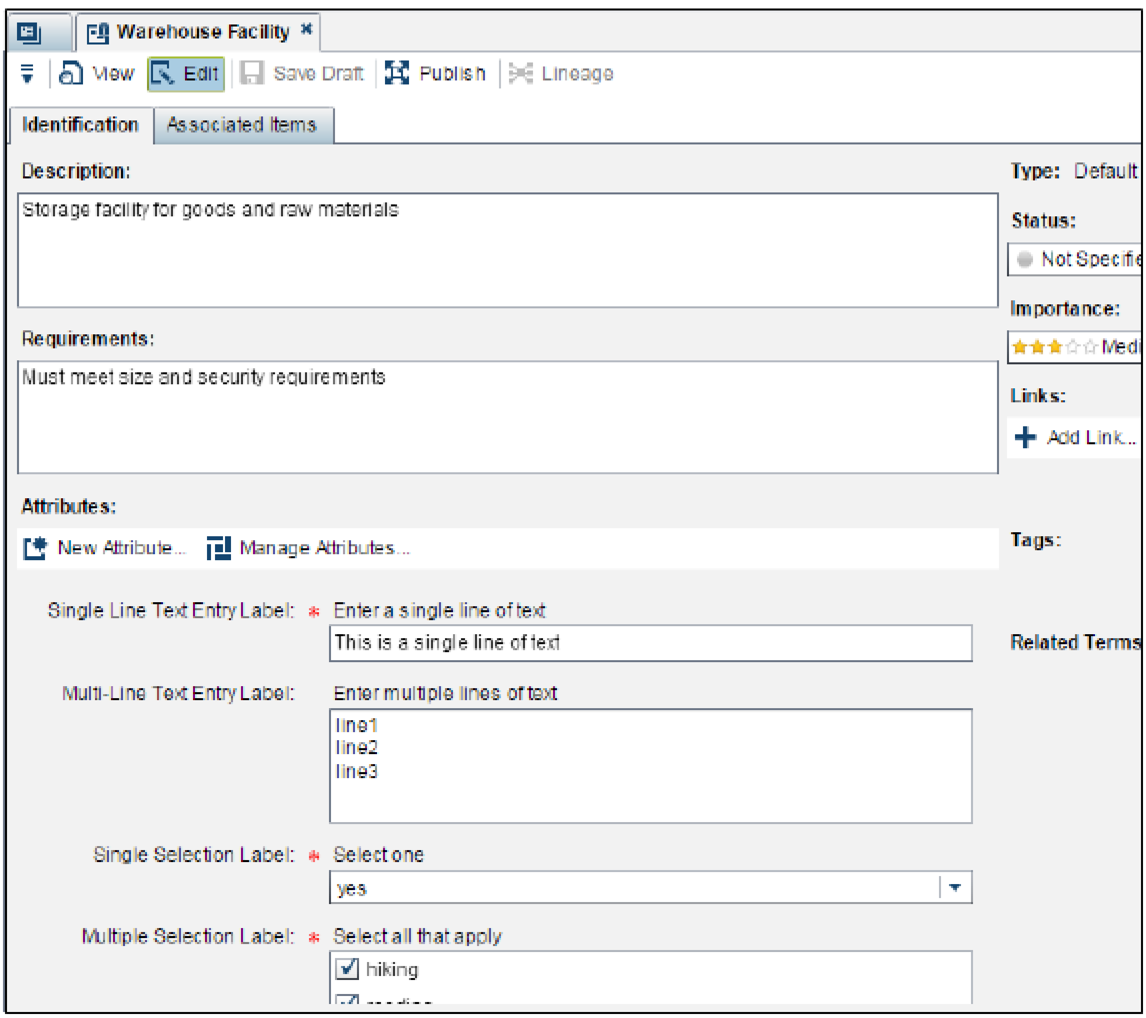
Warehouse Manager. You can also manage the existing contacts, send messages out to the full contacts list, and set your notification setting.

You can add text notes to the term in the New Note window. You can also edit or delete an existing note.

The **Hierarchy** and **History** tabs also are displayed only in the View window. The **Hierarchy** tab displays the selected term in its hierarchical position. The **History** tab displays a list that includes the creation of the term and all of its modifications. Each item in the list is given a version number. You can select an item and click **Restore** to return the term to that version and its contents. The draft of a term starts with version 0.1. The number keeps increasing until you publish the term. Then, the term is designated as version 1.0.

The following display shows the tabs available in the Edit window for the term *Warehouse Facility*:

Figure 3.9 *Edit Window Tabs*



Preferences Window

You can click **Preferences** in the **File** menu to specify user locale, theme, and display preferences for SAS Business Data Network.

Chapter 4
Working with Terms

Adding Terms

Overview

If you are registered on the SAS Business Data Network server, then you can add and define terms in the **Edit** window. If you are not registered on the server, then you can read terms only in the **View** window.

When you add a term, you specify a name, type, and a position in the hierarchy. You can either add a new term as a child to an existing term or add a term without specifying a parent term. The term appears in the All Terms list. Then, you can open the term in the

View window and define it in its property tabs in the Edit window. For the term definition process, see "Defining and Editing Terms" on page 20.

Add a New Term

To add a new term:

1. Click **All Terms** in the navigation tree to display the All Terms list.
2. (Optional) Review the All Terms list to determine where the new term will reside in the hierarchy. You can skip this step if you know that the new term will be a top-level term.
3. Click on the name of the parent term in the All Terms list.
4. Click **New Term** in the toolbar above the list.
5. Enter the new term in the **Name** field. For example, you can enter *Warehouse Facility* as your new term.
6. Select the **Add as child to** check box. Note that this check box is optional. You can leave it deselected and not add the new term as a child to an existing term.
7. Select the parent term in the Select Terms window. Then, click **OK** to save the selection. The parent term for *Warehouse Facility* is *Logistics*.
8. The parent term that you selected is shown in the **Add as child to** field. In this example, the parent term is **Logistics**. The value in the **Type** field is set when you select the parent term. The warehouse term takes the **Create Extended** type.

   Note: If you do not add your term as a child to an existing term, you must select an appropriate term type in the **Type** field. The value in the **Type** field is initially set to the default term type. When you select a term type, the value in the **Type** field is set to that selection for future terms unless you change it.
9. Click **OK** to save the new term and display it in the SAS Term edit window. See "Defining and Editing Terms" on page 20 for information about defining the term.

If appropriate, you can also select a tag in the pane on the left side of the window to associate the new term with the tag.

Defining and Editing Terms

Newly added terms are immediately displayed in the SAS Term edit window. You can define the term by working through its property tabs. You can also access the SAS Term edit window by selecting an existing term, clicking the **Action** button, and clicking the **Edit** item in the pop-up menu.

Click the **Identification** tab to define the parameters for the term. Perform the following steps to define a term, such as *Warehouse Facility*:

1. Enter a description for the term, such as *Storage facility for goods and raw materials*.
2. If appropriate, enter any requirements for the term, such as *Must meet size and security standards*.
3. If the term type for the term supports custom attributes, you can add attributes to the term or manage existing attributes. Otherwise, terms inherit the attributes set for their

term types and new attributes cannot be added. For information about term types, see "Managing Term Types" on page 43.

If the term type does support new attributes, click **New Attribute** in the **Attributes** section tab to access the New Attribute window. You can enter a label, instructions, and value. You can also specify whether the attribute is required. You can use the toolbar in the Manage Attributes window to add, edit, move, and delete attributes.

4. Specify details for the term. For *Warehouse Facility*, the type is *Create Extended*, the status *Under Review*, and importance *Medium*.
5. If appropriate, add links to internal or external sources such as websites.
6. If appropriate, add related terms from SAS Business Data Network, such as *Mailroom* and *Picking*. You can select more than one term at a time.

Note: If you need to add notes and contacts, tags, or related terms, you click **View** to open the term in the View window. These functions are not available in the Edit window.

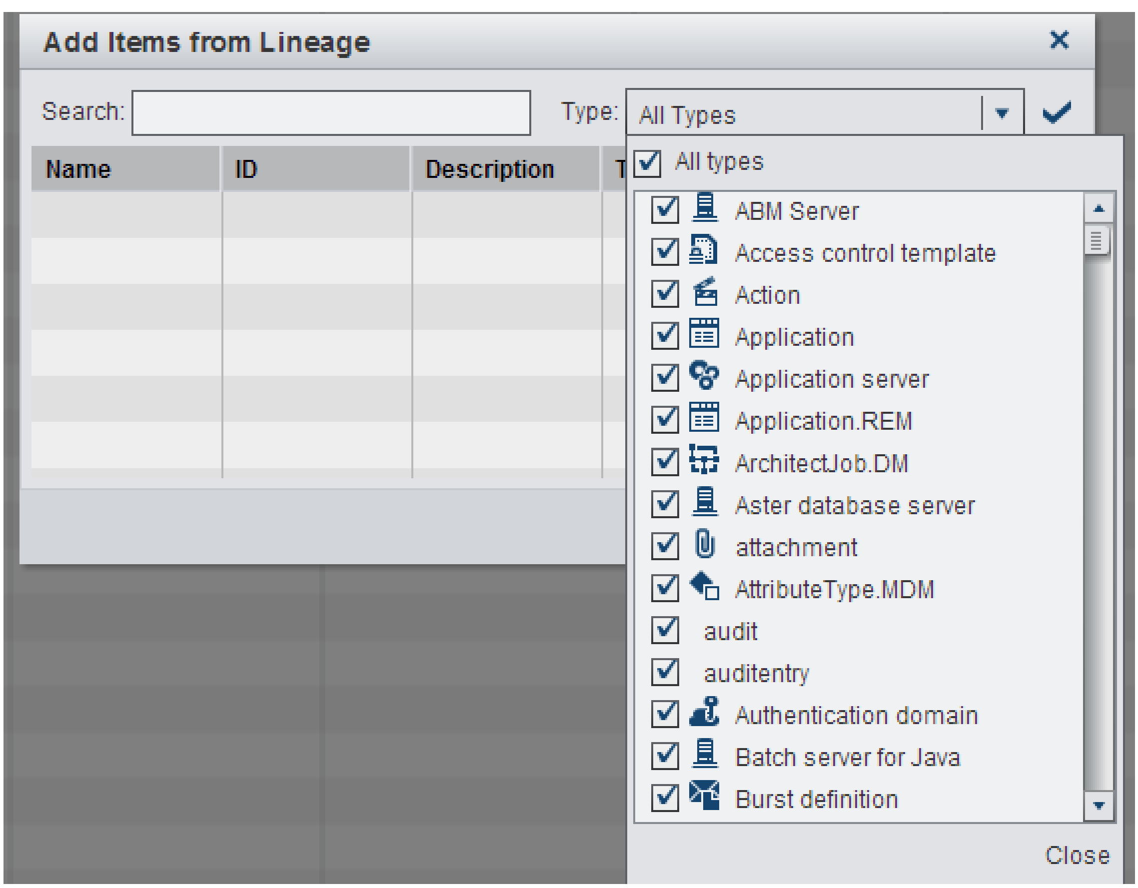
You can also click the **Associated Items** tab to view or edit the items that you have associated with a selected term.

Perform the following steps on a term that you opened and placed in Edit mode:

1. Click **Add Items** to access the Add Items from Lineage window.

   This window is shown in the following display:

Figure 4.1 *Add Items from Lineage Window*



2. For this example, leave the **Search** field empty and set the **Type** to **All types**. The search results include an unfiltered list of all of the items that are available to associate with the selected term.
3. Click **Apply** to run the search and see the results.
4. Select the items that you want to add as associated items. You can use shortcuts such as Control-A, Shift-Click, and Control-Click to select multiple items.
5. Click **OK** to return to the Edit mode for the selected term and add the selected associated terms in the **Associated Items** tab. You can use the items in the **Associated Items** toolbar to perform the following functions when the selected term is open in Edit mode:
   - Add items
   - Delete items
   - Add a note to a selected item
   - Display a lineage diagram in SAS Lineage for a selected item. For more information, see the*SAS Lineage: User's Guide*.

   You can also double-click a selected associated item to see more detailed information about the item.

If your term is a non-collaborative term, you can save it as draft or publish it. Click **Save Draft** to save a private version of the term to the terms list that only you can review and edit. Click **Publish** to save the term to the terms list for any user to review and edit.

If your term is a collaborative term, click **Save Draft** to save the term. If you are ready to submit it for review and approval, you can use a separate **Submit for Review** action.

Reviewing and Maintaining Terms

Overview

You can review and maintain SAS Business Data Network by using the tools included in the SAS Business Data Network main window. Perform the following tasks:

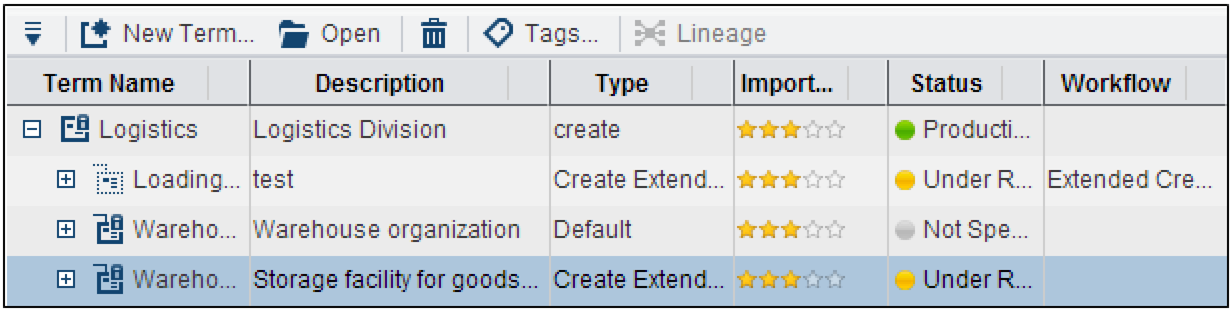
- "Review Terms" on page 22
- "Add Notes and Contacts to the Term" on page 24
- "Maintain Terms" on page 24

Review Terms

You can quickly review your terms in the All Terms list at the top of the screen.

A portion of an All Terms list is shown in the following display:

Figure 4.2 *All Terms List*

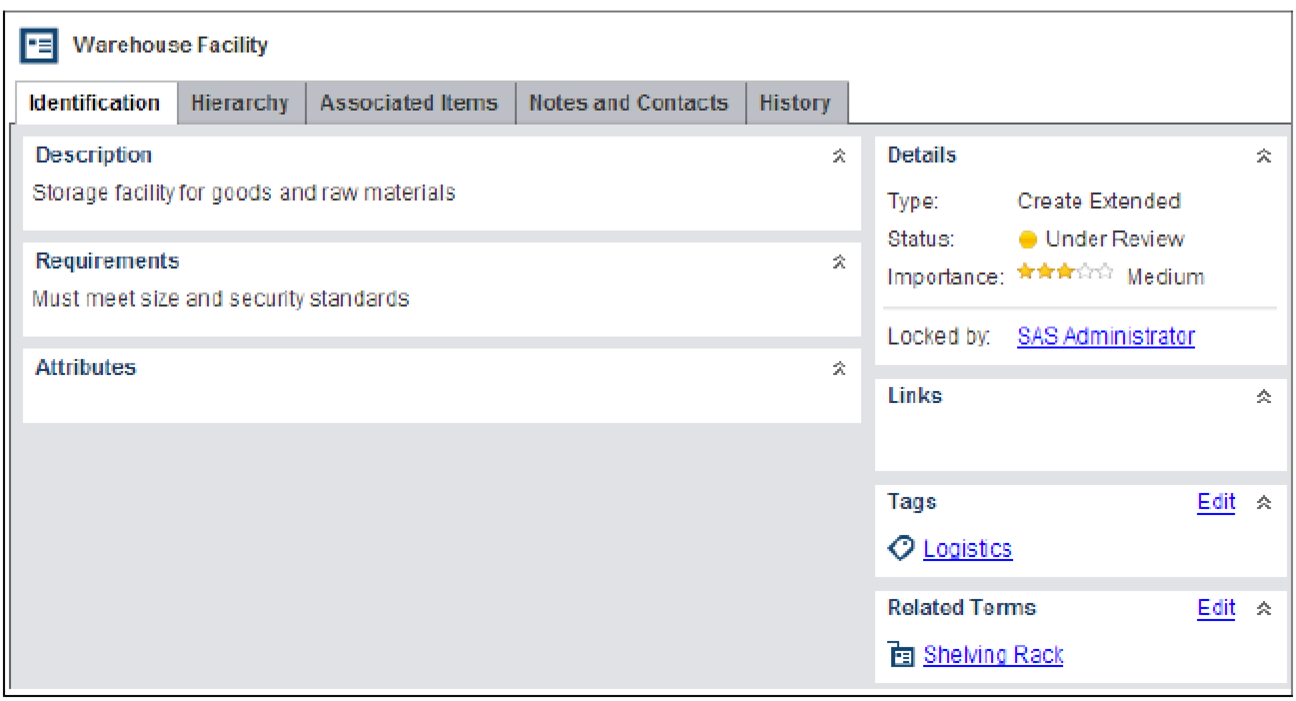


You can filter and search this list with the **Filter** and **Search** buttons in the pane on the left side of the window. You can click a tag in the pane to constrain the list to items associated with the tag.

Also, you can select a term in the list and review its property tabs at the bottom of the screen.

The **Identification** tab for the term *Warehouse Facility* is shown in the following display:

Figure 4.3 *Identification Tab*



For information about the content of the tabs, see the SAS Business Data Network main window Help. The **History** tab displays a list that documents when the term was created and modified. Each change is listed as a version. You can select a version and click **Restore** to return to the selected version. For example, if you added an associated item to a term in version 2, you can select version 1. Then you can click **Restore** to return to the version of the term without the added associated item.

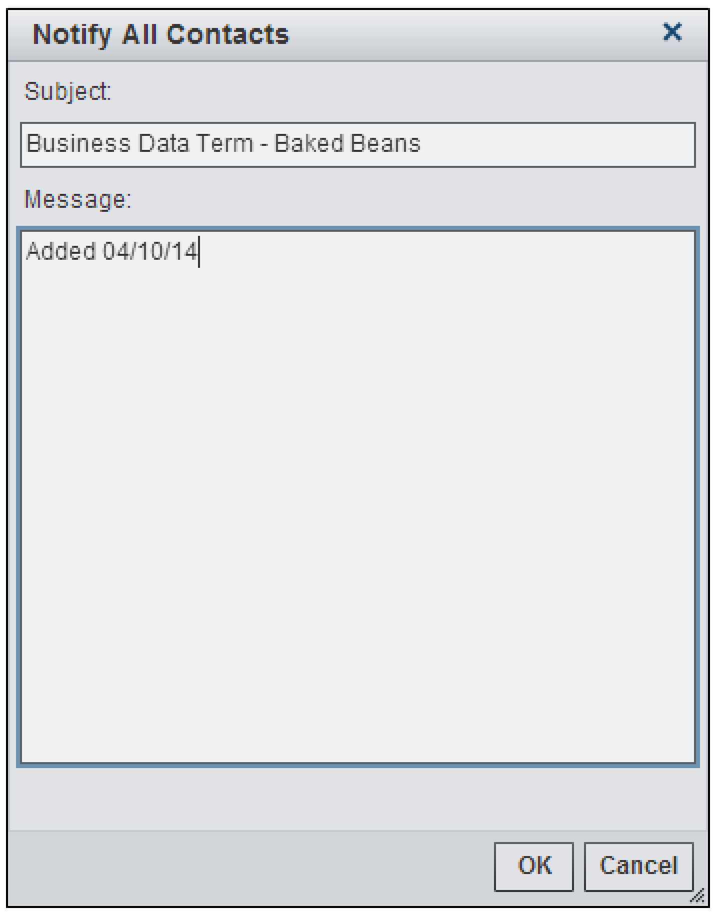
Notes and contacts, hierarchy information, related terms, and tags are added to the term and remain there until removed. They are not related to versions and are not removed if a previous version is restored.

Add Notes and Contacts to the Term

Click the **Notes and Contacts** tab for a term in the All Terms list to add notes and contacts to the term. You can click the **Action** button for contacts to manage a term's contacts. You can also send a message to all of the contacts in the contacts list or turn your term notifications on or off.

The following display shows a contacts notification message:

Figure 4.4 *Notify All Contacts Window*



This notification can be sent only to contacts defined with an email address.

The **Notes and Contacts** and **History** tabs are not used to define terms.

Maintain Terms

Overview

You can use the options under the **Action** button and the buttons on the toolbar to maintain the terms in SAS Business Data Network. Perform the following tasks:

- "Create a Tag and Add It to Terms " on page 25

- "Change the Parent of a Term" on page 25
- "Save a PDF Report for a Term " on page 26
- "Perform General Term Maintenance" on page 27

Create a Tag and Add It to Terms

You can add a tag to the list that is displayed in the SAS Business Data Network main window. You can also associate this tag with any other term in SAS Business Data Network. When you click the tag, only the tagged terms are displayed in the terms list.

To add a tag to a term:

1. Click **Tags** in the toolbar.
2. Enter the name of the tag in the **Name** field. For example, you can create a tag named *Logistics*.
3. Click **OK** to create the new tag.
4. Verify that the new tag is added to the tags in the left pane of the SAS Business Data Network main window.

You can also select a tag. Then, you can click the **Action** button in the pane on the left of the SAS Business Data Network main window to perform the following maintenance functions on the tag:

- Rename the selected tag
- Delete the selected tag
- Add terms to the selected tag
- Open SAS Lineage for a tag

You can use the following methods to add terms to a selected tag:

- Select the terms that you want to add in the terms list and drag and drop them onto the desired tag in the left pane of the riser. For example, you can select the *Warehouse Facility* term and drop it onto the *Logistics* tag. The terms are then added to the tag.
- Click the **Action** button above the tags in the left pane. This method is useful when you need to see a listing of all the available terms when you add terms to a tag. You can search and filter the full list in the dialog box before you make your selection.

Change the Parent of a Term

You can change the parent of a term to move it to a different position in the terms hierarchy.

To change the parent of a term:

1. Select one or more terms that you want to move from the terms list.
2. Click the **Action** button above the list and click **Change Parent** in the pop-up menu.
3. Make sure that the **Select a parent** option is selected in the Select Parent window. You can select the **No parent** option if you want the term to reside at the top level of the terms hierarchy.
4. Navigate to the term that you want to select as the new parent. You can use search, filter, and tagging functions to reduce the number of terms displayed in the **Terms** field. For example, you can select the term *Warehouse Facility* as the new parent for

Loading Dock. Then, click **OK** to save the change. The term *Loading Dock* has moved from under *Logistics* to under *Warehouse Facility*.

You can also select one or more terms in the terms list and drag them onto another term in the list. The dragged terms become child terms of the term that you drop them onto.

Save a PDF Report for a Term

You can save a PDF report that contains summarized information about a selected term. Select a term and click **Save as PDF Report** in the **Action** button pop-up menu above the terms list. Only western European characters are displayed properly in the output of a PDF report.

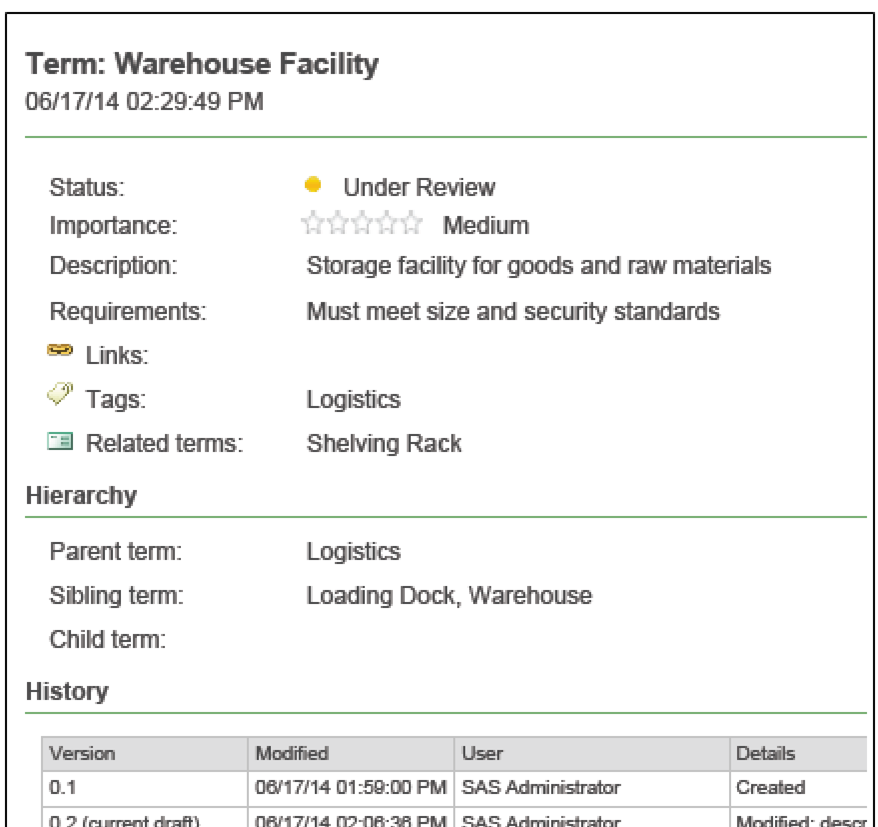
The Format Report window enables you to select from the following report sections:

- Attributes
- Hierarchy
- Associated Items
- Contacts
- Notes
- History

Select sections here and a destination in the next dialog box.

A portion of the output is shown in the following display:

Figure 4.5 *PDF Output*



Term: Warehouse Facility
06/17/14 02:29:49 PM

Status: Under Review
Importance: Medium
Description: Storage facility for goods and raw materials
Requirements: Must meet size and security standards
Links:
Tags: Logistics
Related terms: Shelving Rack

Hierarchy

Parent term: Logistics
Sibling term: Loading Dock, Warehouse
Child term:

History

Version	Modified	User	Details
0.1	06/17/14 01:59:00 PM	SAS Administrator	Created
0.2 (current draft)	06/17/14 02:06:36 PM	SAS Administrator	Modified: descr

Perform General Term Maintenance

A group of term maintenance functions are displayed among the options in the pop-up menu that is displayed when you click the **Action** button.

The following functions are available:

Unlock
: Removes the lock on a selected term that is locked to the current user.

Rename Term
: Enables you to change the name of the selected term.

Duplicate Term
: Enables you to duplicate the selected term.

Delete Term
: Marks one or more selected terms from SAS Business Data Network for deletion.

Approving Collaborative Terms

Overview

Collaborative term review and approval enables you to divide the responsibilities for creating, reviewing, and approving terms among the members of your team. In this way, each role can be fulfilled by the most qualified member of the group. Each person participating in the collaborative process must be assigned the appropriate permissions for the role. For more information about permissions, see "Managing Root Level Authorizations" on page 45.

You can enable collaboration by selecting the appropriate term type in the **Type** field when you create a term. The Term Type Manager window contains fields that enable you to specify optional workflows that support creating, editing, and deleting terms. You can specify default status values and importance labels for each term type. You can also use the **Business Roles** section create groups of specific users for notifications. For more information about term types, see "Managing Term Types" on page 43.

Note: These workflows must be configured for your instance of SAS Business Data Network. See "Configuring Workflow in SAS Business Data Network" on page 60.

An Example of Approval Processing

Overview

The processes to conduct simple and extended collaborative term review approval are identical, except for the inclusion of a technical review component in the extended version. Therefore, the following example of extended processing illustrates the simpler process. The extended process contains the following stages:

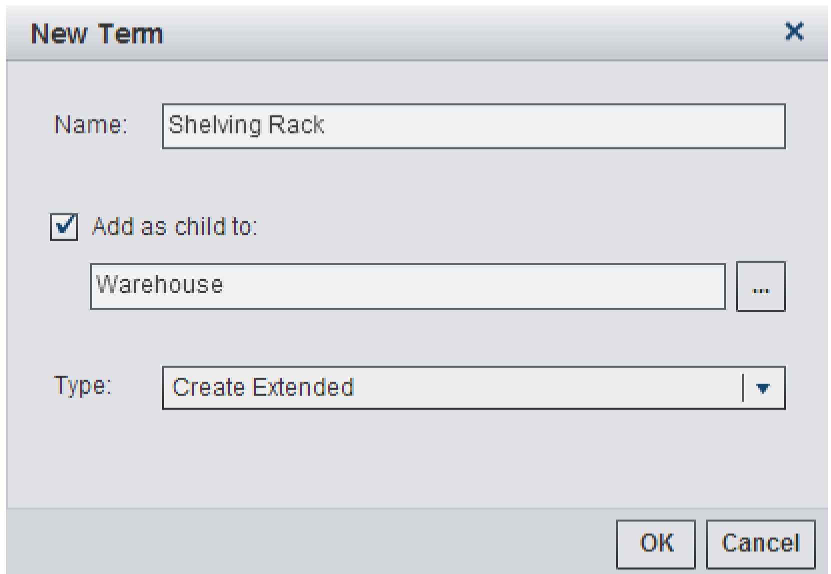
- "Term Creation" on page 28
- "Collaborative Term Review and Approval Functions" on page 29
- "A Sample Collaborative Flow" on page 29

Term Creation

Follow the process described in “Adding Terms” on page 19 to create the term. Be sure to select the appropriate **Type** to specify the type of collaborative term flow that you want to use.

The *Shelving Rack* term needs both a business review and a technical review, so the type selected is Create Extended, as shown in the following display:

Figure 4.6 *Extended Review Process Term*

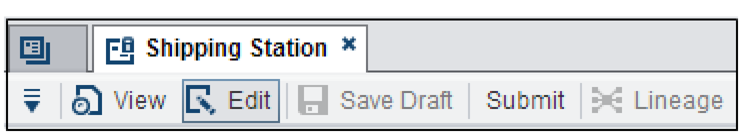


Now you can define the term and click **Submit** in the toolbar to add it to the collaborative term flow. All of the users who have been added as contacts to the term are notified by email when the term is created or changed. You can define default contacts on a term type, and those contacts will be added initially to all new terms of that type. Email is enabled by default for SAS Business Data Network. However, you can enable or disable email notifications that being sent to you when you are logged in.

Note that the **Create Extended** term type is not a default term type. It was created using the process described in “Managing Term Types” on page 43.

The toolbar is shown in the following display:

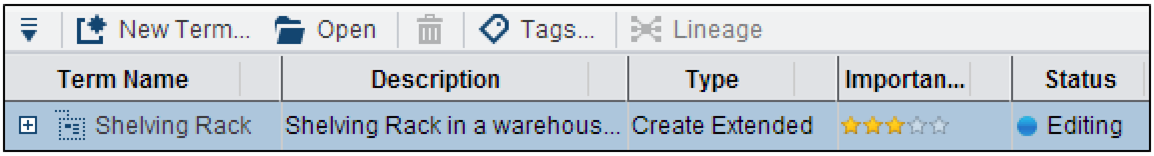
Figure 4.7 *Terms Toolbar*



The term is also added to the Notifications list for these users. The Notifications view contains terms in collaborative flows for which the current user is a potential or actual owner. The current user does not have to have been added as a contact for the term.

The following display shows the list:

Figure 4.8 *Notifications List*



Collaborative Term Review and Approval Functions

You can process a term through a collaborative flow by using the functions listed in the following table:

Table 4.1 *Collaborative Term Review and Approval Functions*

Function	Action	Result
Claim a term for processing	Click **Claim**	Provides access to term in collaborative workflow.
Release a term from processing	Click **Unclaim**	Returns term to terms list without changing its status.
Reject a proposed term	Click **Reject**	Marks a term as rejected but leaves it in the terms list to be deleted or submitted.
Clears changes made to a term	Click **Clear**	Discards unpublished drafts for a term and restores the term to its last published version.
Delete a term	Click **Delete**	Marks a term for deletion.
Submit a term for review	Click **Submit for Review**	Places term in the collaborative flow for business or technical review.
Approve a term in its current state	Click **Approve Changes**	Places term in the collaborative flow.
Approve the term and publish it to the terms list	Click **Publish**	Removes term from the collaborative flow and publishes it to the terms list.

A Sample Collaborative Flow

This example follows the *Shelving Rack* term through an extended collaborative flow.

Perform the following steps:

1. Select the *Shelving Rack* term.
2. A business approver clicks **Claim** to claim the term for processing in the Business Review Step.

3. A business approver clicks **Approve Changes** to approve the term in the business review. The term is passed to the Technical Editing Step.
4. A technical editor clicks **Claim** to claim the term for processing in the Technical Editing Step.
5. A technical editor clicks **Submit for Review** to move the term to the Technical Review Step.
6. A technical approver clicks **Claim** to claim the term for processing in the Technical Review Step.
7. A technical approver clicks **Publish** to remove the term from the collaborative flow and add it to the terms list with a Production status.

Using Web Search

Overview

The Search tool enables you to search for SAS Business Data Network terms in a web browser with a web-based search tool. You can use this tool to search for terms without opening and logging on to SAS Business Data Network.

You can also add a bookmarklet for Search to your supported browser and register Search as a search provider with your browser. These features give you easy access to Search. Perform the following tasks:

- "Satisfy Prerequisites " on page 30
- "Search for a Term " on page 30
- "Configure Your Browser to Use Search Extras " on page 34

Satisfy Prerequisites

In order to use Search, you must satisfy the following prerequisites:

- Install a supported browser. The search tool should render and function correctly in Internet Explorer 8 (Windows XP) and Internet Explorer 9 (Windows Vista or later). The search tool should also work for the latest releases of Mozilla Firefox and Google Chrome for Windows PC.
- Enable JavaScript in your browser.
- Install SAS Business Data Network.
- Ensure that your users have been placed in the proper groups to use Search and that appropriate permissions have been granted.

Search for a Term

To search for a term in SAS Business Data Network:

1. Open the web page for SAS Business Data Network - Search. The URL for the page uses the following pattern: <*server name*>:<*port number*>/SASBusinessDataNetwork/search.

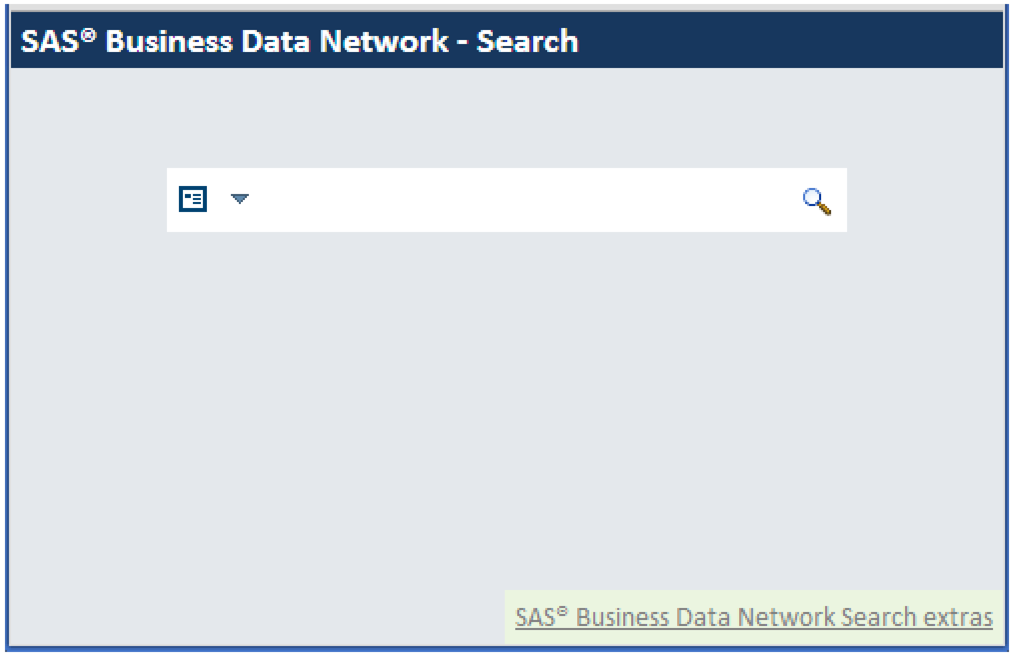
The following display shows the Log On page:

Figure 4.9 *Search Log On Page*

Enter your credentials in the **User ID** and **Password** fields to sign on to the Search page.

2. The following display shows an empty Search page:

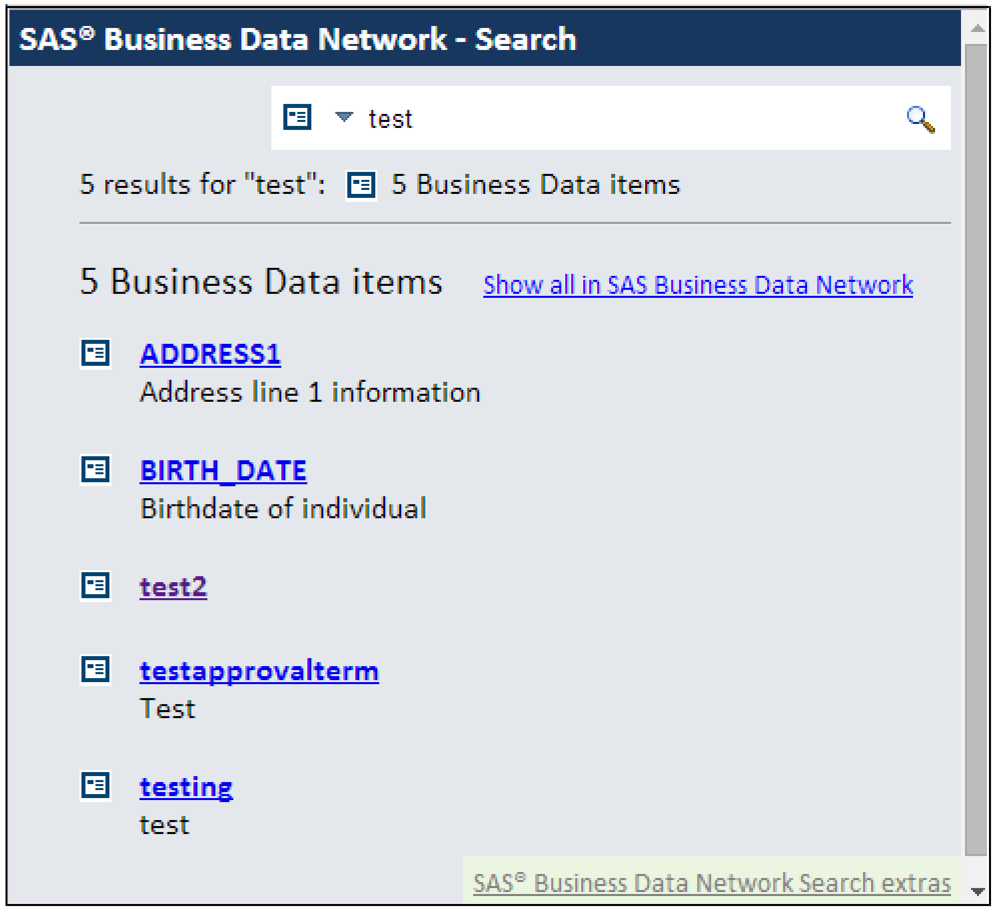
Figure 4.10 *Empty Search Page*



3. Enter a search term in the **Search Business Data Network** field. For example, you could enter *test* as the search term. Note that **Search Business Data Network** is installed as the default search provider.
4. Click **Search**.
5. Review the search results.

The results are shown in the following display:

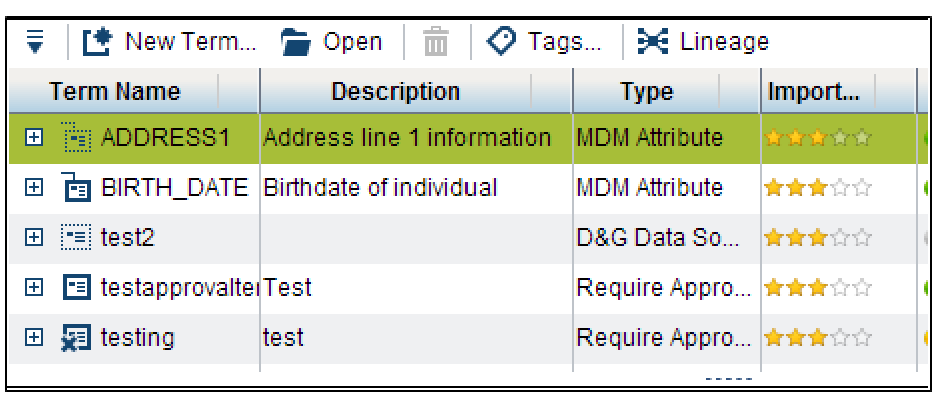
Figure 4.11 *Search Results*



6. Click the link for the result that you need to see in SAS Business Data Network. You can also click **Show all in SAS Business Data Network** to see all of the results displayed in SAS Business Data Network.

   These show-all results are shown in the following display of the SAS Business Data Network page:

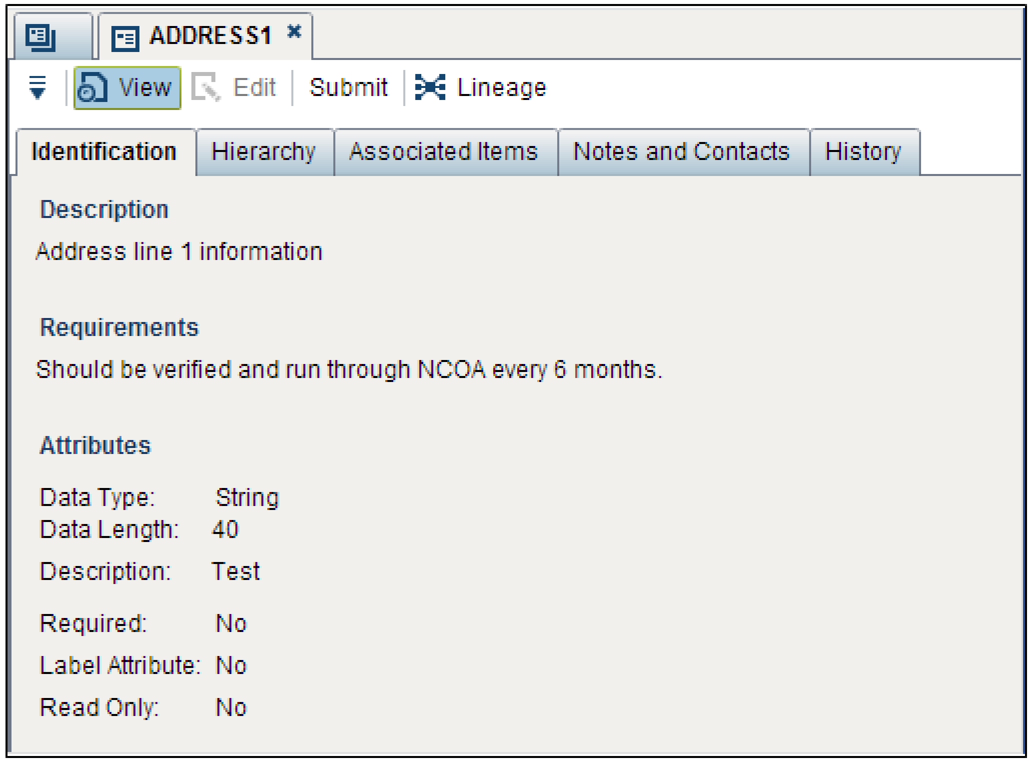
Figure 4.12 *All Results List*



7. Return to the Search page and click a single result, *Address1*.

This result is shown in SAS Business Data Network in the following display:

Figure 4.13 *Single Search Result*



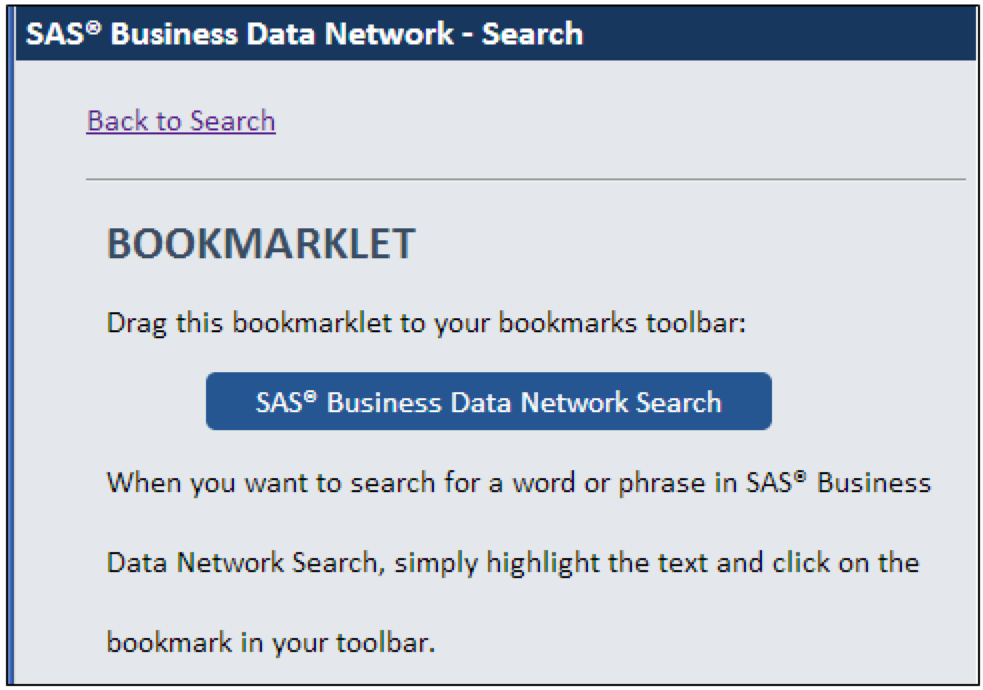
Configure Your Browser to Use Search Extras

You can use the tools in the SAS Business Data Network Search Extras page to make it easier to access Search with a supported browser.

You can add the bookmarklet shown in the top half of the page to the bookmarks toolbar in Microsoft Internet Explorer and Google Chrome browsers.

The bookmarklet is the blue object that shown in the following display:

Figure 4.14 *Bookmarklet Section of Extras Page*



Simply drag and drop the object into the bookmarks toolbar of your Microsoft Internet Explorer, Google Chrome, or Mozilla Firefox browser. Depending on the browser, a dialog box might be displayed. For example, Internet Explorer displays a confirmation dialog box. Then, you can click **Yes** to add a **SAS® Business Data Network** link. That link takes you directly to the Search page.

The bookmarklet for these browsers enables you to do the following:

- Highlight a word or phrase on any HTML web page, including pages outside of SAS Business Data Network pages.
- Click the bookmarklet to instantly open a new browser tab directly to the SAS Business Data Network results page. (You might need to sign in if you have not done so recently.)
- Click the bookmarklet without highlighting a word or phrase to open the SAS Business Data Network Search page.

In Internet Explorer, the icon for Search is included in the set of search providers included with the search field, as shown in the following display:

Figure 4.15 *Search Providers in Internet Explorer*

You can remove the search provider from Internet Explorer through the following menu path: **Tools** ⇨ **Manage add ons.** ⇨ **Search Providers**. To remove the search provider for Chrome, select **Settings** ⇨ **Search** ⇨ **Manage search engines**. Simply delete the search button from the Firefox search toolbar.

Importing and Exporting Terms

Overview

You can import lists of terms into SAS Business Data Network. This feature enables you to add any number of terms to SAS Business Data Network without having to add them individually. You can include them in a file. You can also export selected terms from SAS Business Data Network. The exported terms can be imported into other SAS Business Data Network installations.

The import and export files share an identical XML-based format and must support UTF-8. The terms contained in the files cannot exceed 100 characters in length. Issues can occur when the terms that you import contain characters outside of the character set that has been configured for your database.

You can export a short list of terms from SAS Business Data Network and review the file to examine the XML structure. Then you can use the file that you created in the export as a template for importing additional terms. You can review a sample XML file in the “Export Terms” on page 38 Export Terms section.

The .xsd schema for SAS Business Data Network term imports and a sample term XML import file are available in the share directory in the DataFlux Web Studio installation. The .xsd schema is named relationshipobjects.xsd, and the sample term import file is named bdntermimport_sample.xml. Instructions for verifying your XML with the schema are available at many Internet websites.

Description of Resource Types

The available resource types for the XML files used for importing and exporting terms in SAS Business Data Network are listed in the following table:

Resource Type	Description
BDNTERM	The term listed in SAS Business Data Network. Each term is required to have a unique identifier in the Identity attribute. Terms cannot be longer than 99 characters and are case insensitive.
BDNTERMREF	A reference to a SAS Business Data Network term. The term can exist in the SAS Business Data Network database, or somewhere within the import XML document. The BDNTERMREF Resource must be contained within a dependency element. Any term references occurring outside of a dependency element are ignored.

Resource Type	Description
BDNTAG	Tags associated with the term (displayed in the **Tags** field in the **Identification** tab).
BDNNOTE	Notes associated with the term (displayed in the **Notes** section of the **Notes and Contacts** tab).
BDNCONTACT	Contacts associated with the term (displayed in the **Contacts** section of the **Notes and Contacts** tab).
BDNATTRIB	Attributes associated with the term (displayed in the **Attributes** field in the **Identification** tab).
BDNACCOUNT	A reference to an account that is connected to a contact. This reference type is ignored if not related to a BDNCONTACT.
BDNROLE	A reference to a role that is connected to a contact. This reference type is ignored if not related to a BDNCONTACT.
URI	A URI for a link associated with the term (displayed in the **Links** field in the **Identification** tab).

Import Terms

To import terms from an XML file:

1. Display the main window for SAS Business Data Network, if you have not done so already.
2. In the **Action** menu beside the **New Term** icon, select **Import Terms**. An Import Terms window is displayed.
3. Navigate to the folder that contains the XML file to be imported.
4. Select the XML file. The file that you select must have an .xml extension.
5. Click **Open**. The terms in the file will be imported into the current SAS Business Data Network.

Note that when a term is imported that already exists in SAS Business Data Network with the same name and same ancestry, the existing term's history is maintained. This behavior enables you to roll back to the pre-imported version of the term. The imported term completely replaces the old term in every other regard. Therefore, the imported term must be a complete definition of the term with all the attributes and dependencies (such as related terms, associated items, notes, and tags) defined as they are expected to appear in SAS Business Data Network.

The original term's children are still maintained. Disassociate a child term with a parent term through import by importing the child term with a different "P" type dependency or no "P" type dependency at all.

Export Terms

To export one or more selected terms to an XML file:

1. Display the main window for SAS Business Data Network, if you have not done so already
2. Select one or more terms in the panel on the right. You must select terms, or no terms will be exported.
3. In the **Action** menu beside the **New Term** icon on the left, select **Export Terms**.
4. Select **XML File** in the submenu. An Export Terms window is displayed.
5. Click **Save** and select a location to save the file. Specify an appropriate name for the file.
6. Click **Save** to write the file to the selected location.

The exported file will have the structure that is described in "Description of Resource Types" on page 36. The following display shows the beginning of a sample XML file.

This segment defines the first term, which is *Warehouse*:

Figure 4.16 *XML File for Warehouse*

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<Resources>
    <Resource label="Warehouse" identity="Warehouse" type="BDNTERM">
        <Attributes>
            <attribute name="Description" value="Storage facility for
            goods and raw materials"/>
            <attribute name="Requirements" value="Must meet size and
            security standards"/>
            <attribute name="Status" value="Not Specified"/>
            <attribute name="Importance" value="Medium"/>
        </Attributes>
        <Dependencies>
            <dependency type="A">
                <Resource identity="Logistics" type="BDNTAG"/>
            </dependency>
        </Dependencies>
    </Resource>
```

The term *Warehouse* has a type of BDNTERM, with label and identity attributes set to the text "Warehouse." The identity attribute is required, but an empty label attribute can be filled with contents of the identity. This particular term contains attributes and values for *Description, Requirements, Status,* and *Importance* that populate fields on the **Identification** tab when the term is selected in SAS Business Data Network. The term contains a type A dependency, which can be used for related terms, tags, and links. In this case, the dependency connects the term to the **Logistics** tag, which has a resource type of BDNTAG.

The following display contains the next term that contained in the XML file:

Figure 4.17 *Term with Type A Dependency*

```
<Resource label="Loading Dock" identity="Warehouse\Loading
Dock" type="BDNTERM">
    <Attributes>
        <attribute name="Description" value="Facility for
        incoming and outgoing goods"/>
        <attribute name="Requirements" value=""/>
        <attribute name="Status" value="Not Specified"/>
        <attribute name="Importance" value="Medium"/>
    </Attributes>
    <Dependencies>
        <dependency type="D">
            <Resource label="Warehouse" identity="Warehouse"
            type="BDNTERMREF"/>
        </dependency>
    </Dependencies>
</Resource>
```

Like *Warehouse*, *Loading Dock* and *Mailroom* are defined using the BDNTERM type, but the treatment of the identity attributes is different. In this example, the *Loading Dock* term is defined in relationship to the term *Warehouse*, in the form of the following code:

```
identity="Warehouse\Loading Dock"
```

. The relationship between the parent *Warehouse* and the child *Loading Dock* is reinforced by the use of a type D dependency between the two. The label and identity for the dependency are "Warehouse" and the resource type is "BDNTERMREF." When you export a term, you must also select the related terms, or those relationships will be lost. Direct descendants of a term are exported with the term.

The final section of the code contains yet another use of a dependency.

The term *Section* is defined in the code shown in the following display;

Figure 4.18 *Another Type of Dependency*

```
    <Resource label="Section" identity="Warehouse\Section"
    type="BDNTERM">
        <Attributes>
            <attribute name="Description" value="Section of the
            warehouse designated for a specific product or type
            of product"/>
            <attribute name="Requirements" value="Must be secure
            and accessible"/>
            <attribute name="Status" value="Not Specified"/>
            <attribute name="Importance" value="Medium"/>
        </Attributes>
        <Dependencies>
            <dependency type="D">
                <Resource label="Warehouse" identity="Warehouse"
                type="BDNTERMREF"/>
            </dependency>
            <dependency type="A">
                <Resource label="Picking" identity="Picking"
                type="BDNTERMREF"/>
                <Resource identity="Logistics" type="BDNTAG"/>
            </dependency>
        </Dependencies>
    </Resource>
</Resources>
```

The parent and child relationship between *Warehouse* and *Section* is defined in the same way as the relationship between *Warehouse* and *Loading Dock*. It uses the identity attribute in the resource and the type D dependency. The *Section* term uses a type A dependency, just as *Warehouse* did, to connect the term to the **Logistics** tag (resource type BDNTAG). However, this time, the dependency also establishes a connection to *Picking*, which is a related term with a resource type of BDNTERMREF.

Export Terms to an Entity Definition

You can use the entity definition export feature to define one or more business terms with the correct attributes. Then, you can export that set of terms into an Entity Definition file that can be imported in Master Data Foundation projects or DataFlux qMDM. The same method can also be used to perform the following tasks:

- Select a set of terms to create
- Create qMDM metadata that enables the user to convert terms into attribute groups on existing entity definitions

Perform the following steps:

1. Display the main window for Business Data Network, if you have not done so already.
2. Select one or more terms in the panel on the right. You must select terms, or no terms will be exported.
3. In the **Action** menu beside the **New Term** icon on the right, select **Export Terms**.

4. Select **Definition** in the submenu. An Export Terms window is displayed.
5. Click **Save** and select a location to save the file. Specify an appropriate name for the file.
6. Click **Save** to write the file to the selected location.

Chapter 5

SAS Business Data Network Administration

Managing Term Types

Overview

You can use the Term Type Manager window to perform the following tasks:

- "Create a New Term Type" on page 44
- "Review or Edit a Term Type" on page 45
- "Import or Export Term Types" on page 45

The Term Type Manager window contains all of the term types that have been defined for deletion in Business Data Network.

You can use the toolbar or the **Action** button to perform the following functions:

- Open the New Term Type window to define a new term type
- Open a selected term type for review or edit
- Duplicate a selected term type and open it for review or edit
- Disable a selected term type
- Delete a selected term type
- Import an existing term type in an XML file
- Export a selected term type in an XML file

Create a New Term Type

Click **New Term Type** to display the **Settings** sub-tab in the **New Term Type** tab. The sub-tab is divided into the following sections:

- Type Identification
- Workflows (optional)
- Specify status values
- Specify importance labels
- Business Roles

The **Type Identification** fields enable you to name and describe a new term type. For example, you can type *Simple term create* and describe it as follows: create term in *simple collaborative flow*.

The **Workflows (optional)** fields enable you to associate workflows for creating, editing, and deleting terms with a term type. Of course, if a term type is used with non-workflow terms that do not go through a collaborative review and approval process, it will not be associated with a workflow. The workflows are sorted into create, edit, and delete types. Each of these types includes the following workflows: None, Extended Create Term, Create Term, Delete Term, Edit Term, and Extended Edit Term. You can choose from these workflows to create term types that support very specific portions of the collaborative flow such as extended term creation and delete term. Then, you can associate the term types with specific users in the **Business Roles** table, which is described below.

For example, you can specify **Extended Create Term** for terms used in an extended collaborative flow. You can also specify **Create Term** for terms used in a simple collaborative flow. Finally, you have the option to not specify a workflow for terms that are not used in a collaborative flow.

The **Specify status values** table enables you to select a default status value to associate with the term, create new status values, and edit or delete existing status values. The following default status values are available: Production, Editing, On Hold, Under Review, and Not Specified.

The **Specify importance labels** table enables you to select a default importance to associate with the term or edit an existing label. The following importance labels are available: Critical, High, Medium, Low, Very Low, and Not Specified.

The **Business Roles** table enables you to create business role labels can be added to contacts for terms of this type. You can create notification groupings by associating these roles with specific groups of users. These labels do not affect which users can perform workflow actions for these terms.

Click **Attributes** to display the **Attributes** sub-tab in the **New Term Type** tab. The sub-tab displays a table that contains the list of attributes for the current term type. You can click **New Attribute** to define a new attribute and display it in the table. The attribute can include the following elements:

- **Label**
- **Instructions**
- **Type**, selection from the following options: Single Line Text Entry, Multi-Line Text Entry, Single Selection, Multiple Selection, and Boolean
- **Default value**

- **Require a value to be entered** check box

You can also edit, remove, and preview an existing attribute. Select the **Allow custom attributes to be added to terms** check box if you want to add and maintain attributes for individual terms of this type.

Review or Edit a Term Type

You can select an existing term type in the Term Type Manager window to review and edit its elements. Click **Save** to save your changes.

Import or Export Term Types

You can use the **Import Term Types** item in the **Action** menu in the Term Type Manager window to import XML lists of term types. Similarly, you can use the **Export Term Types** item in the **Action** menu in the Term Type Manager window to export XML lists of term types to a specified location.

Managing Deleted Terms

You can manage terms that you have marked for deletion. To access this window, click **Manage Deleted Terms** in the **Action** button at the top of SAS Business Data Network main window.

The Deleted Terms window contains all of the terms that have marked for deletion in SAS Business Data Network. You can use the toolbar or the **Action** button to perform the following functions:

- Restore one or more selected terms
- Purge one or more selected terms
- Purge all of the terms that are marked for deletion
- Refresh the list of deleted terms

Managing Root Level Authorizations

Overview

When you log on to SAS Business Data Network, you are granted access to applications and features based on the roles and capabilities that are associated with your login. Typically, these roles are assigned to a group to which you belong. For example, by default, members of the Data Management Executives group have the Data Management: Business Data Network role. This role has capabilities that enable you to view terms and their contents and notify contacts in SAS Business Data Network. Without these capabilities, you cannot see terms in SAS Business Data Network.

Note: You can add and remove identities in the Authorization - Root Level window. To access this window, click **Manage Root Level Authorizations** in the **Action** button at the top of SAS Business Data Network main window. Click **Help** for information about using the Authorization - Root Level window. Denying Create Children permission to a group or user at root level prevents that group or user from creating any term.

Default Groups, Roles, and Capabilities

The groups, roles, and capabilities listed in the following table are installed in SAS Management Console when SAS Business Data Network is installed:

Table 5.1 *Default Groups, Roles, and Capabilities*

Role Name	Role Description	Capability IDs	Groups That Get This Role by Default
Business Data Network: Administration	Provides all functionality related to administrative activities	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, EditTermTypes, SecureTermTypes, SecureTerms, ImportTerms, UnlockAnotherUsersTerms, ViewAnotherUsersDraft, ManageDeletedTerms, EditTags, EditTerms, EditTermContents, EditTermAttributes, EditTermStatus, EditTermImportance, EditTermLinks, EditTermRelatedTags, EditTermRelatedTerms, EditTermHierarchy, EditTermAssociatedItems, EditTermNotes, EditTermContacts, RestoreTermVersion, NotifyContacts, Workflow Publish, Workflow Delete	Data Management Administrators
Business Data Network: Power Editor	Provides all the functionality for creating and editing terms	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, UnlockAnotherUsersTerms, ImportTerms, EditTags, EditTerms, EditTermContents, EditTermAttributes, EditTermStatus, EditTermImportance, EditTermLinks, EditTermRelatedTags, EditTermRelatedTerms, EditTermHierarchy, EditTermAssociatedItems, EditTermNotes, EditTermContacts, RestoreTermVersion, NotifyContacts	Data Management Power Users

Role Name	Role Description	Capability IDs	Groups That Get This Role by Default
Business Data Network: Technical Editor	Provides all the functionality for creating and editing terms	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, EditTags, EditTerms, EditTermContents, EditTermAttributes, EditTermStatus, EditTermImportance, EditTermLinks, EditTermRelatedTags, EditTermRelatedTerms, EditTermHierarchy, EditTermAssociatedItems, EditTermNotes, EditTermContacts, RestoreTermVersion, NotifyContacts	Data Management Power Users
Business Data Network: Business Editor	Provides all the functionality for creating and editing terms	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, EditTags, EditTerms, EditTermContents, EditTermAttributes, EditTermStatus, EditTermImportance, EditTermLinks, EditTermRelatedTags, EditTermRelatedTerms, EditTermHierarchy, EditTermAssociatedItems, EditTermNotes, EditTermContacts, RestoreTermVersion, NotifyContacts	Data Management Business Users
Business Data Network: Technical Approver	Provides all the functionality for approving terms	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, EditTermNotes, EditTermContacts, NotifyContacts, Workflow Publish, Workflow Delete	Data Management Stewards

Role Name	Role Description	Capability IDs	Groups That Get This Role by Default
Business Data Network: Business Approver	Provides all the functionality for approving terms	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, EditTermNotes, EditTermContacts, NotifyContacts, Workflow Publish, Workflow Delete	Data Management Business Approvers;
Data Management: Business Data Network	Provides default access to Business Data Network	ViewApplication, ViewTermAttributes, ViewTermStatus, ViewTermImportance, ViewTermLinks, ViewTermRelatedTags, ViewTermRelatedTerms, ViewTermHierarchy, ViewTermAssociatedItems, ViewTermNotes, ViewTermContacts, ViewTermHistory, ViewTermComments, NotifyContacts	Data Management Executives

Define Users and Link Them to Groups (and Roles)

SAS Business Data Network is installed as part of a bundle of products. After installation, an administrator uses SAS Management Console to perform the following tasks:

- Create a user definition for each person who uses SAS Business Data Network
- Create any custom groups (and roles) that you might require if the default groups provided by SAS Business Data Network do not meet your needs
- Assign each user to one or more of the default or custom groups in order to grant each user the capabilities that he or she requires

For more information about defining users and groups in SAS Management Console, see *SAS Management Console: Guide to Users and Permissions*.

Part 2

Installation and Configuration

Chapter 6

Installing and Configuring SAS Business Data Network

Installing SAS Business Data Network

SAS Business Data Network is available through SAS delivery channels. See your SAS Software Order Email (SOE) for information about installing SAS Business Data Network.

Performing SAS Business Data Network Migration

Overview

After you have installed SAS Business Data Network and reviewed instructions.html, you are ready to migrate data from the Business Data Network module of DataFlux Web Studio 2.4 to SAS Business Data Network 3.1. Note that SAS Business Data Network

3.1 requires the second maintenance release for SAS 9.4. The migration process includes the following steps:

- "Begin Post-Installation Steps" on page 52
- "Run the ASEXPORT Procedure" on page 52
- "Prepare for Workflows" on page 54
- "Export Relationships and Lineage to the Relationships Service" on page 55
- "Run SAS Business Data Network Migration" on page 57
- "Review Migration Results" on page 58
- "Resolve Any Errors" on page 59

Begin Post-Installation Steps

Once SAS Business Data Network has been installed, you can perform post-installation steps. You must be an administrator who has the Business Data Network: Administration role.

Perform the following tasks to prepare for the migration:

- Verify that both the DataFlux Authentication Server and the SAS Metadata Server are running.
- Verify that you are a member of the SAS Administrators group on the SAS Metadata Server and an Administrator on the DataFflux Authentication Server. Ensure that you are logged on to each of these servers with the user ID and password that you specify when you run the ASEXPORT procedure.
- Stop the SASServer 13 running instance.
- Move the JDBC driver JAR file for the database that was used with the version of the Business Data Network module of DataFlux Web Studio that you are migrating to the proper location for the SAS Business Data Network installation. (Note that some databases might require more than one JAR file.) This step is necessary because the migration code needs JDBC 4 drivers for the appropriate source database to read the data from the old databases.

  Typically, the JAR file can be found in the installation of the source database. If you are not sure which JAR files to use, ask your database administrator. You can also search the database vendor's website. The JAR files must be appropriate for JDBC 4 and Java 6. They must also work with the correct version of your database. You might also need to copy other files, such as license files and ancillary JAR files.

  After ensuring that SASServer 13 has been stopped, copy the JAR file (and any other files that are needed) to the lib directory under the SASServer13 _1 installation. The path will vary by installation but will be similar to **`C:\SAS\Config\Lev1\Web\WebAppServer\SASServer13_1\lib`**.
- Restart SASServer13_1.

Run the ASEXPORT Procedure

You must run the ASEXPORT Procedure to move the DataFlux Authentication Server IDs to the SAS Metadata Server.

The following example shows this application of the ASEXPORT Procedure:

```
proc ASEXPORT meta=
              (
                 user='username' password='password'
                 server='host-name'
                 port=port_number
                 repos='repository.name'
                 filter=(DOMAINS "*"
                         USERS   "*"
                         LOGINS  "Login
                         [Domain/AuthenticationDomain[@OutboundOnly='0']]")
              )
              as=
              (
                 server='host-name'
                 user='domain\username'
                 pass='password'
                 port=port_number
                 filter=(DOMAINS "*"
                         USERS   "*"
                         LOGINS  "*")
              )
              verbose
              out=asx
              ;

   /*
    * Auto-match domains by name.
    */
   match DOMAINS;

   /*
    * Add remaining unmatched domains (optional)
    */
   add DOMAINS;

   /*
    * Auto-match users by FQLN.
    */
   match USERS;

   /*
    * Add remaining unmatched users (optional)
    */
   add USERS;

   /*
    * List everything for review
    */
   list;

   /*
    * Create an input file (per noforward) for proc METADATA that we can review.
    * Don't export passwords or their hosting outbound logins.
    */
```

```
    export;

quit;
```

Note: This code sample has optional add statements that might not apply. If users or domains do not match, then they are created in SAS Metadata Server unconditionally. A

```
criteria=
```

option is required on the add statements to prevent the addition of all unmatched domains and users. You can also use an initial filter of something other than

```
*
```

to prevent unmatched domains and users from being available in the snapshot pulled back from DataFlux Authentication Server and SAS Metadata Server.

For more information about the ASEXPORT Procedure, see Chapter 7, "ASEXPORT Procedure," on page 63.

Prepare for Workflows

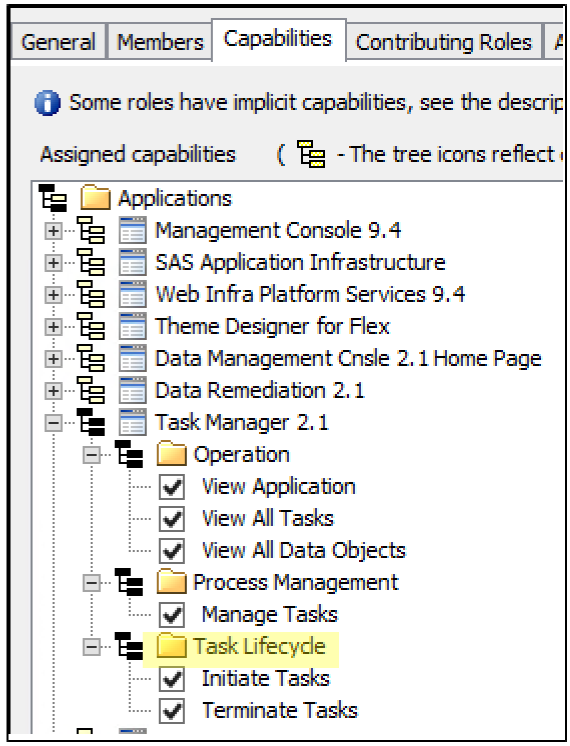
For information about preparing to support workflows in SAS Business Data Network, see "Configuring Workflow in SAS Business Data Network" on page 60. You also must disable the Terminate Tasks capability in SAS Task Manager for most SAS Business Data Users. Disabling this capability can prevent the accidental termination of SAS Business Network workflows due to the termination of a SAS Task Manager task.

Perform the following steps:

1. Log on to SAS Management Console as an administrative user.
2. Select a SAS Business Data Network role that you need to modify.
3. Click the **Capabilities** tab for that role.
4. Navigate to the Task Lifecycle folder under the Task Manager 2.1 folder.

The **Capabilities** tab is shown in the following display:

Figure 6.1 *Capabilities Tab*



5. Deselect the **Terminate Tasks** item.

6. Select the next SAS Business Data Network role to modify and perform the modification. Repeat until all the roles have been modified.

Export Relationships and Lineage to the Relationships Service

Overview

You must perform the following processes to ensure that the Relationships Service contains the data necessary for SAS Business Data Network to function:

Perform the following steps:

- Scheduled Collection and Loading Using SAS Management Console
- Export Data Management Platform Objects
- Export Visual Process Orchestration Objects

Scheduled Collection and Loading Using SAS Management Console

SAS Management Console is used to schedule the collection and loading of information about resources and their relationships.

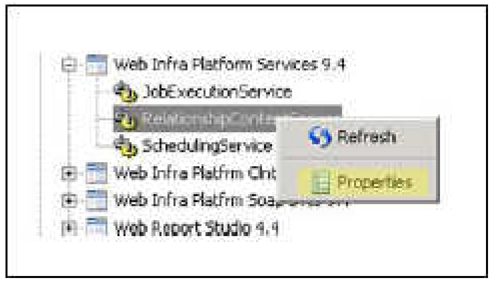
To enable the relationship service collection and loading:

1. Log on to the SAS Management Console as an administrative user.
2. Expand the **Configuration Manager** under the **Application Management** node.

3. Expand **SAS Application Infrastructure**. Then, locate **Web Infra Platform Services 9.4** and expand the node.
4. Right-click **Select RelationshipContentService**.

   Select **Properties** from the pop-up menu, as shown in the following display:

   Figure 6.2 *RelationshipContentService Path*

5. On the **Settings** tab, change the value for **Scheduling for Load Task Enabled** from *false* to *true*.
6. Restart the web application server.

Relationship metadata is loaded into the relationship database when the web application server is restarted. The default setting schedules the load operation to occur every hour. Subsequent runs of the load operation search for all content that has been changed or created since the last load and update the relationship database for the changed objects. You can schedule the load to run hourly, daily, weekly, or you can create your own custom schedule.

Export Data Management Platform Objects

You must export Data Management Platform objects to the SAS Web Infrastructure Platform before clients such as SAS Business Data Network can then use the data. For instructions, see the "Exporting Lineage Data to SAS Web Infrastructure Platform" topic in *DataFlux Data Management: User's Guide*.

SAS Business Data Network enables you to associate Data Management Platform objects such as rules, tasks, jobs, files, and other content to SAS Business Data Network objects. This feature can cause complications when you upgrade SAS Business Data Network at the same time that you upgrade Data Management Server.

When you do a side-by-side install of Data Management Server and SAS Business Data Network, the location of Data Management Platform objects changes from the Data Management Server 2.5 location. Therefore, the objects associated with SAS Business Data Network terms have different paths and need to be reassociated.

When you perform an upgrade in place of Data Management Server. the object locations stay the same. Most of the objects, except jobs, remain associated with SAS Business Data Network terms. You must follow all of the steps specified in the migration process.

Note: Job objects have changed pathnames and are not found in the new infrastructure. You must go into SAS Business Data Network 3.1 and reattach these objects after refreshing the lineage.

Export SAS Visual Process Orchestration Objects

SAS Visual Process Orchestration 2.2 exports relationship data to the SAS Web Infrastructure Platform so that clients such as SAS Business Data Network can use the data. After SAS Visual Process Orchestration 2.2 is shipped, you can find instructions in the *SAS Visual Process Orchestration: User's Guide*.

Run SAS Business Data Network Migration

You must complete the fields and select options in the Business Data Network Migration window and run the migration to complete the migration process. The window is located at the following location: **`yourserver:port/SASBusinessDataNetwork/migration/configure`**. Note that you can execute an optional test run to anticipate problems.

The fields are listed in following table:

Table 6.1 *SAS Business Data Network Migration Fields and Options*

Field or Option	Description
Connection to BDN 2.x database server	
Type of database server	Specifies the databases that were supported by BDN 2.x: SQL Server, Oracle, and DB2.
Database server host	Specifies the name of the machine hosting the database server instance.
Database server port	(Optional) Specifies the port to which the database server instance is listening.
Database name	Specifies the name of the database within the server instance.
Override generated JDBC URL	The migration configuration generates a JDBC URL to connect to the BDN 2.x database. If a correct URL for the database cannot be generated by the migration code, selecting this check box enables the user to override the generated JDBC URL. This is used in case the user cannot resolve a connection problem.
JDBC URL to database	When **Override generated JDBC URL** is not selected, specifies the generated JDBC URL to the database. When **Override generated JDBC URL** is selected, the text field is editable so that you can enter the JDBC URL to the database.
BDN 2.x database connection properties	Specifies additional properties needed for connecting to the BDN 2.x database. An example for SQL Server is the instance name: *instanceName=SQLSERVER2008*.
Optional prefix for BDN 2.x tables	Specifies an optional prefix for the tables that can include catalog and schema prefixes. An example is *Repository1.BDN_*.
User name for database connection	Specifies the user name for connecting to the database.

Field or Option	Description
Password for database connection	Specifies the password for connecting to the database.
Options	
Keep temporary tables	When selected, specifies that the tables copied from the 2.x database to the 3.1 database are not dropped after running the migration. The copied tables are put into a schema named SAS_BDN_TEMP.
Skip copying the tables from the source BDN database	When selected, skips the step of copying the tables from the source BDN database. If the temporary tables are kept from a previous migration run, they can be reused in a subsequent migration run, thereby saving the time required to copy the tables again. There is no need to connect to the source BDN database when the copy is skipped. Therefore, the database values are not needed.
Test run	When selected, executes a migration run in which none of the SQL statements to create tables or write to tables are actually executed. Security, lineage, and user preferences are not updated. The source database tables are read.
Run	Runs the migration.

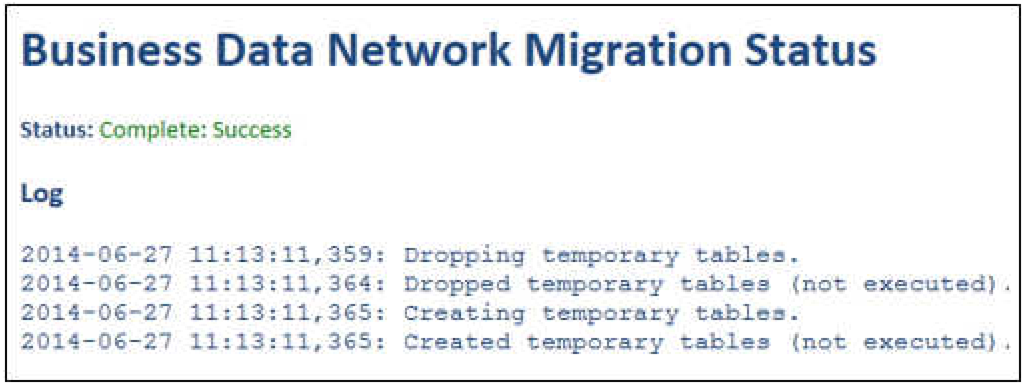
When you run the migration, an attempt to read one of the source BDN 2.1 tables is made (if the **Skip copying source tables** option is not selected). If that attempt fails, an error message is displayed in the user interface.

Review Migration Results

If the attempt is successful, the migration begins and the status page is displayed. The status page refreshes itself periodically.

When the migration is complete, the status page scrolls back to the top. The following display shows a portion status page from a test run:

Figure 6.3 *Migration Run Status*



Resolve Any Errors

You must manually resolve any errors uncovered in the migration run.

Note that the following steps are executed during the migration:

1. If copying the source tables, the following steps are performed:
   - Temporary tables are dropped.
   - Temporary tables are created.
   - Source tables are copied into the temporary tables.
2. Users in the source BDN 2.x database are matched to users in SAS Metadata Server by DataFlux Authentication Server IDs. If a matching user is not found in SAS Metadata Server, the user’s name is used as the user ID. This information is logged.
3. Target tables are truncated. Anything existing in the BDN 2.x database is lost. The truncate is required because of the number of foreign keys between tables.
4. The temporary tables are copied to the target table. During the copy, many items are added, updated, or replaced. These processes include the following steps:
   - Fragmented big strings are collapsed to single strings.
   - Account IDs are replaced with user IDs.
   - The template term is updated to a term type.
   - Type IDs are added.
   - Audit records in DG_NOTS are not copied.
5. Security ACLs are created for all terms. This process is slow. Therefore, the ACLs are created in batches of one thousand in order to give an indication of progress.
6. Relationships are pushed into the relationships database. This process is slow.
7. Notification settings are copied to the preferences service.

Configuring Workflow in SAS Business Data Network

Overview

This document lists the steps for deploying and using workflows that enable the collaborative term review and approval process in SAS Business Data Network. The SAS Workflow Studio client is needed to deploy the workflows, but it does not have to be installed on the same machine as the server.

Perform the following tasks:

- "Set Permissions in Web Administration Console" on page 60
- "Turn On Workflow Events" on page 60
- "Add Connection Information to SAS Workflow Studio" on page 61
- "Deploying Workflows in SAS Workflow Studio" on page 61
- "Associating Workflows with Term Types" on page 62

Set Permissions in Web Administration Console

Perform the following steps:

1. Log on to http://<*your server*:>*:port*/SASAdmin as an administrative user. If a user-defined port number is supplied during installation, place it after the server name.
2. Select the **Assign Roles** action in the tree (**SAS Web Administration Console** ⇨ **Environment Management** ⇨ **Authorization** ⇨ **Assign Roles**).
3. Add roles to each workflow user, as appropriate. These roles can include those of Administrator, Workflow Administrator, Workflow Viewer, and Workflow Editor. You must perform this task for each user separately.

Turn On Workflow Events

In the file **`C:\SAS\Config\Lev1\Web\WebAppServer\SASServer1_1\sas_webapps\sas.workflow.war\WEB-INF\spring-config\messaging-config.xml`**, change the default-request-channel value for workflow events from **nullChannel** to **workflowEventFilterTransformChannel**. Note that the exact path might differ depending on your deployment's server definitions.

The original tag is shown in the following display:

Figure 6.4 *Original Tag*

```
<si:gateway id="workflowSendEventGateway" service-
interface="com.sas.workflow.integration.WorkflowEventGateway" default-request-
channel="nullChannel"/>
```

The modified tag is shown in the following display:

Figure 6.5 *Modified Tag*

```
<si:gateway id="workflowSendEventGateway" service-
interface="com.sas.workflow.integration.WorkflowEventGateway" default-request-
channel="workflowEventFilterTransformChannel"/>
```

Afterward, restart the following services:

- SAS httpd - WebServer
- SAS WebAppServer SASServer1_1
- SAS WebAppServer SASServer2_1
- SAS WebAppServer SASServer13_1

Note that this list might differ depending on your deployment.

Add Connection Information to SAS Workflow Studio

In the file **`C:\Program Files\SASHome\SASWorkflowStudio\1.3\environments.xml`**, add an entry to specify your connection information.

The following display shows a sample connection information entry:

Figure 6.6 *Connection Information*

```
<environment name="server name" default="false" platform-version="9.4">
  <desc>fully qualified server name</desc>
  <block-desc> fully qualified server name </block-desc>
  <service-registry>
    http:// fully qualified server name:7980/SASWIPClientAccess/remote/ServiceRegistry
  </service-registry>
  <service-registry interface-type="soap">
    http:// fully qualified server name:7980/SASWIPSoapService/remote/ServiceRegistry
  </service-registry>
</environment>
```

This entry must specify the actual machine name and not an alias. Otherwise, SAS Workflow Studio displays an error when it tries to resolve the alias.

For more information about workflow configuration, see the *SAS Intelligence Platform: Web Application Administration Guide*.

Deploying Workflows in SAS Workflow Studio

Perform the following steps:

1. Start SAS Workflow Studio.
2. Log on as an administrative user. Use the path **Server** ⇨ **Log On** to connect to the server that you added to the environments file in the Add Connection Information to SAS Workflow Studio section.

3. Navigate to **Manage Templates** in the **Server** section. Click **New Tags** and create a new tag named **BusinessData**. This tag marks a workflow as one that is usable in SAS Business Data Network.
4. Open a workflow file that you want to deploy. You can find the default SAS Business Data Network workflows at the following location: **`SASHome\SASBusinessDataNetworkMidTier\3.1\Config\workflows`**.
5. Navigate to **Save to Repository** under **Server**. Select the **Activate** check box and click **OK** to deploy the workflow.
6. Repeat steps 4 and 5 for each workflow that you want to deploy.

Associating Workflows with Term Types

Open the Manage Term Types view in SAS Business Data Network. Then open a term type. You can choose a workflow that you deployed in the previous section as the Create, Edit, or Delete workflow for the term type.

Chapter 7

ASEXPORT Procedure

Overview: ASEXPORT Procedure

The ASEXPORT procedure is a SAS procedure used to migrate metadata from DataFlux Authentication Server to SAS Metadata Server. The procedure supports direct object migration through the SAS Open Metadata Interface. It also supports the creation of an export package that is compatible with PROC METADATA.

The following steps illustrate the workings of the ASEXPORT procedure:

1. The META= connection and filter parameters are used to connect to SAS Metadata Server..
2. The AS= connection and filter parameters are used to connect to DataFlux Authentication Server.
3. The MATCH, MATCH SINGLETON, ADD, and DELETE statements use these working sets to build up the mappings between DataFlux Authentication Server and SAS Metadata Server objects.
4. The LIST statement lists them.

5. The EXPORT statement exports them to a file, forwards them to the SAS Metadata Server, or both.
6. The file created by the EXPORT statement can be used directly by the METADATA procedure as its IN= procedure option.

Concepts: ASEXPORT Procedure

Overview

The matches between DataFlux Authentication Server and SAS Metadata Server objects are managed internally by the relationships in the tabular data represented in the following three schemas:

- AS Schema
- META Schema
- X Schema

Note that the maximal set of working objects available for export is controlled by the various filters specified on the procedure statement.

AS Schema

The AS schema includes the working set of DataFlux Authentication Server objects that are extracted using the initial filters specified in the AS(FILTER) procedure suboptions. The AS schema is a one to one tabular snapshot of Authentication Server objects read in using the META/FILTER options.

This schema consists of the following tables:

DOMAINS
: extracted using the AS(FILTER(DOMAINS)) suboption.

USERS
: extracted using the AS(FILTER(USERS)) suboption.

GROUPS
: extracted using the AS(FILTER(GROUPS)) suboption.

LOGINS
: extracted using the AS(FILTER(LOGINS)) suboption.

The AS schema contains a representation of the DataFlux Authentication Server objects currently in the working set of source objects. These objects are available for selection into the working set of export mappings in the X.DOMAIN_MAP, X.USER_MAP and X.GROUP_MAP tables. The schema is displayed in the following sample:

```
create table AS.DOMAINS
(
   NAME              NVARCHAR(256)  NOT NULL,
   NAME_N            NVARCHAR(256)  NOT NULL,
   "DESC"            NVARCHAR(256)  NOT NULL,
   IS_CS_USERID      NCHAR(1)       NOT NULL,
   IS_DQ_USERID      NCHAR(1)       NOT NULL,
```

```
   IS_UPN_USERID     NCHAR(1)       NOT NULL
);
create table AS.USERS
(
   ID                NCHAR(32)      NOT NULL,
   NAME              NVARCHAR(256)  NOT NULL,
   NAME_N            NVARCHAR(256)  NOT NULL,
   "DESC"            NVARCHAR(256)  NOT NULL,
   ENABLED           NCHAR(1)       NOT NULL
);
create table AS.LOGINS
(
   FQLN              NVARCHAR(256)  NOT NULL,
   DOMAIN_N          NVARCHAR(256)  NOT NULL,
   NAME              NVARCHAR(256)  NOT NULL,
   USER_ID           NCHAR(32)      NOT NULL
);
create table AS.GROUPS
(
   ID                NCHAR(32)      NOT NULL,
   NAME              NVARCHAR(256)  NOT NULL,
   NAME_N            NVARCHAR(256)  NOT NULL,
   "DESC"            NVARCHAR(256)  NOT NULL,
   OWNER_ID          NCHAR(32)
);
```

META Schema

The META schema includes the working set of SAS Metadata Server objects extracted using the initial filters specified in the META(FILTER) procedure suboptions.

This schema consists of the following tables:

DOMAINS
: extracted using the META(FILTER(DOMAINS)) suboption.

USERS
: extracted using the META(FILTER(GROUPS)) suboption.

GROUPS
: extracted using the META(FILTER(GROUPS)) suboption.

LOGINS
: extracted using the META(FILTER(LOGINS)) suboption.

The META schema contains a representation of the SAS Metadata Server objects currently in the working set of destination objects. These objects are available for selection into the working set of export mappings in the X.DOMAIN_MAP, X.USER_MAP and X.GROUP_MAP tables. The schema is displayed in the following sample:

```
create table META.DOMAINS
(
   ID                NCHAR(17)      NOT NULL,
   AS_ID             NVARCHAR(128),
   NAME              NVARCHAR(60)   NOT NULL,
   NAME_N            NVARCHAR(60)   NOT NULL,
   "DESC"            NVARCHAR(200)  NOT NULL,
```

```
   OUTBOUND_ONLY      NCHAR(1)       NOT NULL,
   TRUSTED_ONLY       NCHAR(1)       NOT NULL
);
create table META.USERS
(
   ID                 NCHAR(17)      NOT NULL,
   AS_ID              NCHAR(32),
   NAME               NVARCHAR(60)   NOT NULL,
   NAME_N             NVARCHAR(60)   NOT NULL,
   "DESC"             NVARCHAR(200)  NOT NULL
);
create table META.LOGINS
(
   ID                 NCHAR(17)      NOT NULL,
   AS_ID              NVARCHAR(128),
   FQLN               NVARCHAR(128)  NOT NULL,
   NAME               NVARCHAR(60)   NOT NULL,
   "DESC"             NVARCHAR(200)  NOT NULL,
   DOMAIN_ID          NCHAR(17)      NOT NULL,
   OWNER_ID           NCHAR(17)      NOT NULL,
   TRUSTED_ONLY       NCHAR(1)       NOT NULL
);
create table META.GROUPS
(
   ID                 NCHAR(17)      NOT NULL,
   AS_ID              NVARCHAR(32),
   NAME               NVARCHAR(60)   NOT NULL,
   NAME_N             NVARCHAR(60)   NOT NULL,
   "DESC"             NVARCHAR(200)  NOT NULL
);
```

X Schema

The X schema includes normalized content, views, and joined result sets produced from matches between objects represented in the AS and META schemas.

This schema consists of the following tables or views:

DOMAIN_MAP
: contains the working set of (AS:Domain, OMSOBJ:AuthenticationDomain) domain mappings currently queued for export.

USER_MAP
: contains the working set of (AS:Group, OMSOBJ:IdentityGroup) group mappings currently queued for export.

GROUP_MAP
: contains the working set of (AS:Group, OMSOBJ:IdentityGroup) group mappings currently queued for export.

AS_LOGINS_N
: contains views of AS.LOGINS with additional FQLN_N column where the column contains a normalized fully qualified login name that can be matched with logins in MS.LOGINS. Login name qualification and normalization is governed by the naming rules inferred from the AS.DOMAINS(IS_CS_USERID, IS_DQ_USERID, IS_UPN_USERID) columns.

MS_LOGINS_N
contains views of MS.LOGINS with additional FQLN_N column where the column contains a normalized fully qualified login name that can be matched with logins in AS.LOGINS. Login name qualification and normalization is governed by the naming rules inferred from the AS.DOMAINS(IS_CS_USERID, IS_DQ_USERID, IS_UPN_USERID) columns.

The X schema contains the working set of DataFlux Authentication Server:SAS Metadata Server export mappings. These mappings are used along with utility tables to assist in matching and selection criteria when using the MATCH, MATCH SINGLETON, ADD, and REMOVE statements.

The contents are listed in following table:

Table 7.1 *X Schema Contents*

Table or View	Description
X.DOMAIN_MAP	Current working set of domain object mappings.
X.USER_MAP	Current working set of user object mappings.
X.GROUP_MAP	Current working set of group object mappings.
X.AS_LOGINS_N	View of AS.LOGINS with normalized fully qualified login name column, FQLN_N.
X.MS_LOGINS_N	View of META.LOGINS with normalized fully qualified login name, FQLN_N.

The schema is displayed in the following sample:

```
create table X.DOMAIN_MAP
(
   AS_NAME              NVARCHAR(256)  NOT NULL,
   AS_NAME_N            NVARCHAR(256)  NOT NULL,
   AS_DESC              NVARCHAR(256)  NOT NULL,
   AS_IS_CS_USERID      NCHAR(1)       NOT NULL,
   AS_IS_DQ_USERID      NCHAR(1)       NOT NULL,
   AS_IS_UPN_USERID     NCHAR(1)       NOT NULL,
   META_ID              NCHAR(17),
   META_AS_ID           NVARCHAR(128),
   META_NAME            NVARCHAR(60)   NOT NULL,
   META_NAME_N          NVARCHAR(60)   NOT NULL,
   META_DESC            NVARCHAR(200)  NOT NULL,
   META_OUTBOUND_ONLY   NCHAR(1)       NOT NULL,
   META_TRUSTED_ONLY    NCHAR(1)       NOT NULL
);
create table X.USER_MAP
(
   AS_ID                NCHAR(32)      NOT NULL,
   AS_NAME              NVARCHAR(256)  NOT NULL,
   AS_NAME_N            NVARCHAR(256)  NOT NULL,
   AS_DESC              NVARCHAR(256)  NOT NULL,
   AS_ENABLED           NCHAR(1)       NOT NULL,
   META_ID              NCHAR(17),
```

```
   META_AS_ID          NCHAR(32),
   META_NAME           NVARCHAR(60)   NOT NULL,
   META_NAME_N         NVARCHAR(60)   NOT NULL,
   META_DESC           NVARCHAR(200)  NOT NULL
);
create table X.GROUP_MAP
(
   AS_ID               NCHAR(32)      NOT NULL,
   AS_NAME             NVARCHAR(256)  NOT NULL,
   AS_NAME_N           NVARCHAR(256)  NOT NULL,
   AS_DESC             NVARCHAR(256)  NOT NULL,
   AS_OWNER_ID         NCHAR(32),
   META_ID             NCHAR(17),
   META_AS_ID          NCHAR(32),
   META_NAME           NVARCHAR(60)   NOT NULL,
   META_NAME_N         NVARCHAR(60)   NOT NULL,
   META_DESC           NVARCHAR(200)  NOT NULL
);
create view X.AS_LOGINS_N as
   select AL.*,
          case
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'FF' then
                upper(AL.NAME)
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'FT' then
                AL.NAME
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'TF' then
                upper(AL.NAME) || '@' || AL.DOMAIN_N
             else
                AL.NAME || '@' || AL.DOMAIN_N
          end as "FQLN_N"
   from AS.LOGINS        AL,
        X.DOMAIN_MAP_ALL DX
   where AL.DOMAIN_N = DX.AS_NAME_N
;
create view X.MS_LOGINS_N as
   select ML.*,
          case
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'FF' then
                upper(ML.NAME)
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'FT' then
                ML.NAME
             when (DX.AS_IS_DQ_USERID || DX.AS_IS_CS_USERID) = 'TF' then
                upper(ML.NAME) || '@' || DX.AS_NAME_N
             else
                ML.NAME || '@' || DX.AS_NAME_N
          end as "FQLN_N"
   from META.LOGINS      ML,
        X.DOMAIN_MAP_ALL DX
   where ML.DOMAIN_ID = DX.META_ID
;
```

Syntax: ASEXPORT Procedure

Requirement: The target SAS Metadata Server and the source DataFlux Authentication Server must be running. Connection information for these servers must be available. A trusted user must also be available.

Tip: PROC ASEXPORT supports RUN-group processing.

See: Open Metadata Interface in *SAS Language Interfaces to Metadata*

PROC ASEXPORT<*proc-options*>;
MATCH DOMAIN | USER | GROUP / <*match-options*>;
MATCH SINGLETON DOMAIN | USER | GROUP / <*match-options*>;
ADD DOMAIN | USER | GROUP / <*add-options*>;
REMOVE DOMAIN | USER | GROUP / <*remove-options*>;
LIST <*type-list*> / <*list-options*>;
EXPORT / <*export-options*>;
UNDO;

Statement	Task	Example
PROC ASEXPORT	Export or migrate DataFlux Authentication Server content.	Ex. 1
MATCH	Match DataFlux Authentication Server objects with an equivalent SAS Metadata Server objects and place the matches into the working set of export mappings.	Ex. 1
MATCH SINGLETON	Match a single DataFlux Authentication Server object with an equivalent SAS Metadata Server object and place the match into the working set of export mappings.	Ex. 1
ADD	Add DataFlux Authentication Server objects that are unmatched in the working set of SAS Metadata Server objects to the working set of export mappings.	Ex. 1
REMOVE	Remove objects matching the specified criteria from the working set of export mappings.	Ex. 1
LIST	List the current working set of export mappings in the SAS log.	Ex. 1
EXPORT	Export the working set of export mappings and clear the mapping tables, X.DOMAIN_MAP, X.USER_MAP and X.GROUP_MAP.	Ex. 1
UNDO	Undo changes to the working set of export mappings. These mappings result from the most recent MATCH, MATCH SINGLETON, ADD, or REMOVE statement that was not followed by a RUN or EXPORT statement.	Ex. 1

PROC ASEXPORT Statement

Exports or migrates DataFlux Authentication Server content.

Syntax

PROC ASEXPORT

<METACON=(*SAS-Metadata-Server-connection-arguments*)>
<ASCON=(*DataFlux-Authentication-Server-connection-arguments*)>
<OUT=*fileref*>
<HEADER=NONE | SIMPLE | FULL>
<VERBOSE>
;

Optional Arguments

METACON=(*metadata-server-connection-arguments*)
Server connection arguments establish communication with SAS Metadata Server. The metadata system options are used in place of omitted attributes.

FILTER=*(filter-strings)*
is the set of filter strings used to retrieve the working set of SAS Metadata Server objects using a templated GetMetadataObjects query with a XMLSelect search criteria. There is one filter per object type. If a filter is "*" or is omitted, then no subsetting is done when retrieving the objects and all objects of the associated metadata type are retrieved.

METACON uses the following filter strings:

DOMAINS="*XMLSelect-search-filter*"
specifies a valid XMLSelect search= string used to match objects of type AuthenticationDomain.

USERS="*XMLSelect-search-filter*"
specifies a valid XMLSelect search= string used to match objects of type Person.

GROUPS="*XMLSelect-search-filter*"
specifies a valid XMLSelect search= string used to match objects of type IdentityGroup.

Restriction The GROUPS option is not supported for SAS Business Data Network.

LOGINS="Select-filter"
specifies the search criteria used to match objects of type Login. The filter is the value of the Search= attribute of the Logins association specified in the query template.

PASSWORD="*password*"
is the password for the authenticated user ID on SAS Metadata Server.

Alias PW= or METAPASS=

PORT=*number*
is the TCP port that SAS Metadata Server listens to for requests. This port number was used to start the SAS Metadata Server.

Alias	METAPORT=
Requirement	Do not enclose the port number in quotation marks.

REPOSITORY=*repository-name*
is the name of the repository to use for all SAS Metadata Server requests. The repository name must be *foundation*.

Alias METAREPOSITORY=

SERVER="*host-name*"
is the host name or network IP address of the computer that hosts SAS Metadata Server. The value LOCALHOST can be used if the SAS session is connecting to SAS Metadata Server on the same computer.

Alias METASERVER= or HOST= or IPADDR=

USER="*authenticated-user-ID*"
is an authenticated user ID on SAS Metadata Server. SAS Metadata Server supports several authentication providers.

Alias METAUSER= or ID= or USERID=

Alias META=

ASCON=(*authentication-server-connection-arguments*)
server connection arguments establish communication with DataFlux Authentication Server.

FILTER=(*filter-strings*)
is the set of filter strings used to retrieve the working set of DataFlux Authentication Server objects. Filter strings are simple name and value pairs or value lists where values are ODBC pattern strings or constants. There is one filter per object type. If a filter is “*” or is omitted, then no subsetting is done when retrieving the objects and all objects of the associated type are retrieved.

ASCON uses the following filter strings:

DOMAINS=”*domains-filter*”
specifies a valid domain search filter. The following filter columns are supported :

caseSensitivity=*TRUE*|*T*|*YES*|*1*|*FALSE*|*F*|*NO*|*0*	specifies to select domains with principal identities matching the specified case sensitivity Boolean. The specified value is compared as case insensitive.
description=*domain-description*	specifies to select domains that pass the specified description pattern. The specified value is compared as case insensitive and should be quoted.

domain=*domain-name* | *(domain-name1, domain-name2 ...)*	specifies to select domains that meet the specified pattern. Values are compared as case insensitive and can be quoted.
partOfLogin=*TRUE|T|YES|1|FALSE|F|NO|0*	Specifies to select domains that match the specified part of login Boolean. The specified value is compared as case insensitive.
isUPN=*TRUE|T|YES|1|FALSE|F|NO|0*	specifies to select domains that match the specified is UPN Boolean. The specified value is compared as case insensitive.

USERS="*XMLSelect-search-filter*"
specifies a valid user search filter. The following filter columns are supported:

subject=*user-name* | *(user-name1, user-name2 ...)*	specifies to select users that match the specified names. Values are compared case insensitive and can be quoted.
identifier=*user-identifier* | *(user-identifier1, user-identifier2 ...)*	specifies to select users that match the unique user identifiers. Values are compared as case insensitive.
description=*user-description*	specifies to select users that pass the specified user description pattern. Values are compared as case insensitive and should be quoted.
enabled=*TRUE|T|YES|1|FALSE|F|NO|0*	specifies to TRUE if the user is enabled.

GROUPS="*XMLSelect-search-filter*"
specifies a valid group search filter. The following filter columns are supported:

group=*group-name* | *(group-name1, group-name2 ...)*	specifies the name of group. Values are compared as case insensitive and can be quoted.
identifier=*group-identifier* | *(group-identifier1, group-identifier2 ...)*	specifies to select groups that match the unique group identifiers. Values are compared as case insensitive.
description=*group-description*	specifies to select groups that pass the specified group description pattern. Values are compared as case insensitive and should be quoted.
ownerName=*group-owner-name*	specifies the name of group's user owner. The value is compared as case insensitive and can be quoted.

Restriction	The GROUPS option is not supported for SAS Business Data Network.

LOGINS="*Select-filter*"
specifies a valid user login search filter. The filter is the value of the Search= attribute of the Logins association specified in the query template. The select filter is a domain name or list of domain names, specified as follows:

```
domain-name | (domain-name1, domain-name2 …)
```

PASSWORD="*password*"
is the password for the authenticated user ID on DataFlux Authentication Server.

Alias	PW=

PORT=*number*
is the TCP port that DataFlux Authentication Server listens to for requests. This port number was used to start the DataFlux Authentication Server.

Requirement	Do not enclose the port number in quotation marks.

SERVER="*host-name*"
is the host name or network IP address of the computer that hosts DataFlux Authentication Server. The value LOCALHOST can be used if the SAS session is connecting to DataFlux Authentication Server on the same computer.

Alias	HOST= or IPADDR=

URI="*IOM-uri*"
is the complete IOM uri specification of DataFlux Authentication Server. A URI can be specified instead of the server and port.

USER="*authenticated-user-ID*"
is an authenticated user ID on DataFlux Authentication Server. DataFlux Authentication Server supports several authentication providers.

Alias	ID= or USERID=

OUT=*fileref*
specifies an XML file used by the EXPORT statement to store either the output result returned by SAS Metadata Server or the input that would have been submitted to SAS Metadata Server when exported using the NOFORWARD option. The value must be a fileref, not a pathname. Therefore, you must first submit a FILENAME statement to assign a fileref to a pathname. In most cases, the output XML string is identical to the input XML string, with the addition of the requested values within the XML elements.

If the OUT= argument is omitted and the VERBOSE option is specified, PROC ASEXPORT output is written to the SAS log.

Note: PROC ASEXPORT can generate large XML output. You might need to specify a large LRECL value or RECFM=N (streaming output) to avoid truncation of long output lines.

Note: Under z/OS, fixed-length records in the XML method call are not supported by PROC METADATA. Specify RECFM=V (or RECFM=N as suggested above) when you create the XML method call.

Alias	OUTFILE=
Restriction	SAS Business Data Network does not support z/OS connections.

HEADER= NONE | SIMPLE | FULL
specifies whether to include an XML header in the output FILE= and OUT= XML files. The declaration specifies the character-set encoding for web browsers and XML parsers to use when processing national language characters in the output XML file.

NONE
omits an encoding declaration. Web browsers and parsers might not handle national language characters appropriately.

SIMPLE
inserts an XML header that specifies the XML version number: This is the default value when the HEADER= argument is not specified.

FULL
inserts an XML declaration that represents the encoding that was specified when creating the output XML file. The source for the encoding varies, depending on the operating environment. In general, the encoding value is taken from the ENCODING= option specified in the FILENAME statement, or from the ENCODING= system option.

SAS attempts to use that encoding for the output XML file (and in the XML header). The encoding can vary. A single encoding can have multiple names or aliases that can appear in the XML header. These names might not be valid or recognized in all XML parsers. When generating the encoding attribute in the XML header, SAS attempts to use an alias that will be recognized by Internet Explorer. If the alias is not found, SAS attempts to use a name that will be recognized by Java XML parsers. If the name is not found, SAS uses an alias by which SAS will recognize the encoding. For information about encoding and transcoding, see *SAS National Language Support (NLS): Reference Guide*

VERBOSE
specifies to print input or output XML strings to the SAS log.

MATCH Statement

Matches DataFlux Authentication Server objects with an equivalent SAS Metadata Server objects and places the matches into the working set of export mappings. The MATCH statement name is followed by the type of object being matched for export. This object type can be DOMAIN, USER, or GROUP. The MATCH statement has two options, CRITERIA= and LOG.

Syntax

MATCH <*type*> / <*match-options*>;
<CRITERIA=*"match-criteria"*>
<LOG>

Optional Arguments

CRITERIA="*match-criteria*"
specifies match criteria used to associate DataFlux Authentication Server objects and SAS Metadata Server objects for insertion into the working set of export mappings. The criteria must be valid SQL WHERE syntax that does not use the WHERE keyword. It must reference only the SQL entities available for the type of objects being matched.

The following table lists those entities per object type:

Table 7.2 *Match Entities*

Type	SQL Entities Available in Match Criteria WHERE Clause
DOMAINS	All columns in AS.DOMAINS and META.DOMAINS
USERS	All columns in AS.USERS, META.USERS, X.AS_LOGINS_N, and X.MS_LOGINS_N
GROUPS	All columns in AS.GROUPS and META.GROUPS

The MATCH statement *always* joins objects using the default matching criteria per object type and then subsets based on the CRITERIA= WHERE clause specified. If omitted, a CRITERIA= value of “1=1” is implied so that no further subsetting occurs.

The following table documents the default match criteria per object type:

Table 7.3 *MATCH Criteria*

Type	Default CRITERIA= value
DOMAINS	(AS.DOMAINS.NAME_N=META.DOMAINS.NAME_N) and (META.DOMAINS.AS_ID is NULL)
USERS	(X.AS_LOGINS_N.USER_ID=AS.USERS.ID) and (X.MS_LOGINS_N.FQLN_N=X.AS_LOGINS_N.FQLN_N) and (META.USERS.ID=X.MS_LOGINS_N.OWNER_ID) and (META.USERS.AS_ID is NULL)
GROUPS	(AS.GROUPS.NAME_N=META.GROUPS.NAME_N) and (META.GROUPS.AS_ID is NULL)

LOG

specifies to print match results in the SAS log.

MATCH SINGLETON Statement

Matches a single DataFlux Authentication Server object with an equivalent SAS Metadata Server object and places the match into the working set of export mappings. The MATCH SINGLETON statement name is followed by the type of object being matched for eventual export. The object type can be DOMAIN, USER, or GROUP. The MATCH SINGLETON statement has two options, CRITERIA and LOG.

Syntax

MATCH SINGLETON <*type*> / <*match-singleton-options*>;

<CRITERIA="*match-criteria*">

<LOG>

Optional Arguments

CRITERIA="*match-criteria*"

specifies match criteria used to associate a single DataFlux Authentication Server object with a single SAS Metadata Server object for insertion into the working set of export mappings. The criteria must be valid SQL WHERE syntax that does not use the WHERE keyword. It must reference only the SQL entities available for the type of objects being matched.

The following table lists those entities per object type:

Table 7.4 *MATCH SINGLETON Entities*

Type	SQL Entities Available in Match Criteria WHERE Clause
DOMAINS	All columns in AS.DOMAINS and META.DOMAINS
USERS	All columns in AS.USERS, META.USERS, X.AS_LOGINS_N, and X.MS_LOGINS_N
GROUPS	All columns in AS.GROUPS and META.GROUPS

The MATCH SINGLETON statement *always* joins objects using the default matching criteria per object type and then subsets based on the user's CRITERIA= WHERE clause. If omitted, a CRITERIA= value of "1=1" is implied such that no further subsetting occurs. Specifying criteria that produces more than one match results in an error, and no additional mapping is queued for export. The following table documents the default match singleton criteria per object type:

The following table documents the default match singleton criteria per object type:

Table 7.5 *MATCH SINGLETON Criteria*

Type	Default CRITERIA= value
DOMAINS	*The domain is neither already exported nor queued for export in the current working set of export mappings.*
USERS	(X.AS_LOGINS_N.USER_ID=AS.USERS.ID) and (X.MS_LOGINS_N.OWNER_ID= META.USERS.ID) and *The user is neither already exported nor queued for export in the current working set of export mappings.*
GROUPS	*The group is neither already exported nor queued for export in the current working set of export mappings.*

LOG
specifies to print match results in the SAS log.

ADD Statement

Adds DataFlux Authentication Server objects that are unmatched in the working set of SAS Metadata Server objects to the working set of export mappings. The ADD statement name is followed by the type of object being added for export. The object type can be DOMAIN, USER, or GROUP. The ADD statement has two options, CRITERIA and LOG.

Syntax

ADD <*type*> / <*add-options*>;
<CRITERIA="*match-criteria*">
<LOG>

Optional Arguments

CRITERIA="*match-criteria*"
specifies criteria used to select DataFlux Authentication Server objects into the working set of export mappings. The criteria must be valid SQL WHERE syntax that does not use the WHERE keyword. It must reference only the SQL entities available for the type of objects being matched.

The following table lists those entities per object type:

Table 7.6 *ADD Entities*

Type	SQL Entities Available in Match Criteria WHERE Clause
DOMAINS	All columns in AS.DOMAINS
USERS	All columns in AS.USERS, X.AS_LOGINS_N
GROUPS	All columns in AS.GROUPS

The ADD statement *always* selects AS objects using the default criteria per object type and then subsets based on the CRITERIA= WHERE clause specified. If omitted, a CRITERIA= value of "1=1" is implied such that no further subsetting occurs.

The following table documents the default add criteria per object type:

Table 7.7 *ADD Criteria*

Type	Default CRITERIA= value
DOMAINS	The domain is neither already exported nor queued for export in the current working set of export mappings.

Type	Default CRITERIA= value
USERS	(X.AS_LOGINS_N.USER_ID=AS.USERS.ID) and *The user is neither already exported nor queued for export in the current working set of export mappings.*
GROUPS	*The group is neither already exported nor queued for export in the current working set of export mappings.*

LOG
specifies to print ADD statement results in the SAS log.

REMOVE Statement

Removes objects matching the specified criteria from the working set of export mappings. The REMOVE statement name is followed by the type of objects being removed from the working set of export mappings. The object type can be DOMAIN, USER, or GROUP. The REMOVE statement has two options, CRITERIA and LOG.

Syntax

REMOVE <*type*> / <*remove-options*>;
<CRITERIA="*match-criteria*">
<LOG>

Optional Arguments

CRITERIA="*match-criteria*"
specifies criteria used to select DataFlux Authentication Server objects into the working set of export mappings. The criteria must be valid SQL WHERE syntax that does not use the WHERE keyword. It must reference only the SQL entities available for the type of objects being matched:

```
remove domains / criteria="x.domain_map.as_name_n='EURNET'" log;
```

The following table lists those entities per object type:

Table 7.8 *REMOVE Criteria*

Type	SQL Entities Available in Match Criteria WHERE Clause
DOMAINS	All columns in X.DOMAIN_MAP
USERS	All columns in X.USER_MAP
GROUPS	All columns in X.GROUP_MAP

The MATCH statement always selects objects mapped for export (those accumulated via the prior MATCH, MATCH SINGLETON, and ADD statements) using the specified criteria. The default CRITERIA= value is always “1=1” such that all export mappings are cleared.

LOG
specifies to print REMOVE statement results in the SAS log.

LIST Statement

Lists the current working set of export mappings in the SAS log. The LIST statement name is optionally followed by the type of objects being listed. The object type can be DOMAIN, USER, or GROUP. The LIST statement has one option, VERBOSE.

Syntax

LIST <*type*> / <*list-options*>;
<VERBOSE>

Optional Argument

VERBOSE
verbose output.

EXPORT Statement

Exports the working set of export mappings and clears the mapping tables, which areX.DOMAIN_MAP, X.USER_MAP and X.GROUP_MAP. EXPORT has three options, NOFORWARD, VERBOSE, and NOVERBOSE.

Syntax

EXPORT <*export-options*>;
<NOFORWARD>
<VERBOSE>
<NOVERBOSE>

Optional Arguments

NOFORWARD
prevents forwarding of generated XML to the metadata server. When NOFORWARD is specified, the OUT= file will contain SAS Metadata Server input XML. Otherwise, it will contain output response XML.

VERBOSE
specifies to print generated input or output response XML to the SAS log. The VERBOSE option is ignored if the NOVERBOSE is also specified. The VERBOSE option is implied if the procedure’s OUT= option is omitted because the log becomes the destination for generated or response XML.

NOVERBOSE
specifies to not print generated input or output response XML to the SAS log. The NOVERBOSE option overrides the VERBOSE option of the procedure and EXPORT statements. The NOVERBOSE option is ignored if the procedure's OUT= option is omitted.

Details

The EXPORT statement exports all export mappings and clears the mapping tables, which are X.DOMAIN_MAP, X.USER_MAP and X.GROUP_MAP.

Each new exported object and existing matched object is mapped in metadata using the ExternalIdentities association to an ExternalIdentity object with the following attributes:

- For new objects, ImportType='AuthenticationServer.Import'
- For matched or "tagged" objects, ImportType='AuthenticationServer.Match'
- Context='AuthenticationServer.ID'
- Name='AS:Server/*server-name*', where the server name consists of the fixed 'AS:Server/' prefix followed by the PUBLIC group identifier of the source DataFlux Authentication Server.

The export process creates mappings between source DataFlux Authentication Server objects and target SAS Metadata Server objects. Multiple DataFlux Authentication Server domains can map to the same SAS Metadata Server AuthenticationDomain object. Other object types map 1:1 in the two stores. However, exports from multiple DataFlux Authentication Server instances can also produce n:1 mappings. The Name attribute of the ExternalIdentity objects used in the mappings uniquely identifies the source DataFlux Authentication Server.

The EXPORT statement writes SAS Metadata Server output into the file specified by the OUT option or the SAS log if the VERBOSE procedure statement option is specified and the OUT= option is omitted. If the NOFORWARD option is specified, then the statement unconditionally writes input XML into the file specified by the OUT= option or the SAS log if OUT= is omitted. If the OUT= option is specified, then the XML is also written to the SAS log if the EXPORT statement's NOVERBOSE option is omitted and either the procedure's VERBOSE option or the EXPORT statement's VERBOSE option is specified.

UNDO Statement

Undoes changes to the working set of export mappings. These changes result from the most recent MATCH, MATCH SINGLETON, ADD, or REMOVE statement that was not followed by a RUN or EXPORT statement.

Syntax

UNDO;

Example: Exporting from a DataFlux Authentication Server to a SAS Metadata Server

Features: PROC ASEXPORT statement
MATCH SINGLETON statement
MATCH statement
ADD statement
LIST statement
EXPORT statement

Details

This example demonstrates the following actions:

- specify metadata values
- create explicit singleton matches between these two domains
- auto-match domains by name
- add remaining unmatched domains
- perform explicit user matching
- auto-match users by FQLN
- add remaining unmatched users
- list everything for review
- create an input file (per noforward) for PROC METADATA that we can review

Assign a file reference. The FILENAME statement assigns a libref to an external SAS library that contains a permanent SAS catalog.

```
filename asx 'C:\TableServer\asexport.xml';
```

Specify metadata values.

```
proc ASEXPORT meta=
              (
                 user='username' password='password'
                 server='localhost'
                 port=port_number
                 repos='repositoryID'
                 filter=(DOMAINS "*"
                         USERS   "*"
                         LOGINS  "Login[Domain/AuthenticationDomain
[@OutboundOnly='0']]")
              )
              as=
              (
                 server='localhost'
                 user='username'
                 pass='password'
```

```
                 port=port_number
                 filter=(DOMAINS "domain=(domain_names)"
                         USERS   "enabled=TRUE subject=(ADMUSER,
Shared_Login_Manager, tsadm, 'USER%')"
                         LOGINS  "(login IDs for included domains)")
              )
              verbose
              tracefile='C:\TableServer\asexport.croc' traceloc=SQL
traceflags='319'
              retain
              out=asx
              ;
```

Create explicit singleton matches between these two domains.

```
   match singleton DOMAIN / criteria="as.domains.name_n='LOCAL' and
meta.domains.name_n='domain_name'" log;
   match singleton DOMAIN / criteria="as.domains.name_n='UNIX' and
meta.domains.name_n='domain_name'" log;
```

Auto-match domains by name.

```
   match DOMAINS / log;
```

Add remaining unmatched domains.

```
   add DOMAINS / log;
```

Perform explicit user matching. Attempt at least one user that has a matching Login. Nothing should match.

```
   match singleton USER / criteria="as.users.name_n='SHARED_LOGIN_MANAGER'
and meta.users.name_n='FEDERATION SERVER SHARED LOGIN MANAGER'" log;
   match singleton USER / criteria="as.users.name_n='USER1' and
meta.users.name_n='TSADM'" log;
   match singleton USER / criteria="as.users.name_n='TSADM' and
meta.users.name_n='TSADM'" log;
```

Auto-match users by FQLN.

```
   match USERS / log;
```

Add remaining unmatched users.

```
   add USERS / log;
```

List everything for review.

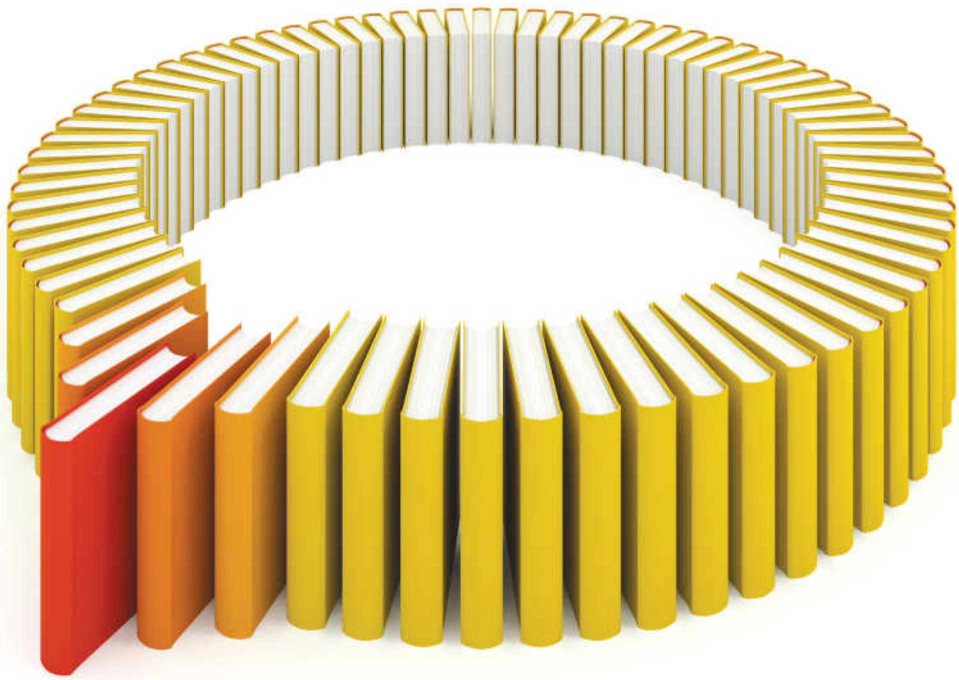
```
   list DOMAINS USERS;
```

Create an input file (per noforward) for proc METADATA that we can review.

```
   export / noforward noverbose;
```

End processing of PROC ASEXPORT.

```
quit;
```



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