

DataFlux® Web Studio 2.4: User's Guide



DATAFLUX
data management





DataFlux[®] Web Studio

User's Guide

Version 2.4

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Contact DataFlux

DataFlux Corporate Headquarters

Toll Free: (877) 846-3589
Tel: (919) 447-3000
Fax: (919) 447-3100
940 NW Cary Parkway, Suite 201
Cary, NC 27513
USA

DataFlux West

Tel: (818) 906-7638
Fax: (818) 907-6012
15300 Ventura Boulevard, Suite 523
Sherman Oaks, CA 91403
USA

Technical Support

Phone: 919-677-8008
Email: techsupport@sas.com
Web: <http://support.sas.com/techsup/contact/>

Documentation Support

Email: yourturn@sas.com

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What's New in DataFlux® Web Studio 2.3 and 2.4

The main enhancements for DataFlux Web Studio 2.4 include the following:

- DataFlux Search tools
- enhanced import and export of terms
- Associated Items
- enhanced Relationships Diagram

DataFlux Search Tools

The DataFlux Search tool enables you to search for Business Data Network terms in a web browser with a web-based search tool. The tool consists of a separate DataFlux Search web page that enables you to search for terms without having to first open and log in to DataFlux Web Studio. You can also add a bookmarklet for DataFlux Search to your supported browser and register DataFlux Search as a search provider with your browser. For more information, see the Using DataFlux Web Search topic.

Enhanced Import and Export of Terms

The term import and export processes in Web Studio use an identical XML-based format that supports UTF-8. You can import lists of terms into the Business Data Network. This feature enables you to add any number of terms to Business Data Network without having to add them individually. You can also export selected terms from Business Data Network. The exported terms can be imported into other Business Data Network installations.

Finally, 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 will let the user convert terms into attribute groups on existing entity definitions.

For more information, see the Importing and Exporting Terms topic.

Associated Items

You can associate items in relationship data with a selected term in the **Associated Items** tab in Business Data Network. You can establish this association without leaving Web Studio and working in another application. The items that you can

associate with terms include Reference Data Manager domains, tables, jobs, collections, columns, profiles, links, and others.

You can also click the **Relationships** button to view a relationship diagram for a selected term. The relationships diagram shows the relationships between other Business Data Network terms and items that you have associated with the term. This relationship data can be imported from the following sources:

- DataFlux Data Management Studio Release 2.4 or later. The data is exported when you run the `pjExportLineage` job. See the *Exporting Lineage Data to Web Studio* topic in the *Using Business Data Network* section in the *Data Management Studio Help*.
- SAS Management Console BI Lineage and SAS Data Integration Studio Release 4.6 or later. The data is exported when you run the **Export Lineage** wizard in Data Integration Studio. See the *Working with DataFlux Business Data Network* topic in the *Working with Data Management Platform* chapter of the *SAS Data Integration Studio User's Guide*.
- SAS Visual Data Builder
- Third-party applications that support the relationship modeling schema.

For more information, see the *Importing Relationship Data* and *Reviewing Relationships* topics.

Enhanced Relationships Diagram

You can generate a diagram that illustrates the relationships between a selected term and other terms in Business Data Network. It also shows the items that have been associated with the term. The diagram is controlled by a toolbar that enables you to perform the following functions:

- Generate a relationship diagram for a selected node in the diagram.
- Expand a selected node in the diagram (available for nodes with expansion icons).
- Collapse all of the nodes in the diagram.
- Monitor a selected term, business rule, monitor task node in the diagram (if the Monitor Viewer is installed).
- Find a selected node in the diagram in the Business Data Network.
- Hide a selected node in the diagram.
- Rescale the size of the diagram.
- Reset the zoom to the default diagram size.
- Filter the types of objects displayed in the diagram.

The relationship diagram can also be used to review the lineage information for objects such as tables and jobs in the data that you have imported into Web Studio from other applications. For information, see the *Examine Imported Data* topic. For

more general information about relationship diagrams, see the Generate and Review a Relationship Diagram topic.

The main enhancements for DataFlux Web Studio 2.3 include the following:

- advanced Reference Data Manager search
- date and number localization
- new installation model

Advanced Reference Data Manager Search

Search results return extra output fields. You can then filter the search using several parameters and jump directly to a reference data object from the search results without manually navigating to the information.

Date and Number Localization

Appropriate date and numeric formats are used based on the locale the client is running.

New Installation Model

The installation process is simplified for installing and configuring an instance of Web Studio.

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Introduction

This section provides basic information about the DataFlux® Web Studio product and documentation. Web Studio supports all features available in the corresponding Web Studio release.

[Accessibility Features](#)

[Audience for This Document](#)

[Conventions Used in This Document](#)

[DataFlux Reference Publications](#)

Accessibility Features

DataFlux Web Studio (Web Studio) includes features that improve usability of the product for users with disabilities. These features are related to accessibility standards for electronic information technology that were adopted by the United States (U.S.) Government under Section 508 of the U.S. Rehabilitation Act of 1973, as amended.

If you have questions or concerns about the accessibility of DataFlux products, send an e-mail to techsupport@dataflux.com.

Audience for this Guide

This guide is intended for those who use Monitor Viewer, Business Data Network, or Reference Data Manager.

Conventions Used In This Document

This document uses several conventions for special terms and actions.

Typographical Conventions

The following typographical conventions may be used in this document:

Bold	Text in bold signifies a button or action
<i>italic</i>	Identifies document and topic titles
monospace	Typeface used to indicate examples of code

Syntax Conventions

The following syntax conventions may be used in this document:

[] Brackets [] are used to indicate variable text, such as version numbers

The pound # sign at the beginning of example code indicates a comment that is not part of the code

DataFlux Reference Publications

This document might reference other DataFlux® publications including:

- *DataFlux Web Studio Installation and Configuration Guide*
- *DataFlux Data Management Studio User's Guide*
- *DataFlux Data Management Studio Installation and Configuration Guide*
- *DataFlux Authentication Server Administrator's Guide*
- *DataFlux Authentication Server User's Guide*
- *DataFlux Data Management Server Administrator's Guide*
- *DataFlux Data Management Server User's Guide*
- *DataFlux Expression Language Reference Guide for Data Management Studio*
- *DataFlux Federation Server Administrator's Guide*
- *DataFlux Federation Server User's Guide*
- *DataFlux Migration Guide*
- DataFlux Quality Knowledge Base Online Help

Web Studio and the Data Management Platform

[Overview of the Data Management Platform](#)

Data Management Studio can be used by itself or in combination with one or more of the following servers:

- The DataFlux Data Management Server provides a scalable server environment for large Data Management Studio jobs. Jobs can be uploaded from Data Management Studio to a Data Management Server, where the jobs are executed.
- The DataFlux Federation Server is a scalable data server that uses threaded, multi-user, standards-based technology to integrate heterogeneous data sources. The server acts as a hub that provides clients with data by accessing, managing, and sharing SAS® data as well as several third-party relational databases.
- The DataFlux Authentication Server provides a central point of authentication management across multiple domains and multiple operating environments. Specific features include:

Centralized Authentication - the server accesses native authentication mechanisms, such as Windows Active Directory or LDAP, to verify the identity of the users of Data Management Platform client applications.

Centralized Management of Users and Groups - the server manages user and group definitions that form the basis for authorization on Data Management Platform servers.

Single or Reduced Sign-On - the server enables authenticated users to connect across domains to Data Management Platform servers and databases without submitting additional credentials.

If you have a Federation Server, then you must also have an Authentication Server. If the Data Management Server is configured for authorization, then you must have an Authentication Server. The Authentication Server is also required for Web Studio.

DataFlux Web Studio

DataFlux Web Studio is an optional, web-based application. It has three separately-licensed modules that enable you to perform data management tasks from a web browser. DataFlux Web Studio Server runs the jobs that support all of the Web Studio modules. Each of the following modules has its own tab in Data Flux Web Studio:

DataFlux Business Data Network provides a web interface for creating and managing a list of business data terms. Once you create the list, you can link the terms to data sources, business rules, jobs, and other items. For more information about using this module, see [Business Data Network](#).

DataFlux Reference Data Manager provides a web interface for creating and managing reference data, such as a list of valid values for a Gender field, or a list of valid zip codes with their associated cities and states. The values are organized into domains. Reference Data Manager domains can be used in Data Management Studio data jobs and in business rules. For more information about using this module, see [Reference Data Manager](#).

DataFlux Monitor Viewer and Dashboard Viewer provide web interfaces for viewing exceptions to monitored business rules. The exceptions are generated by data monitoring jobs that are created in Data Management Studio and are deployed to a Data Management

Server. These web interfaces are similar to the Monitor Viewer and Dashboard tab in Data Management Studio, but the web interfaces are available to those who do not have access to Data Management Studio. For more information about using these modules, see [Dashboard Viewer](#) and Monitor Viewer.

 **Note:** In order to use the Web Studio modules that are described above, Web Studio and the separate modules must be licensed on the relevant server.

For information about installing DataFlux Web Studio, see the *DataFlux Web Studio Installation and Configuration Guide*.

Business Data Network

[Overview of Business Data Network](#)

[Prerequisites for Business Data Network](#)

[Main Window for Business Data Network](#)

[View or Edit Term Window](#)

[Creating and Defining Terms](#)

[Reviewing and Maintaining Terms](#)

[Importing Relationship Data and Reviewing Relationships](#)

[Using Web Search](#)

[Importing and Exporting Terms](#)

[Usage Notes for Business Data Network](#)

Overview of Business Data Network

Business Data Term Lists and Business Data Network

A business data term list is an authoritative vocabulary that promotes a common understanding between stakeholders in an organization. Business Data Network is a separately licensed DataFlux Web Studio module that enables you to manage a business data term list. 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 Data Management Studio jobs, services, and business rules)

By linking terms to business rules and data monitoring processes, Business Data Network provides an important starting point for data governance efforts. 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 and/or control the data in Business Data Network.

Two Interfaces for Business Data Network

Business Data Network has both a desktop interface (in Data Management Studio) and a web browser interface (in Web Studio). In general, the Data Management Studio interface is used to set up a glossary. The following tasks can be performed in Data Management Studio only:

- Managing deleted terms
- Maintaining roles, users, and term attributes
- Using the Data and Quality tabs to associate terms with objects, such as jobs, profiles, rules, and tasks .

For more information about the Business Data Network interface to Data Management Studio, see the *DataFlux Data Management Studio User's Guide*.

The Web Studio interface is typically used to support a collaborative effort to add and update terms in a glossary. The Web Studio interface can also be used to link Reference Data Manager domain items and objects such as jobs, profiles, rules, and tasks to a term with the tools on the **Associated Items** tab.

Prerequisites for Business Data Network

The Business Data Network module must be installed and configured as described in the "Installing Web Studio" chapter in the *DataFlux Web Studio Installation and Configuration Guide*.

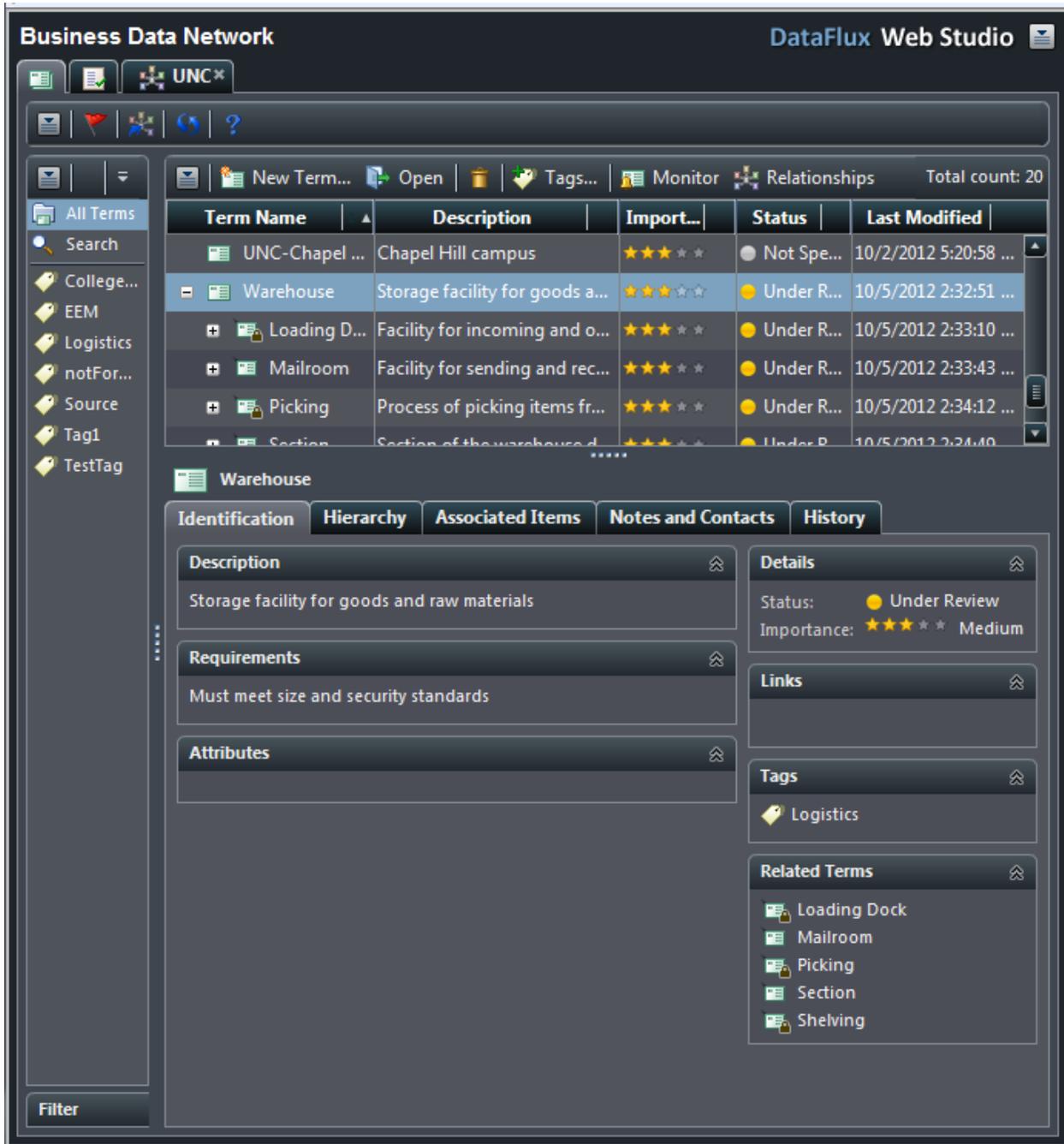
In order to add or update terms in Business Data Network:

- You must be registered with the Authentication Server that is associated with the Web Studio Server for Business Data Network. This task is performed by the Authentication Server administrator, as described in the *DataFlux Web Studio Installation and Configuration Guide*.
- You (or a group of which you are a member) must have permission to access Business Data Network features. This permission is granted by a member of the group that controls access to Web Studio, as described in the *DataFlux Web Studio Installation and Configuration Guide*.
- You must be listed in the **Users** panel of the **Business Data Administration** window in Data Management Studio. This task is performed by a member of the Business Data Administrators group, as described in the *DataFlux Web Studio Installation and Configuration Guide*. If you are not listed in the **Users** panel, you will not have permission to edit terms in Business Data Network.

Main Window for Business Data Network

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

The following display shows a sample Business Data Network window:



The toolbar above the navigation tree contains an **Action** button and tool buttons that you can use to perform the following functions:

- Be notified of new terms or changes to existing terms that specify you as a contact
- Import relationship information for a selected term from an external source
- Refresh the Business Data Network window
- Display Help for Business Data Network

The navigation tree contains the following elements:

All Terms - Displays a list of the terms entered into Business Data Network. The **Action** button and the toolbar above the list enable you to perform the following functions that you can use to manage your terms:

- Create a new term
- Open a selected term
- Select a parent for one or more selected terms (or remove it from a parent to child relationship)
- Send a message to all of the contacts attached to the selected term
- Rename a selected term
- Duplicate a selected term
- Delete one or more selected terms
- 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
- Display a diagram that shows show how any item in the lineage database is related to the other terms, tags, contacts, links and other external items that you have imported into Web Studio from other applications
- Add one or more tags to one or more selected terms
- Open a selected term in the Monitor Viewer (available only for terms associated with tasks or rules)
- Import terms from a file. For information, see [Import Terms](#).
- Export one or more selected terms to a file. For information, see [Export Terms](#).
- 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](#) for descriptions of the tabs.

Tags - 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.

Search - Provides a field to search for terms entered into Business Data Network. 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.

Filter - Displays a set of tools that you can use to filter the list of terms. You can filter by term name, importance, status, periods of last modification, and contacts.

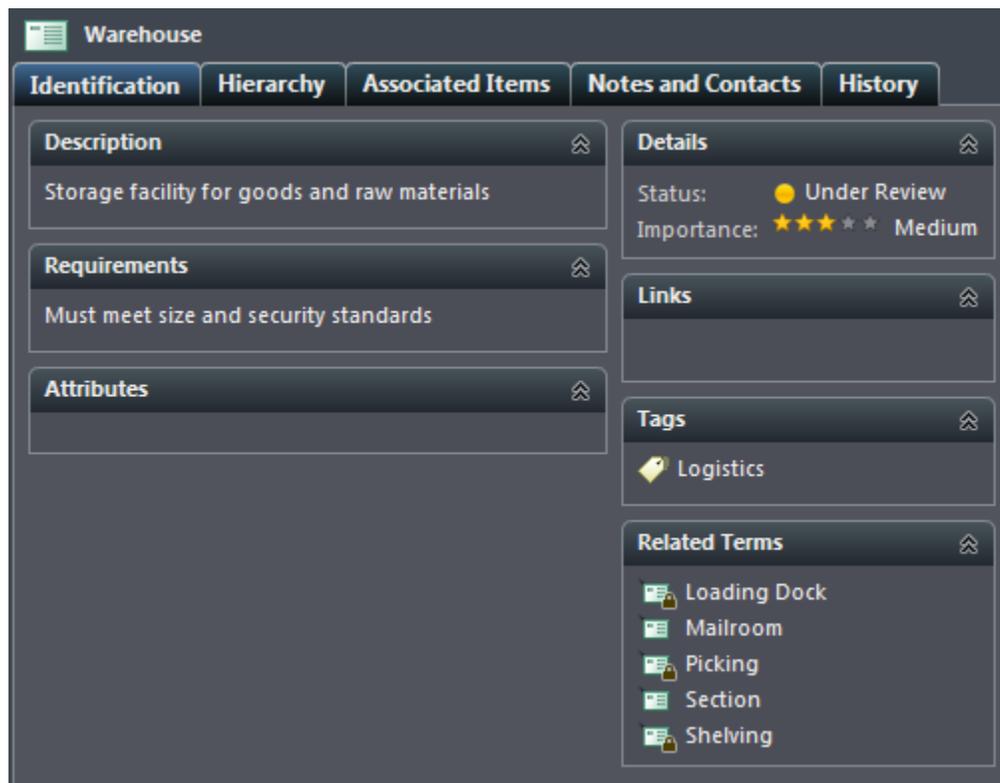
View or Edit Term Window

You can use this window to review or edit a term that you selected from the term table in the main **Business Data Network** window. The window opens in **View** mode 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** mode. You can also launch the **Edit** mode 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** mode:



The following tabs are available from this window:

- [Identification](#)
- [Hierarchy](#)
- [Associated Items](#)
- [Notes and Contacts](#)

- [History](#)

Identification

The **Identification** tab contains fields that you can use to define the selected term and connect it to attributes, links, tags, and related terms. In **Edit** mode, the tab contains the following elements:

- **Description** - Enables you to enter a text description of the term. For example, the description of the term *Warehouse* could be entered as *Physical warehouse facility*.
- **Requirements** - Enables you to enter detailed requirements related to the term. For example, the requirements for *Warehouse* could be entered as *Must contain sections, rows, and shelves and support receiving, picking, and shipping*.
- **Attributes** - Enables you to create attributes that you associate with the term. You can specify a label, instructions, and a value for each attribute. (For example, you could create receiving and shipping attributes.) You can specify whether an attribute is required. Finally, you can edit, rearrange, and delete existing attributes.
- **Importance** - Enables you to set an importance indicator that helps you prioritize your terms.
- **Status** - Enables you to set a process status indicator for the term. The default status indicators include the following: Production, Editing, On Hold, Under Review, and Not Specified. You can change, add, and remove these status indicators in the Business Data Administration options in Data Management Studio.
- **Links** - Enables you to 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.
- **Tags** - Enables you add a tag to the term that clarifies the content of the term and its relationship to other terms. For example, you could add *Logistics* and *Facilities* tags to the term *Warehouse*.
- **Related Terms** - Enables you to link the selected term to related terms. For example, *Shipping*, *Receiving*, and *Picking* could be entered as related terms to *Warehouse*.

In **View** mode, the **Details** element displays the current Importance and Status values.

Hierarchy

The **Hierarchy** tab is available only in the **View** mode. It displays the position of the selected term in the hierarchy of all of the terms. The term is shown in bolded text. Note that you can change the parent of the selected term.

Associated Items

The **Associated Items** tab in either **View** or **Edit** mode enables you to display the items that you have associated with the selected term. In **Edit** mode, 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 you can associate are shown in the following list:

- reference data domains
- collections
- data jobs
- fields
- process jobs
- profiles
- 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 Relationships dialog box that you use to search for associations. These associations connect the terms in the Business Data Network to related items in Data Management Studio. For more information, see [Importing Relationship Data and Reviewing Relationships](#).

Notes and Contacts

The **Notes and Contacts** tab in either **View** or **Edit** mode 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 attach text notes to the term in both **View** and **Edit** modes, as well. You can also edit or delete an existing note.

History

The **History** tab is displayed only in **View** mode. It 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.

Creating and Defining Terms

If you are registered on the Web Studio Server, then you can create and define terms in the **View or Edit** window. If you are not registered on the Web Studio Server, then you can read terms only in the **View or Edit** window. For more information about the permissions that are required for Business Data Network, see the [Security section](#) in Frequently Asked Questions in this Guide.

When you create a term, you specify a name and a position in the hierarchy and the term appears in the All Terms list. Then, you can open the term in **View** mode, enter **Edit** mode, and define it in its property tabs. Perform the following tasks:

- [Create a New Term](#)
- [Define a Term](#)

Create a New Term

Perform the following steps to create a new term:

1. Review the list of existing terms to determine where the new term will reside in the hierarchy.
2. If the hierarchy contains a parent term for the new term, select that parent term. The parent box in the create term dialog box will be pre-populated with the name of the selected term; you can quickly add child terms to the selected term by checking the **Add as child to** check box. (Note that you can also select a tag in the pane on the left side of the window to associate the new term with the tag.)
3. Click one of the **Action** buttons and click **New Term** in the pop-up menu. If you need to add a term that does not have a parent term in the current list, click **New Term** in the toolbar.
4. Specify a name for the term, such as *Section*.
5. If appropriate, select **Add as child to** and select a parent term. For example, you can add the *Section* term a child under the *Warehouse* term.
6. Click **OK** to save the new term. The new term is opened for editing.

Define a Term

Newly created terms are already in **Edit** mode. You can define the term by working through its property tabs. You need to perform the following tasks:

- [Define Term Parameters](#)
- [Associate the Term with Attributes](#)
- [Add Notes and Contacts to the Term](#)

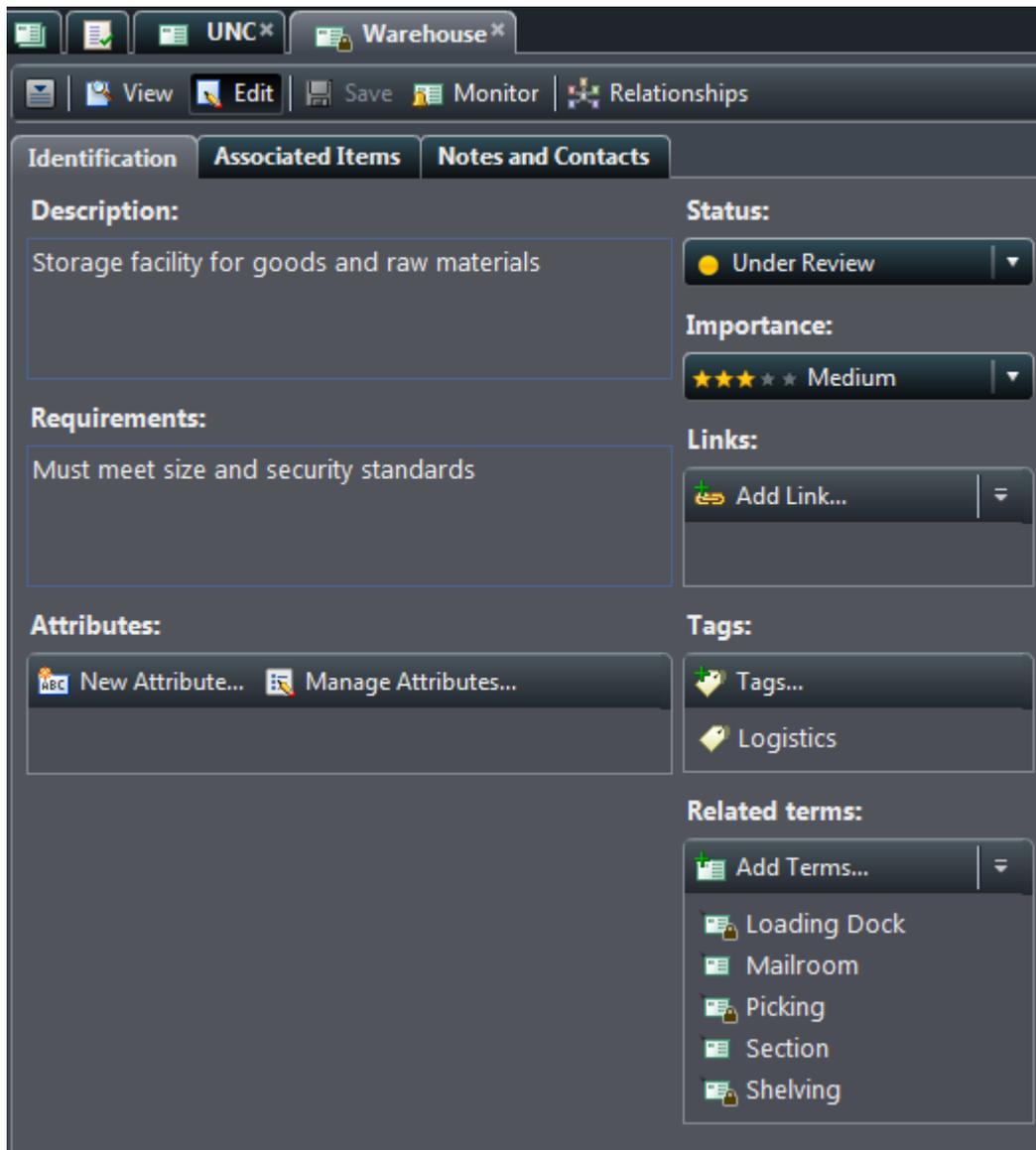
Note that you can edit an existing term by selecting it, clicking the **Actions** button and clicking the **Edit** item in the pop-up menu. The term will be opened in the **Edit** mode.

Define Term Parameters

Click the **Identification** tab to define the parameters for the term. Perform the following steps:

1. Enter a description for the term, such as *Section of the warehouse designated for a specific product or type of product*.
2. If appropriate, enter any requirements for the term, such as *Must be secure and accessible*.
3. Enter parameters for attributes, if present.
4. Specify a level of importance for the term.
5. Specify a status designation, such as *Under Review*.
6. If appropriate, add links to internal or external sources such as websites.
7. If appropriate, add tags or link to existing tags, such as *Logistics*.
8. If appropriate, add related terms from Business Data Network, such as *Picking* and *Shelving*. Note that you can select more than one term at a time.

9. The following display shows the completed **Identification** tab for *Warehouse*:



10. Click **Save** to save the contents of the tab.

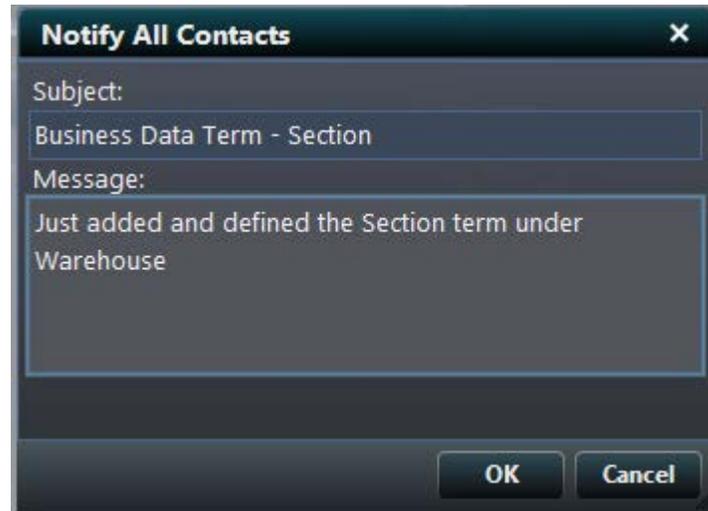
Note that you can also click the **Associated Items** tab to view or edit the items that you have associated with a selected term. For information, see [Associating Items with Terms](#).

Associate the Term with Attributes

Click add **New Attribute** in the **Attributes** section and enter a name for the attribute in the **Labels** field. You can also enter instructions and values for attributes and mark an attribute as required. Finally, you can click **Manage Attributes** to perform maintenance functions such as editing, re-ordering, and deleting attributes.

Add Notes and Contacts to the Term

Click the **Notes and Contacts** tab to add notes and contacts to the term. Note that you can click the **Action** button for contacts to manage a term's contacts and send a message to all of the contacts in the contacts list. The following display shows a contacts notification message:



This notification can be sent only to contacts defined with an e-mail address.

Note that the **Hierarchy** and **History** tabs are not used to define terms and are displayed only when they already have content populated.

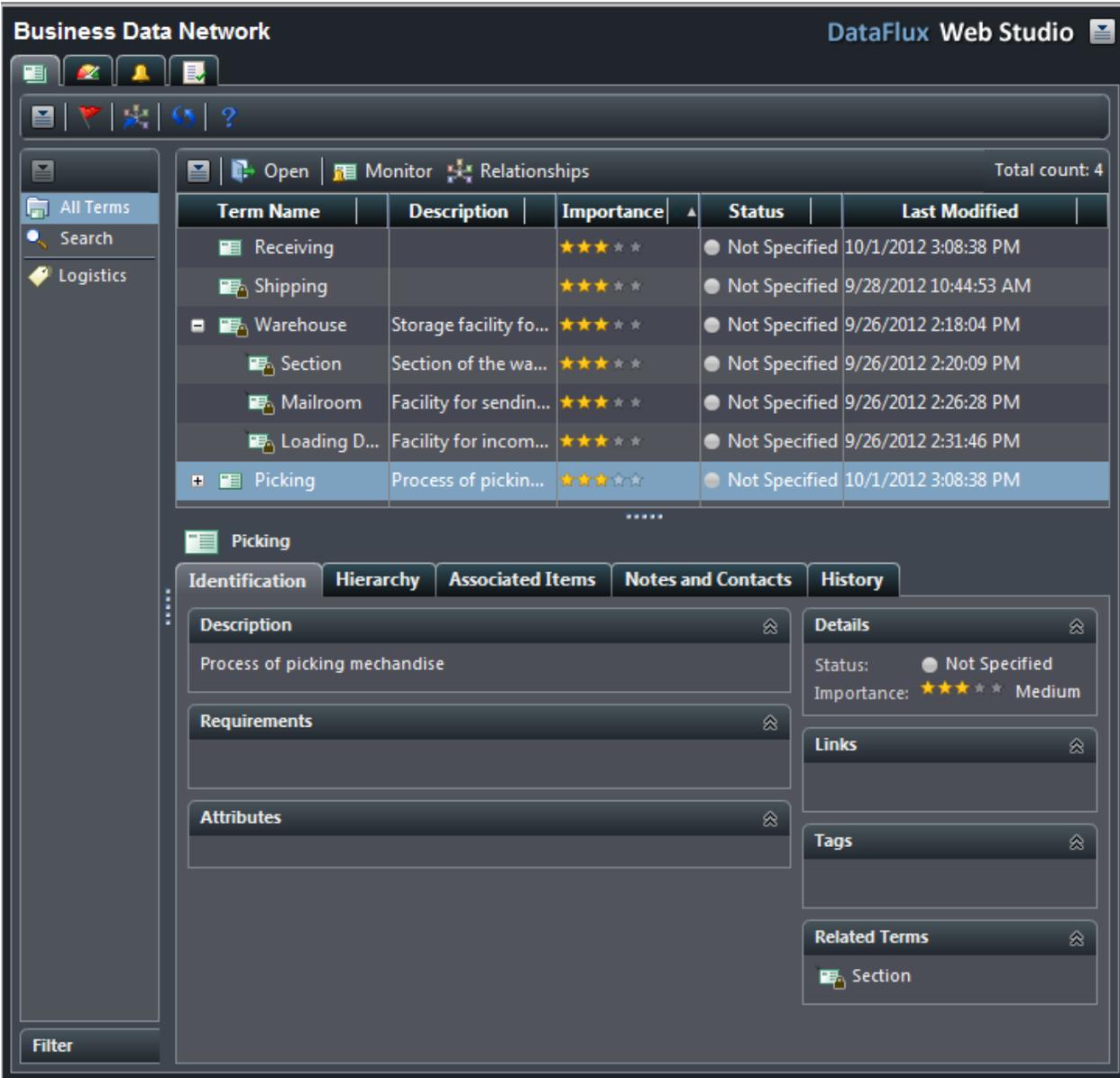
Reviewing and Maintaining Terms

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

- [Review Terms](#)
- [Maintain Terms](#)

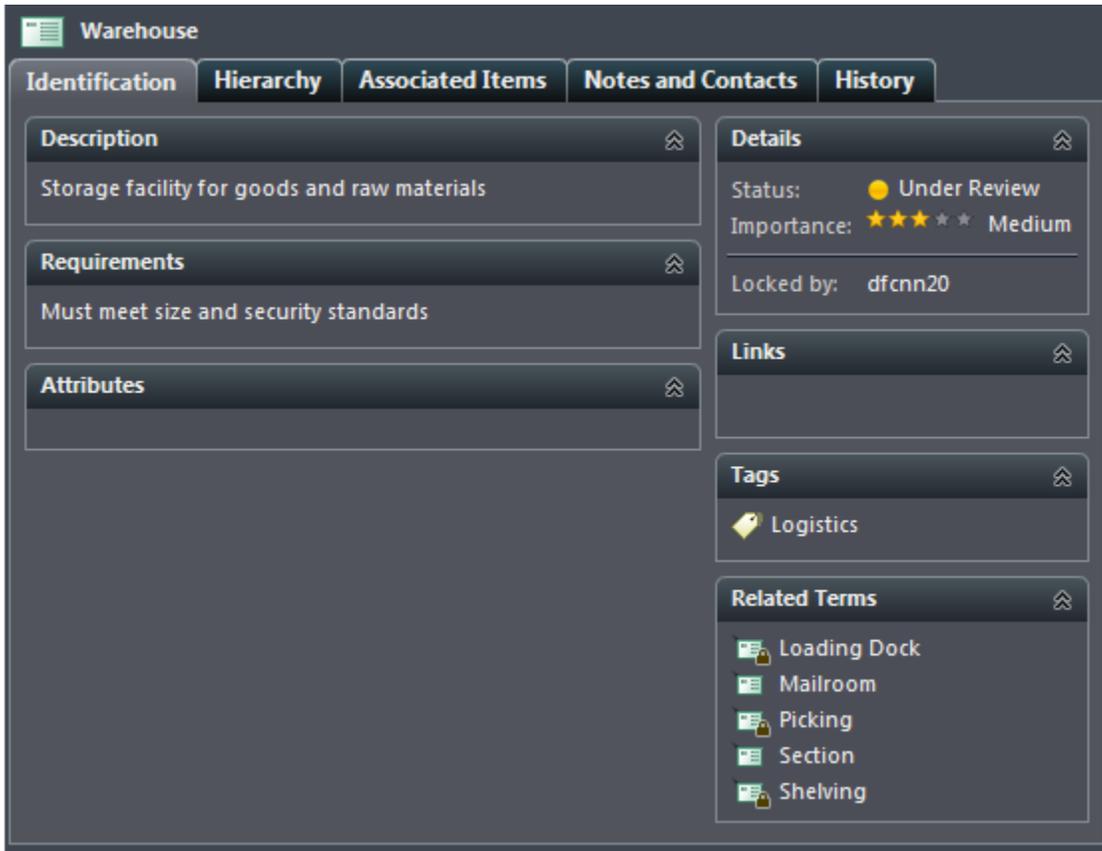
Review Terms

You can quickly review your terms in the list of terms at the top of the screen, as shown in the following display:



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 also click a tag in the pane to constrain the list to items associated with the tag.

Finally, 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* is shown in the following display:



For information about the content of the tabs, see the Business Data Network main window Help. Note that 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 quality items to a term in version 2, you could select version 1. Then you could click **Restore** to return to the version of the term without the added quality items.

Maintain Terms

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

- [Create a Tag and Add It to Terms](#)
- [Change the Parent of a Term](#)
- [Save a PDF Report for a Term](#)

- [Perform General Term Maintenance](#)

Create a Tag and Add It to Terms

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

1. Click **Tags** in the toolbar.
2. Enter the name of the tag in the **Name** field.
3. Click **OK** to create the new tag.
4. The new tag is added to the tags in the left pane of the Business Data Network main window.

You can also select a tag and click the **Action** button in the pane on the left of the 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

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 drop them onto the desired tag in the left pane of the riser. For example, you can select the *Warehouse* term and its child terms and drop them onto the *Facilities* 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. Perform the following steps:

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 dialog box. Note that 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. Note that 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 *Shipping* as the new parent for *Mailroom*. Then, click **OK** to save the change. The term *Mailroom* has moved from under *Warehouse* to under *Shipping*.

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. The Format Report dialog box 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. The output is shown in the following display:

Term: Warehouse
10/9/2012 10:58:13 AM

Data	Jobs	Quality	Reference Data Domains	Other
0	0	0	0	0

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: Loading Dock, Mailroom, Section, Picking, Shelving

Hierarchy

Parent term:
 Sibling term:
 Child term: Loading Dock, Mailroom, Section, Picking

History

Version	Modified	User	Details
1	10/5/2012 9:54:41 AM	dfcnn20	Imported from file
2	10/5/2012 9:55:15 AM	dfcnn20	Imported from file: Set Attributes
3	10/5/2012 2:32:51 PM	dfcnn20	Modified: status

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 Business Data Network for deletion. The deletion must be completed by a data steward in Data Management Studio.

The remaining **Action** button options have been covered in the appropriate sections of this chapter.

Importing Relationship Data and Reviewing Relationships

You can import relationship data into Web Studio. Then, you can click the **Associated Items** tab in Business Data Network to associate items in this relationship data with a selected Business Data Network term. You can also click the **Relationships** button to view a relationship diagram for a selected term. The relationships diagram shows the relationships between other Business Data Network terms and items that you have associated with the term.

Perform the following tasks to import relationship data, associate items with terms, and review relationships for terms in the Business Data Network term list:

- [Import Relationship Data](#)
- [Examine Imported Data](#)
- [Add Reference Data](#)
- [Add Other Items](#)
- [Edit Associated Items](#)
- [View Associated Items](#)
- [Generate and Review a Relationship Diagram](#)

Import Relationship Data

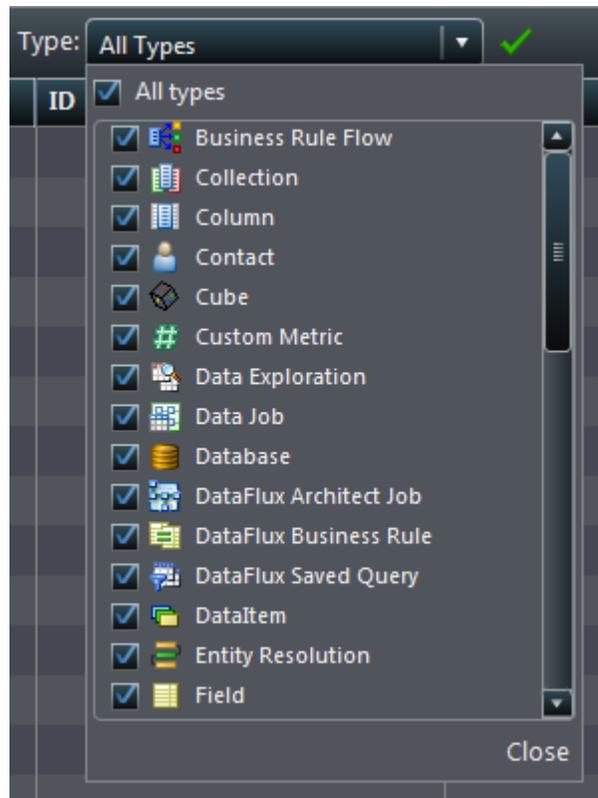
You can import relationships into the Business Data Network module of Web Studio from the following sources:

- DataFlux Data Management Studio version 2.4 or later. The data is exported when you run the pjExportLineage job. See the Exporting Lineage Data to Web Studio topic in the Using Business Data Network section in the Data Management Studio Help.
- SAS Management Console BI Lineage and SAS Data Integration Studio version 4.6 or later. The data is exported when you run the **Export Lineage** wizard in Data Integration Studio. See the Working with DataFlux Business Data Network topic in the Working with Data Management Platform chapter of the *SAS Data Integration Studio User's Guide*.
- SAS Visual Data Builder
- Third-party applications that support the Relationship Modeling schema.

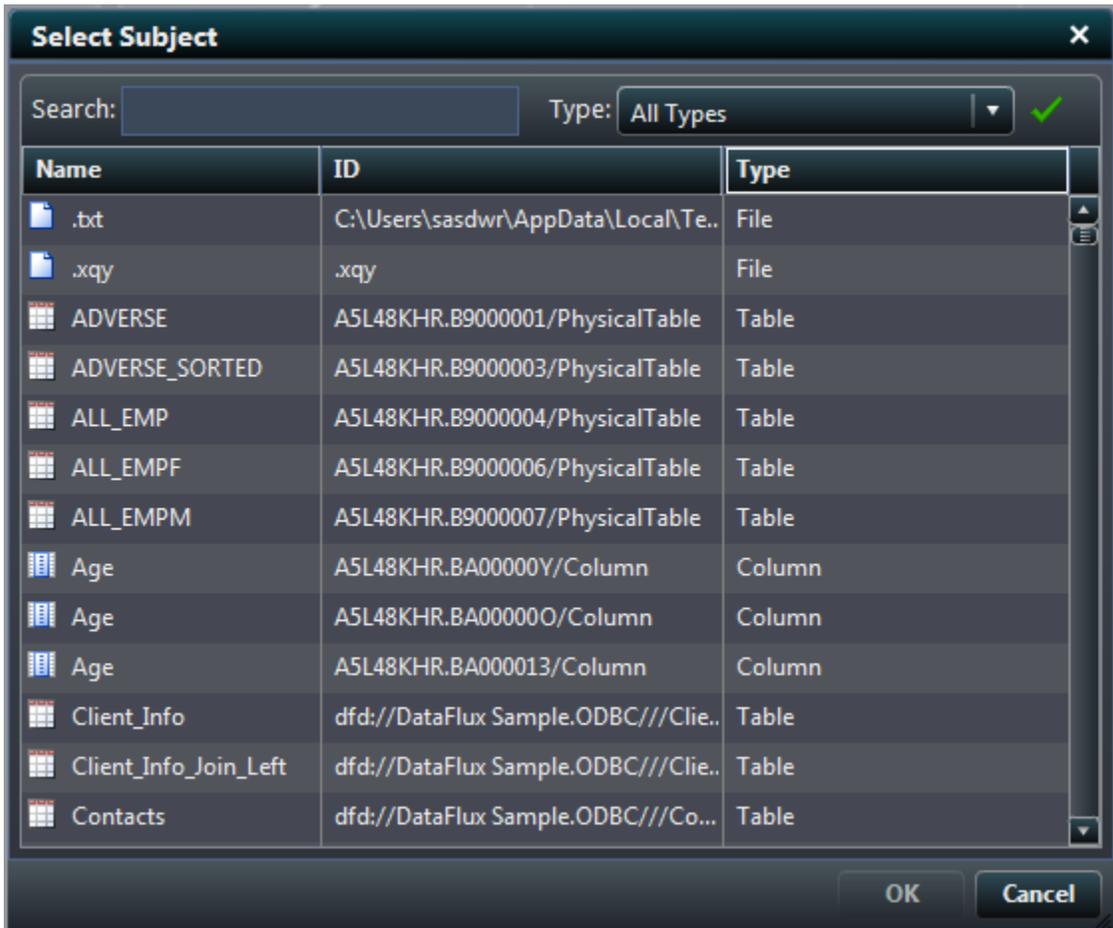
You can set up the Data Management Studio job and the SAS Data Integration Studio wizard to automatically export relationship data directly into Web Studio. You can also click the **Action** button on the main Business Data Network page. Then, you can select the **Import Relationships** item to manually select an .xml file that you have exported from a third-party application. The data from all of these sources is added to a lineage database that can be accessed by Business Data Network. The data must conform to UTF-8.

Examine Imported Data

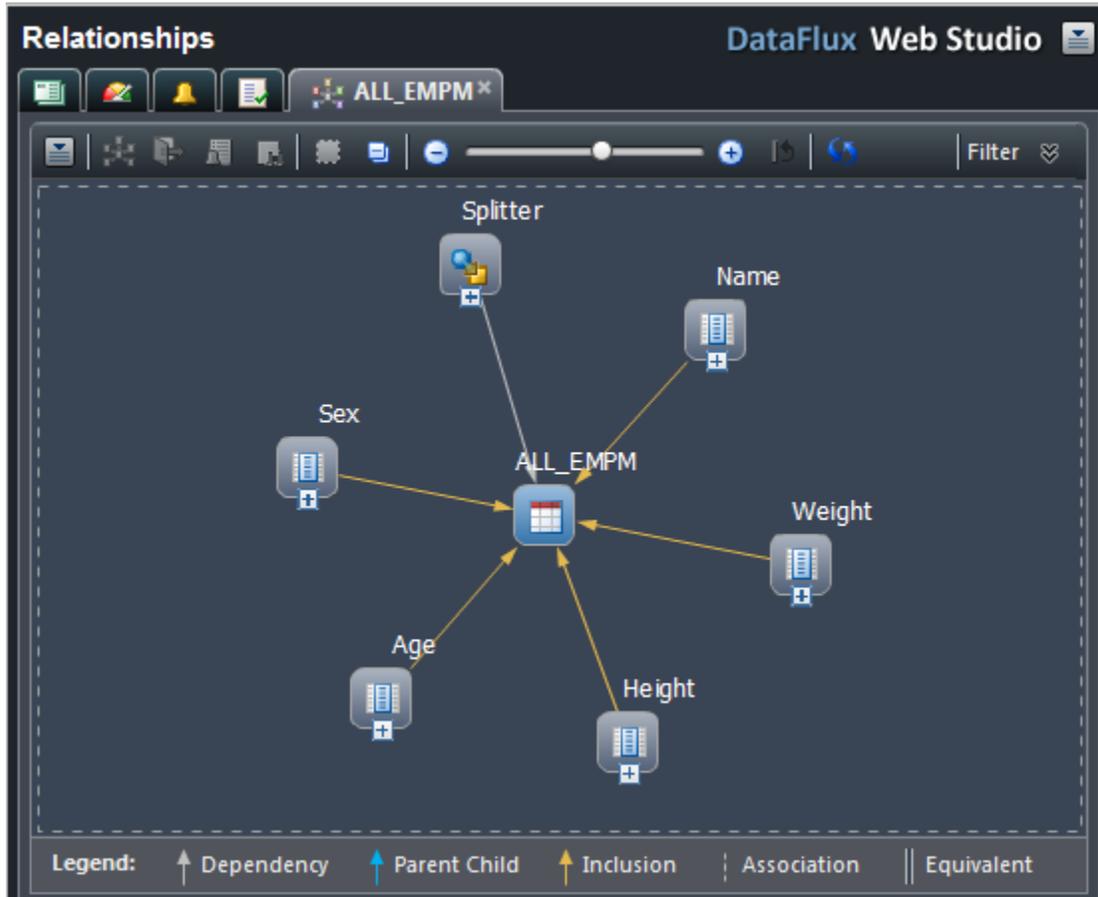
You can click the **Action** button on the main Business Data Network page and select the **Relationships** item to search for an item in the lineage database. Then you can display a relationship diagram for a selected term or item. Note that you can use the **Search** field to enter a search term to filter your search or leave the field blank to see all of the contents of the lineage database. Similarly, you can search for all types of objects or click the drop-down arrow in the **Type** field to select specific item types for your search, as shown in the following display:



When you have defined your search, click **Apply** to run it. The following display shows a search that does not specify a search term and accepts all object types in its results:



You can display the lineage information for any object in the results list by selecting it and clicking **OK**. The following display shows the lineage information for the ALL_EMPM table:

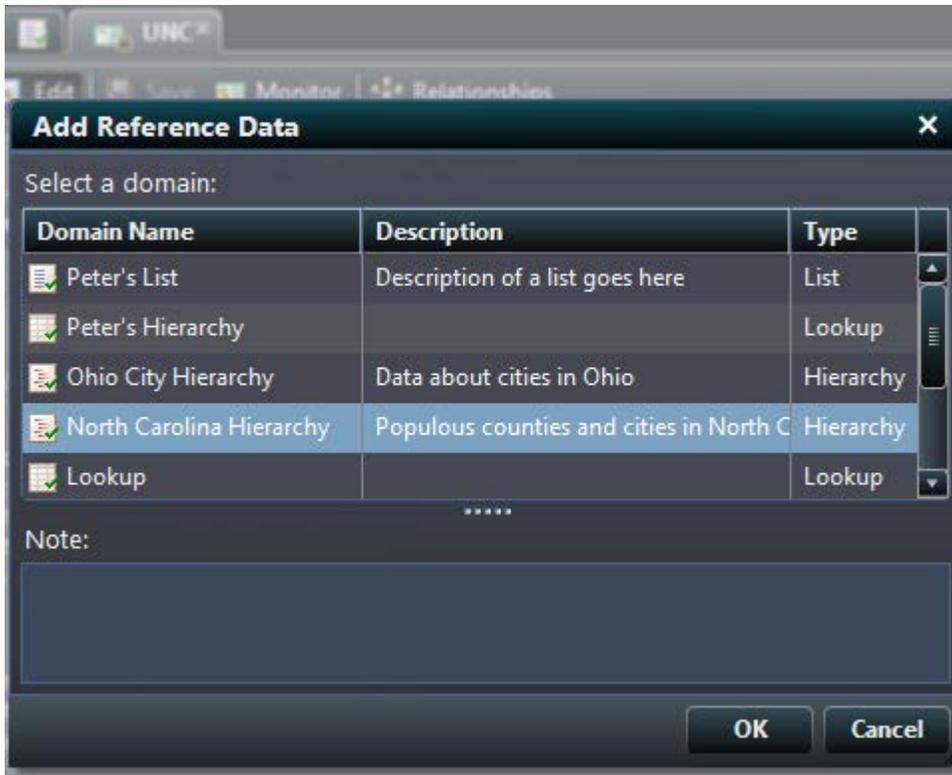


You can use the relationships diagram to examine the lineage information for an object before you associate it with a term in Business Data Network in the **Associated Items** tab. Because you can create relationship diagrams for any type of object, you can use this function as a generic lineage viewer for any of the objects in the data that you have imported into Web Studio from other applications. For more information about relationship diagrams, see [Generate and Review a Relationship Diagram](#).

Add Reference Data

You can associate reference data domains from the Reference Data Manager module of Web Studio if Reference Data Manager has been installed. Perform the following steps:

1. Select a term in the Business Data Network term list and click **Open**. For example, you could select the *UNC* term.
2. Click **Edit** and open the **Associated Items** tab.
3. Click **Add Reference Data** to access the Add Reference Data dialog box.
4. Select a domain from the domain list and click **OK** to return to the **Edit** mode for the selected term. Select *North Carolina Hierarchy* for this example, as shown in the following display:

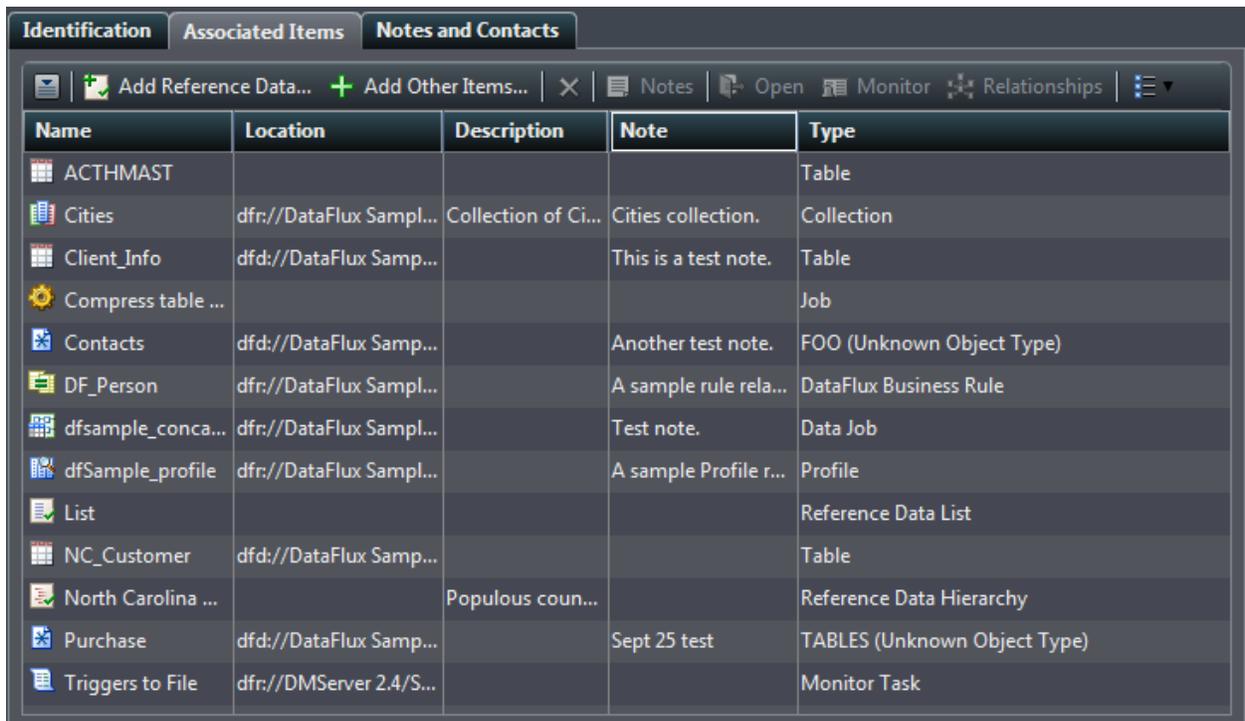


Edit Associated Items

You can use the **Edit** mode after you have associated items with a selected term to perform the following maintenance functions:

- Remove items from the associated items list
- Attach a note to an associated item
- Monitor an associated item if the Monitor Viewer has been installed and one or more associated tasks or rules are selected
- View the selected item in a relationship diagram
- View the tab in List View or Details View

The following display shows the **Associated Items** tab in **Edit** mode for a selected Business Data Network term:



Name	Location	Description	Note	Type
ACTHMAST				Table
Cities	dfr://DataFlux Sampl...	Collection of Ci...	Cities collection.	Collection
Client_Info	dfd://DataFlux Samp...		This is a test note.	Table
Compress table ...				Job
Contacts	dfd://DataFlux Samp...		Another test note.	FOO (Unknown Object Type)
DF_Person	dfr://DataFlux Sampl...		A sample rule rela...	DataFlux Business Rule
dfsampl_conca...	dfr://DataFlux Sampl...		Test note.	Data Job
dfSample_profile	dfr://DataFlux Sampl...		A sample Profile r...	Profile
List				Reference Data List
NC_Customer	dfd://DataFlux Samp...			Table
North Carolina ...		Populous coun...		Reference Data Hierarchy
Purchase	dfd://DataFlux Samp...		Sept 25 test	TABLES (Unknown Object Type)
Triggers to File	dfr://DMServer 2.4/S...			Monitor Task

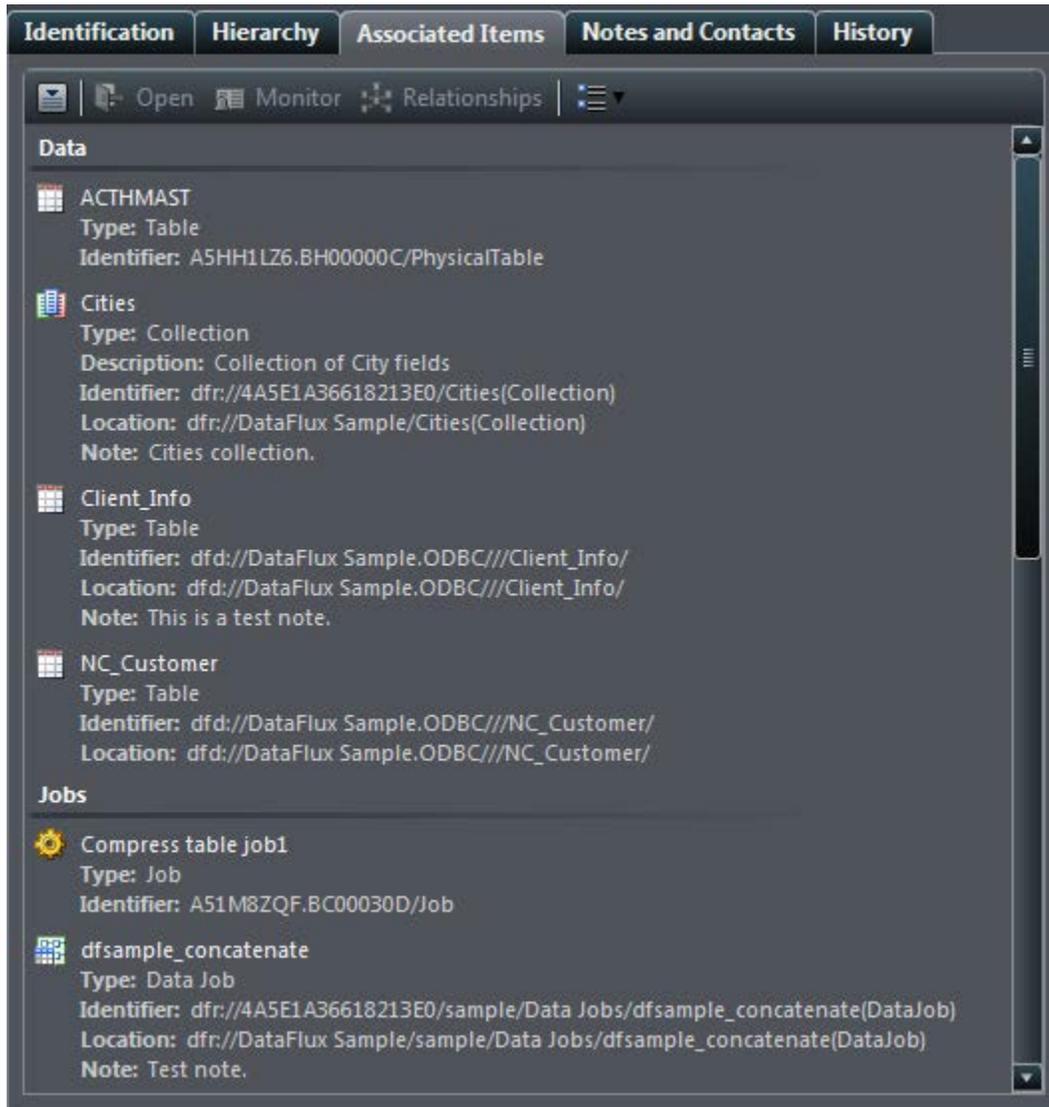
This display shows the **Associated Items** tab in List View.

View Associated Items

You can use the View mode of the **Associated Items** tab to perform the following functions:

- Review the list of associated items in either **List View** or **Details View**
- View the selected item in a relationship diagram

The following display shows the **Associated Items** tab in **View** mode for a selected Business Data Network term:

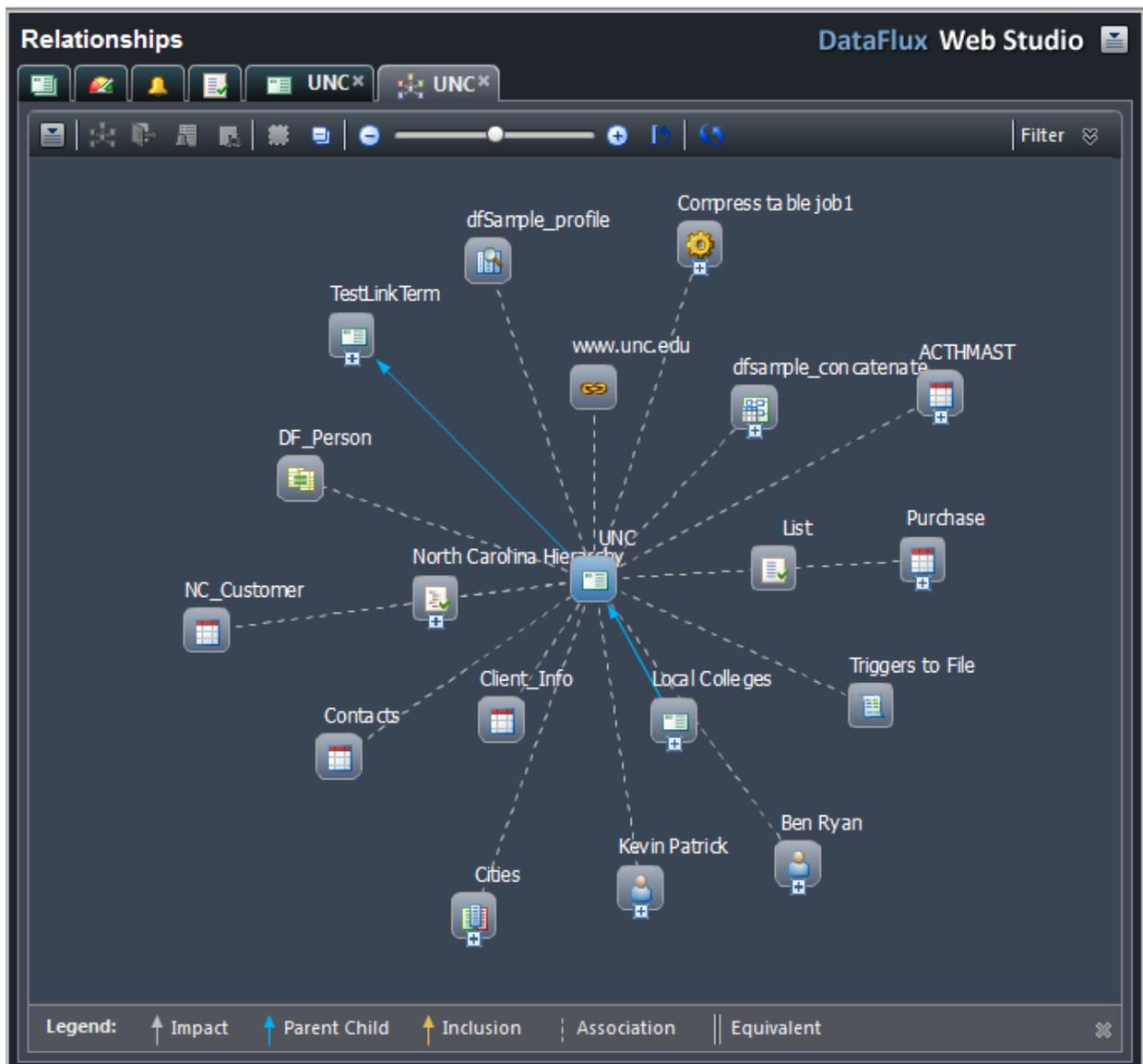


This display shows the **Details View** of the term and its associated items.

Generate and Review a Relationship Diagram

You can generate a diagram that illustrates the relationships between a selected term and other terms in Business Data Network. Select a term and click **Relationships** in the **Action** button pop-up menu above the terms list.

The following display shows the initial relationship diagram for the *UNC* term:



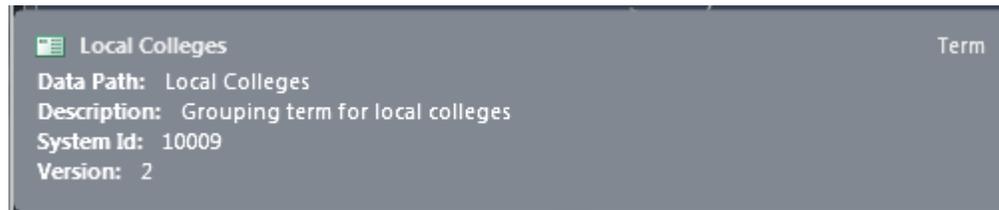
The toolbar above the diagram enables you to perform the following functions:

- Generate a relationship diagram for a selected node in the diagram
- Expand a selected node in the diagram (available for nodes with expansion icons)
- Collapse all of the nodes in the diagram
- Monitor a selected term, business rule, monitor task node in the diagram (if the Monitor Viewer is installed)
- Find a selected node in the diagram in the Business Data Network
- Hide a selected node in the diagram
- Rescale the size of the diagram

- Reset the zoom to the default diagram size

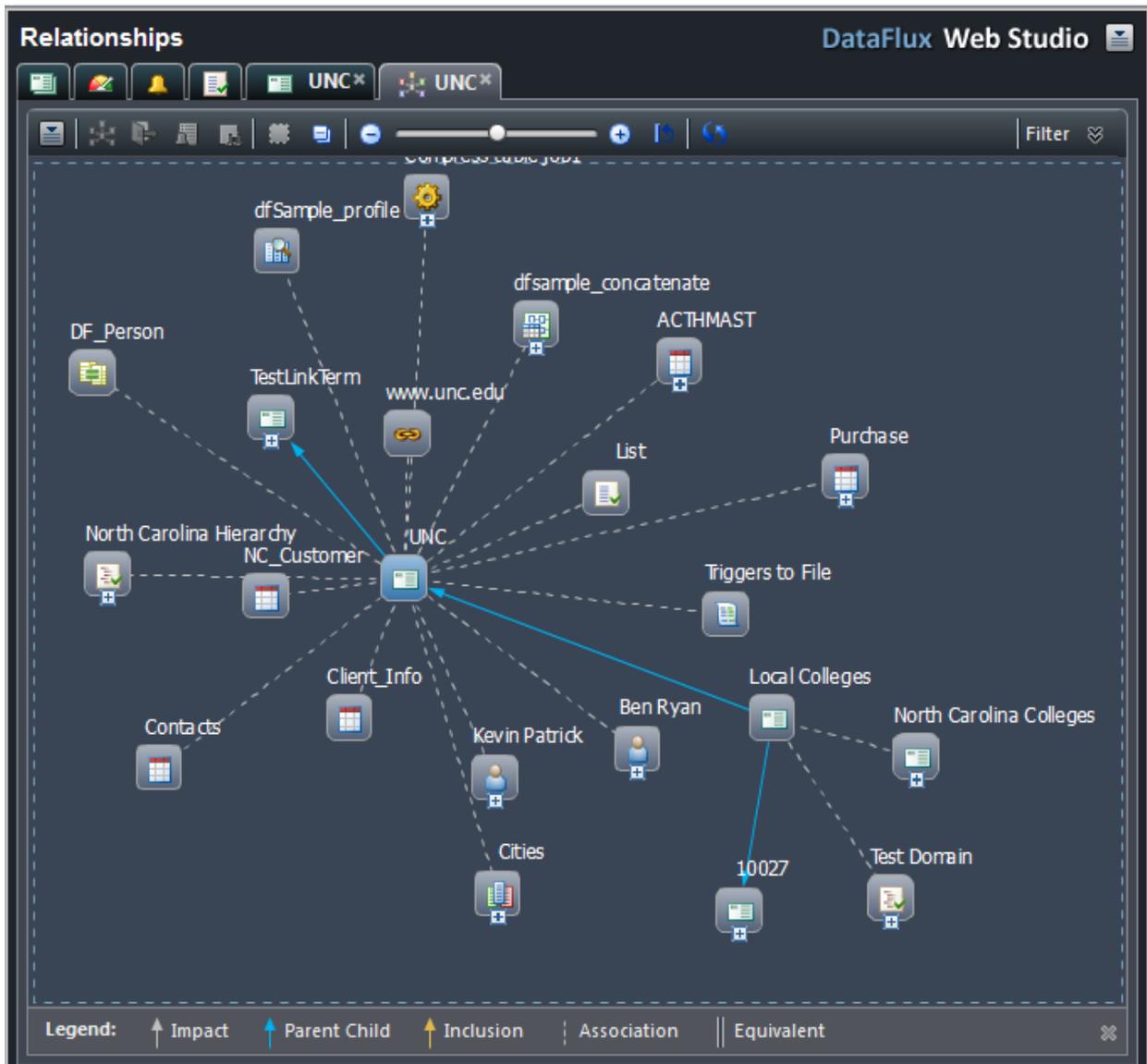
Note that the **Legend** below the diagram shows how the type of the lines between object nodes in the diagram reflects the relationships between the object. Also, note that the **Collapse All** button closes all of the expanded nodes in the diagram.

Finally, note that you can position your mouse pointer over a node in the diagram to view detailed information about the selected node, as shown in the following display:



You can click on the terms in the diagram to drill-further down into the relationships. The expandable terms are marked with a "+" icon.

The following display shows the result of clicking the *Local Colleges* term in the *UNC* term diagram:



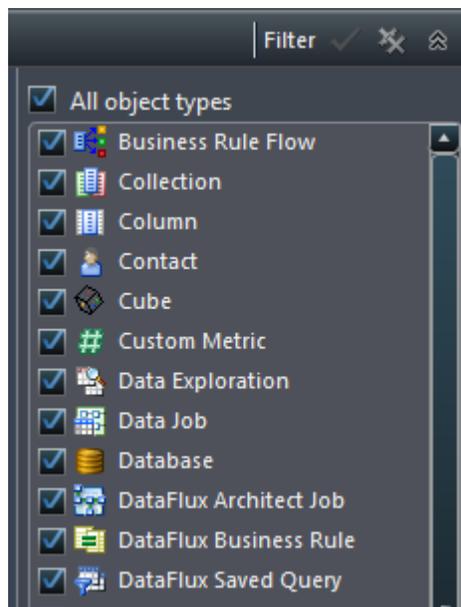
You can see the expanded **Local Colleges** term in the lower right corner of the diagram. This diagram happens to contain the following types of nodes:

- jobs
- profiles
- links
- business rules
- tables
- collections

- monitor tasks
- reference data lists
- contacts
- terms
- Reference Data Hierarchies

Of course, different terms that are associated with different types of items will generate diagrams that contain different node types. Note that each node type in this diagram is marked with a distinctive icon that has been designated for that type of node.

You can click **Filter** to filter the diagram by object types and by the relationship types listed in the **Legend**. The following display shows a portion of the available object types:



Using DataFlux Web Search

The DataFlux Search tool enables you to search for Business Data Network terms in a web browser with a web-based search tool. You can use this tool to search for terms without having to first open and log in to Web Studio.

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 to easy access to Search. Perform the following tasks:

- [Satisfy Prerequisites](#)
- [Search for a Term](#)
- [Configure Your Browser to Use DataFlux Search Extras](#)

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). It should also work for the latest releases of Mozilla Firefox and Google Chrome for Windows PC.
- Enable JavaScript in your browser.
- Install Web Studio, version 2.4.
- Ensure that your users have been placed in the proper groups to use Search and that appropriate permissions have been granted.

If you are redirected to the configuration page for the Web Studio Configuration Service, see the *DataFlux Web Studio Installation and Configuration Guide*. This service is normally covered at the end of the installation process.

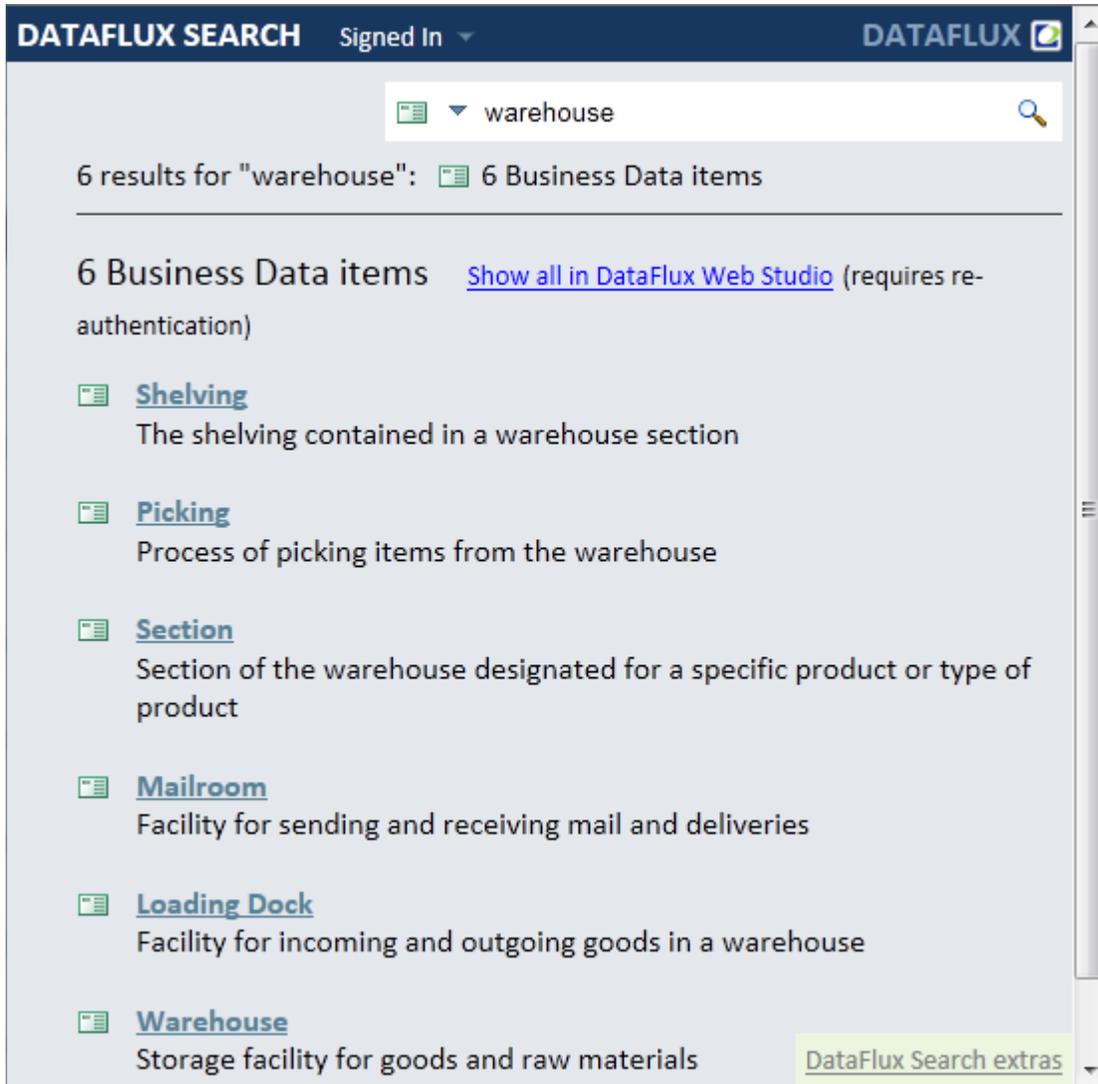
DataFlux Search for a Term

Perform the following steps to search for a term in the Business Data Network:

1. Open the web page for DataFlux Search. Note that the URL for the page uses the following pattern: *http://yourserver:port/webstudio/search*. For example, the URL for a page could be *http://compdata.com:8080/webstudio/search*.
2. Enter a search term in the **Search Business Data Network** field. For example, you could enter *warehouse* as the search term. Note that **Search Business Data Network** is installed as the default search provider.
3. Click **Search**.
4. Sign in to Search with your **User ID** and **Password**. Note that you can also sign in before you enter the search term and perform the search. To do so, click the **Sign In**

link at the top of the initial Search page. In either case, you must sign in before the search can be run.

5. Review the search results, as shown in the following display:



6. Click the link for the result that you need to see in Web Studio. You can also click **Show all in DataFlux Web Studio** to see all of the results displayed in Web Studio. These show-all results are shown in the following display of the Web Studio page:

Search: warehouse Search

New Term... Open Tags... Monitor Relationships Total count: 6

Term Name	Description	Impor...	Status	Last Modified
Loading Dock	Facility for incoming and out...	★★★★☆	● Under R...	10/5/2012 2:33:10 ...
Mailroom	Facility for sending and recei...	★★★★☆	● Under R...	10/5/2012 2:33:43 ...
Picking	Process of picking items fro...	★★★★☆	● Under R...	10/5/2012 2:34:12 ...
Section	Section of the warehouse de...	★★★★☆	● Under R...	10/5/2012 2:34:49 ...
Shelving	The shelving contained in a ...	★★★★☆	● Under R...	10/5/2012 2:35:14 ...
Warehouse	Storage facility for goods an...	★★★★☆	● Under R...	10/5/2012 2:32:51 ...

Note that you must sign in to Web Studio to access the results on the Web Studio page. Search and Web Studio require separate authentication.

- Return to the DataFlux Search page and click a single result, *Section*. This result is shown in Web Studio in the following display:

Section

View Edit Monitor Relationships

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

Description

Section of the warehouse designated for a specific product or type of product

Requirements

Must be secure and accessible

Attributes

Details

Status: ● Under Review
Importance: ★★★★★ Medium

Links

Tags

Logistics

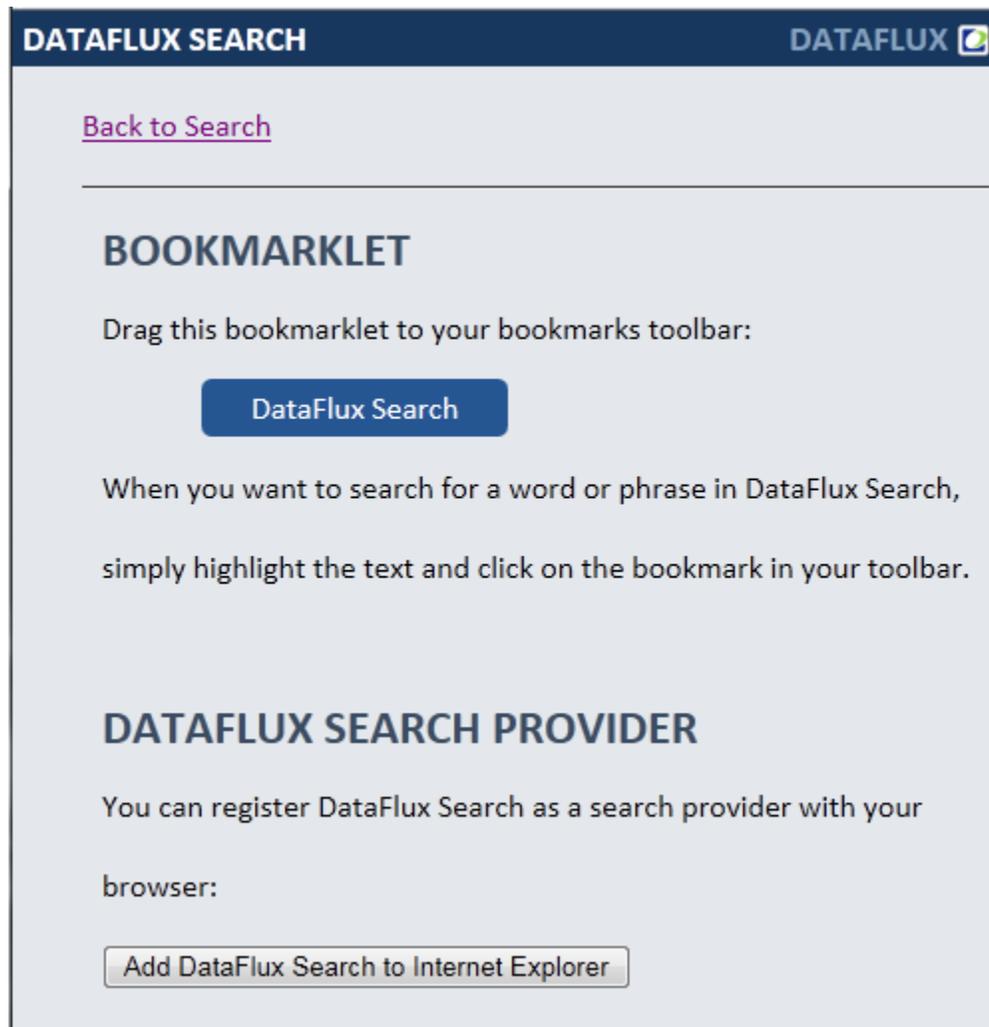
Related Terms

Warehouse

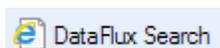
Note that no additional sign in is required.

Configure Your Browser to Use DataFlux Search Extras

You can use the tools in the DataFlux Search Extras page to make it easier to access Search with a supported browser. To access these tools, click the **DataFlux Search extras** link to view the page shown in the following display:



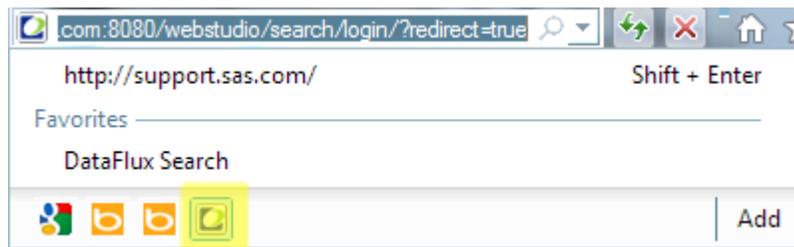
The dialog box that is displayed when you drag the bookmarklet icon to the Bookmarks Bar in your browser varies depending on the browser. For Internet Explorer 9, a confirmation dialog box is displayed. Then, you can click **Yes** to add the link shown in the following display:



That link takes you directly to the Search page. The bookmarklet enables you to do the following:

- Highlight a word or phrase on any HTML web page, including non-Web Studio pages.
- Click the bookmarklet to instantly open a new browser tab directly to the DataFlux results page. (You might need to sign in if you have not done so recently.)

The content of the Search Provider section of the page varies according to the browser detected by the page. Internet Explorer generates the button shown in the display above. When you click it, you are prompted to add Search as an Internet Explorer search provider. This means that the icon for Search is included in the set of providers included with the browser's search field, as shown in the following display:



Note that the Search icon is highlighted in yellow. You can click this icon to run a Search without going to the DataFlux Search web page. You can remove the search provider from Internet Explorer through the following menu path: **Tools > Manage add ons... > Search Providers**.

Google Chrome requires manual registration of the search provider. Adding and removing search providers is done through the **Customize** (or wrench) menu in Chrome under **Settings > Search > Manage search engines**. The Firefox browser automatically recognizes Search as an OpenSearch provider, so you can register Search with the browser by simply selecting **Add DataFlux Search** from the Search Providers drop-down menu. (Use **Manage Search Engines...** to remove the search provider.)

Importing and Exporting Terms

- [Overview](#)
- [Description of Resource Types](#)
- [Import Terms](#)
- [Export Terms](#)
- [Export Terms to an Entity Definition](#)

Overview

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

If a term import fails, you can run the `BDF_InvalidXMLCharacterScrubber.ddf` job to remove any invalid characters. This job is located on the Web Studio Server under `batch_jobs\BusinessData\BDG_InvalidXMLCharacterScrubber.ddf`. The job finds the invalid characters (defined control characters with an ascii value less than 0x20, except for tab, newline, and carriage return) and replaces those characters with the `?` character. It takes one parameter, which is **account ID**. Set this parameter to `1`, for system.

You can export a short list of terms from 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](#) section.

The .xsd schema for Business Data Network term imports and a sample term .xml import file are available in the `share` directory in the 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 Business Data Network are listed in the following table:

Resource Type	Description
BDNTERM	The term listed in Business Data Network. Each term is required to have a unique identifier in the <i>Identity</i> attribute. Terms cannot be longer than 99 characters and are case insensitive. (For information about case insensitivity, see the Create DSNs for the Web Studio Server Repository section of the Creating the Web Studio Server Repository topic in the <i>DataFlux Web Studio Installation and Configuration Guide</i> .)
BDNTERMREF	A reference to a Business Data Network term. The term can exist in the 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.
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

Perform the following steps to import terms from a .xml file:

1. Display the main window for 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** dialog box displays.
3. Navigate to the folder that contains the .xml file to be imported.
4. Select the .xml file.
5. Click **Open**. The terms in the file will be imported into the current Business Data Network.

Note that when a term is imported that already exists in Business Data Network with the same name and same ancestry, the existing term's history is maintained. This behavior

enables you to rollback 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 Business Data Network.

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

Export Terms

Perform the following steps to export one or more selected terms to an .xml file:

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 left, select **Export Terms**.
4. Select **XML File** in the submenu. An **Export Terms** dialog box displays.
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](#). The following display shows the beginning of a sample .xml file. This segment defines the first term, which is *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>
```

Note that 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 Business Data Network. Finally, 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:

```
<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. Note that the label and identity for the dependency are "Warehouse" and the resource type is "BDNTERMREF." Note that when you export a term, you must select the related terms as well 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:

```
<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. Note that the *Section* term uses a type "A" dependency, just as *Warehouse* did, to connect the term to the *Logistics* tag (resource type "BDNTAG"). This time, however, 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 will let the user 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** dialog box displays.
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.

Usage Notes for Business Data Network

- [Problems with Permissions](#)
- [Error: SOAP Request Processing Failed](#)

Problems with Permissions

For information about the permissions that are required for Business Data Network, see the [Security section](#) in Frequently Asked Questions in this Guide.

Error: SOAP Request Processing Failed

If you get the error, "SOAP Request Processing Failed", it likely means that the repository database that you are using for Business Data Network has not been set up correctly. The error could also mean that the database is corrupted.

See also [Frequently Asked Questions](#).

Reference Data Manager

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Overview of Reference Data Manager

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Overview

The Reference Data Manager component of Web Studio provides a hierarchy and data management capability for your organization's reference data. Using Reference Data Manager, you can access a single repository to manage important reference data that is accessed by technical, business, and IT users. This repository can be:

- Centrally managed
- Versioned (the history and progression of changes to the data can be maintained and managed)
- Linked to business terms defined in the [Business Data Network](#) component of Web Studio
- Exported to external systems

Reference Data Manager consists of the following:

- DataFlux data jobs deployed as batch jobs and real-time Web services that must exist on a DataFlux Data Management Server
- A repository that is created with the standard DataFlux unified repository
- Web interface capabilities built into Web Studio

Reference Data

The term **reference data** is used in data management to define characteristics of an identifier that are used within other data-centric processes. In contrast to **transaction data**, which changes second-to-second, reference data is fairly static—it does not change often. Reference data defines an item in ways that can be used by applications for selection, support, or description. Some examples of common reference data are:

- A list of valid gender codes
- A list of valid zip codes with their associated cities and states

- A list of product codes
- A list of NASDAQ stock symbols with their associated company names
- A material taxonomy such as the United Nations Standard Products and Services Code® (UNSPSC®)
- A list of acceptable responses to a survey question

Domains

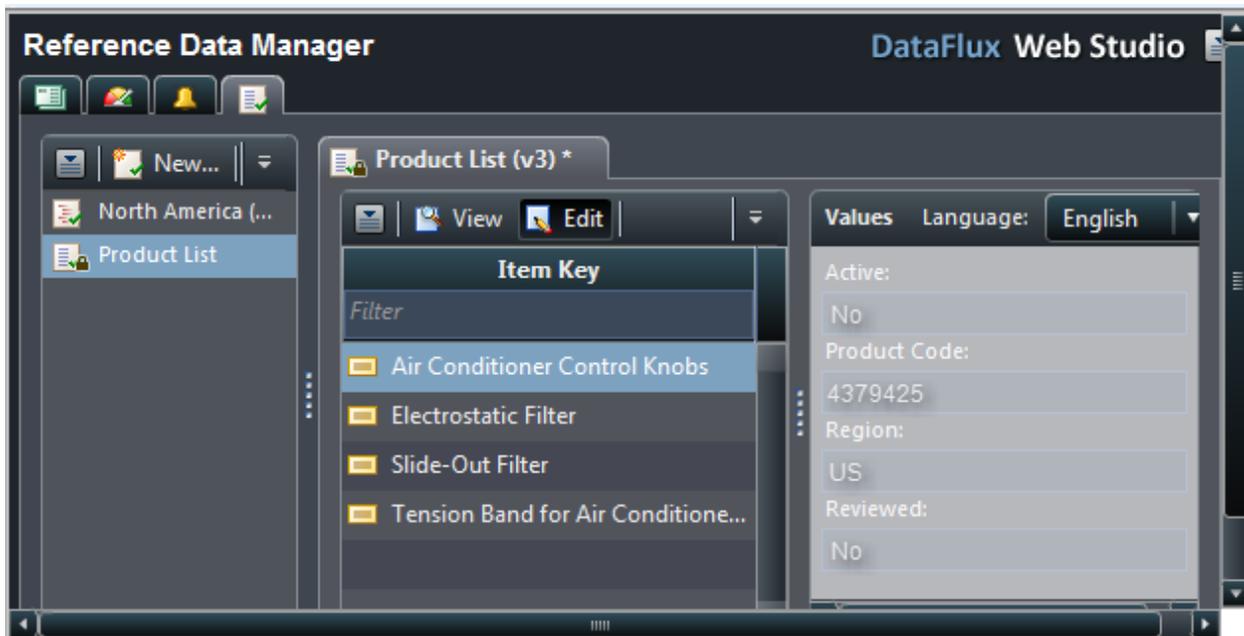
A related collection of reference data is referred to as a **domain**. In Reference Data Manager, each domain contains reference data for one set of information, such as colors, clothing sizes, or car manufacturers.

Reference Data Manager includes the following three domain types:

- List
- Lookup
- Hierarchy

A **list domain** is a list of valid items, such as a list of valid state codes or product names. A list domain can be used to populate a selection list within an application or to validate data.

The following example shows a list domain containing product names.



A **lookup domain** is a list of valid values linked to other values, such as a list of ISO currency codes linked to their associated global currency names. A lookup domain can be used to return a standardized version of a value.

A **hierarchy domain** is a table of data related in a parent/child fashion, where each data item at the top level might have several child items, which might also have several child

items. An example is the product lookups on a typical retail Web site, where you navigate from a high-level category such as Electronics to lower-level categories such as Computers, then to Laptops, then to manufacturers, and finally to individual items. A typical hierarchy domain could contain the names of cities in North America, in the United States, in the state of Ohio.

As an example, a geographic domain could be any of the following:

- A **list domain** containing valid state codes.
- A **lookup domain** that maps state codes to their names.
- A **hierarchy domain** that defines the parent-child relationships between regions, states, counties, cities, and zip codes.

Items

Every entry in a domain is referred to as an **item**. As a minimum, an item has an **item key**, which is the value of the item. List domains have only item keys. In a list or lookup domain, item keys must be unique. In a hierarchy domain, the item key must be unique only within its parent level. Two parent items in a hierarchy domain can have identical child items, but one parent cannot have "identical twins."

An item can also have an **item label**, which is a text description of the item key. Lookup domains have both item keys and item labels.

In a hierarchy domain, an item can have a **parent**, which is the item key of the next-highest item.

Attributes

In addition to keys, labels, and parents, items can have any number of associated **attributes**. An attribute is a bit of information that you are storing about an item. For example, a list domain containing valid zip codes might use the city, county, and state associated with each zip code as attributes. A lookup domain containing two-digit state codes might use the state name as its item label, but might also contain attributes such as the state bird, the year when the state joined the country, the state motto, or the name of the state's Governor.

Within a domain, attributes can be either **default** or **optional**. Default attributes are associated with every item that is added to a domain. Optional attributes are selected at the time the item is created.

For example, a list of states might have the state bird, the year when the state joined the country, and the Governor's name as default attributes. Optional attributes might include the state's highest mountain, number of miles of coastline, or tallest lighthouse—items that some states may not have.

Another example is the hierarchy of items sold on a retail Web site, in which you can drill down from department to item category to item type to an individual item. Each item at each level might have a default Description attribute, but the attributes used to describe a laptop computer are not the same as those used to describe a refrigerator, a pair of shoes, or a suitcase, and would therefore be optional.

Each attribute can be defined in any number of **languages**. When you create a domain, you select the languages in which the attributes can be defined. Every attribute that you create within that domain can be expressed in any or all of the selected languages. For example, if you are creating a product hierarchy for a clothing store, a dress might have a 'Color' attribute. If the domain is defined with both English and French as possible languages, Color can be defined as both 'Blue' and 'Bleu'.

It is possible to create list, lookup, or hierarchy domains without defining languages or attributes. In these cases, the domains consist solely of the item key, item label, and parent key as applicable for each domain type.

Domain Properties

You can create any number of reference data domains. Domains can have any number of items, with any number of attributes, in any number of languages.

The person who creates a domain is its **owner**.

A domain has the following **properties**:

- Domain name
- Domain type (which cannot be changed after the domain is created):
 - o List (single column)
 - o Lookup (two columns)
 - o Hierarchy (parent/child)
- Domain permissions:
 - o If a domain is **public**, any Reference Data Manager user can open, search, and edit the domain. If a domain is **private**, only the domain's owner can open, search, and edit the domain (the domain will not appear in the domain list for other users).
 - o An **enabled** domain is visible and active. A **disabled** domain cannot be viewed, even by its owner. (Note that Reference Data Manager provides an option for enabling a previously disabled domain.)
- Optional and default attributes
- The languages in which attributes can be defined
- The publication channels to which the domain can be published:
 - o Database
 - o Comma-separated values (CSV) file
 - o Tab-delimited text file

Domain Versions

Each time you submit changes to a domain, you create a new **version** of that domain. When you open a domain for editing, you open the most recent version by default. You can also choose to open a previous domain version.

Regardless of whether you open and save a domain from the most recent version or from a previous version, the changes that you make will become the new "current" version.

Prerequisites for Reference Data Manager

The Reference Data Manager module must be installed and configured as described in the "Installing Web Studio" chapter in the *DataFlux Web Studio Installation and Configuration Guide*.

In order to use Reference Data Manager:

- You must be registered with the Authentication Server that is associated with the Web Studio Server for Reference Data Manager. This task is performed by the Authentication Server administrator, as described in the *DataFlux Web Studio Installation and Configuration Guide*.
- You (or a group of which you are a member) must have permission to access Reference Data Manager features. This permission is granted by a member of the group that controls access to Web Studio, as described in the *DataFlux Web Studio Installation and Configuration Guide*.
- Data Management Studio includes two data job nodes that enable you to use Reference Data Management domains and domain items. In order to use the Domains node or the Domain Items node, you must link the repository where the data job is stored to the repository where Reference Data Management domains are stored. For more information, see the "Link to a Reference Data Management Repository" topic in the "Maintaining Repository Definitions" chapter of the *Data Management Studio Users Guide*.

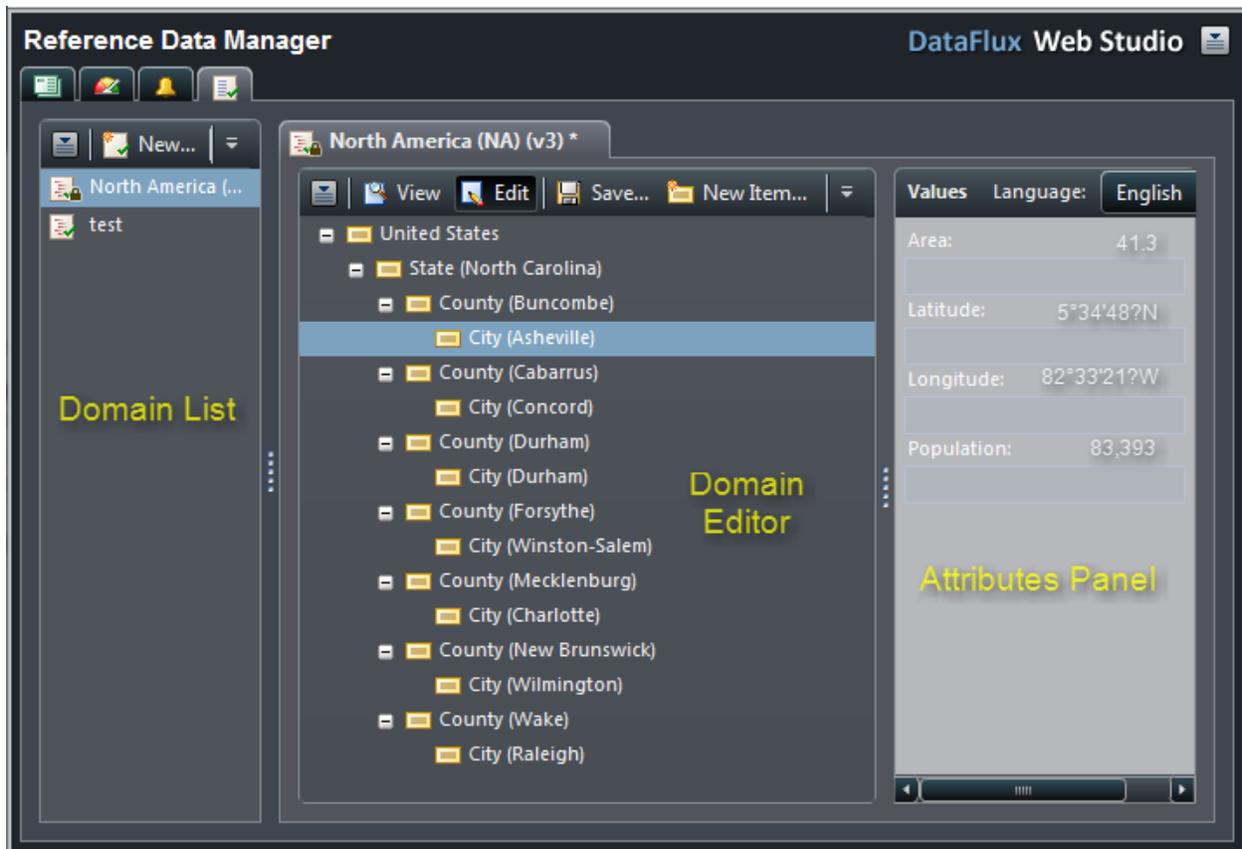
Reference Data Manager Interface

The Reference Data Manager interface contains the following components:

[Domain List](#)

[Toolbar](#)

[Domain Editors](#)



Domain List

The **domain list** in the navigation pane contains a list of the [reference data domains](#) that you have created.

The following types of domains are available:

- list domains
- lookup domains
- hierarchy domains

A green check mark on the domain icon indicates that the domain is available for editing. A lock icon indicates that the domain is locked. A locked domain is unavailable to all Reference Data Manager users except its owner.

By default, only [enabled domains](#) are shown in the domain list. You can choose to either show or hide [disabled domains](#) in the domain list by using the **Actions** > **Filter Disabled** toggle option. If disabled domains are shown in the domain list, they are marked with a **Disabled** icon and cannot be opened for editing until they have been enabled.

Toolbar

The Reference Data Manager toolbar, which appears above the domain list, contains the following items.

Actions - Click the **Actions** button to display the drop-down menu. You can use the **Actions** menu options to perform the following tasks:

- **Open** - Open a domain.
- **Open Archived** - Open a previous version of a domain.
- **Properties** - Edit the properties of a domain.
- **Import** - Import data from a text file into a domain.
- **Publish** - Publish a domain to a database, a comma-separated values (CSV) file, or a tab-delimited text file.
- **Delete** - Delete a domain.



Note: This action is permanent and cannot be undone.

- **Duplicate** - Create a domain by duplicating the properties of an existing domain. The items in the existing domain are not duplicated.
- **Disable/Enable** - Disable or enable a domain.
- **Filter Disabled** - Show or hide disabled domains in the domain list.
- **Lock/Unlock** - Lock or unlock a domain.

New Domain - Click the **New Domain** button to create a new domain.

Search - Click the **Search** button to search for items in a domain.

Refresh - Click the **Refresh** button to refresh the status (locked or unlocked) of domains in the domain list.

Domain Editors

When you [open a reference data domain](#), it appears in a **domain editor** on a tab in the information pane. From the domain editor, you can [view domain items](#) or [add, edit, and remove domain items](#).

When you select an item in a domain editor, the item's attributes are displayed in the **attributes panel** on the right side of the domain editor.

To close a domain editor, click the **x** button on the domain editor tab.

Domain Editor Toolbar

You can use the buttons on the toolbar at the top of each domain editor to perform the following tasks.

- **View** - Switch the domain editor to view (read-only) mode, enabling you to view domain items. This action unlocks the domain.
- **Edit** - Switch the domain editor to edit mode, enabling you to add, edit, and remove domain items and modify attribute values. This action locks the domain.
- **Save** - Save changes that you have made to a domain. This action creates a new version of the domain.
- **New Item** - Add a new item to a domain.
- **Properties** - Edit a selected item in a domain.
- **Remove Item** - Remove an item from a domain.
- **Change Parent** - Move a hierarchy domain item and all of its child items to a new parent item.

Tree and Column Buttons

The **Tree** and **Column** buttons to the right of the domain editor toolbar appear only for hierarchy domains. You can use these buttons to display hierarchy domain items in either **tree view** or **column view**. For more information, see [Viewing Domain Items](#).

Working with Domains

[Creating a Domain](#)

[Duplicating a Domain](#)

[Opening a Domain](#)

[Opening a Previous Domain Version](#)

[Editing Domain Properties](#)

[Disabling or Enabling a Domain](#)

[Locking or Unlocking a Domain](#)

[Publishing a Domain](#)

[Deleting a Domain](#)

Creating a Domain

To create a new reference data domain and specify its structure, perform the following steps.



Note: You can also create a reference data domain by [duplicating an existing domain](#).

1. Click the **New Domain** toolbar button to display the **New Domain** dialog.
2. Use the tabs in the **New Domain** dialog to do the following:
 - Use the **General** tab to specify [domain properties](#) such as domain name, description, and type. For instructions, see [Specifying Domain Properties](#).
 - Use the **Attributes** tab to create and select [attributes](#) for use in the domain. For instructions, see [Creating and Selecting Attributes](#).
 - Use the **Languages** tab to select the [languages](#) in which item attributes in the domain can be defined. For instructions, see [Selecting Attribute Languages](#).
 - Use the **Publish** tab to define [publication channels](#) for the domain. A domain publication channel can be either a database, a comma-separated values (CSV) file, or a tab-delimited text file. For instructions, see [Defining Domain Publication Channels](#).
3. Click **OK** to save the changes and close the **New Domain** dialog. The new domain opens in a [domain editor](#) and is locked for editing. The domain name appears in the [domain list](#).

Specifying Domain Properties

To specify reference data domain [properties](#), perform the following steps.

 **Note:** This procedure assumes that you are [creating a new domain](#) and specifying its properties. You can also edit the properties of an existing domain. For instructions, see [Editing Domain Properties](#).

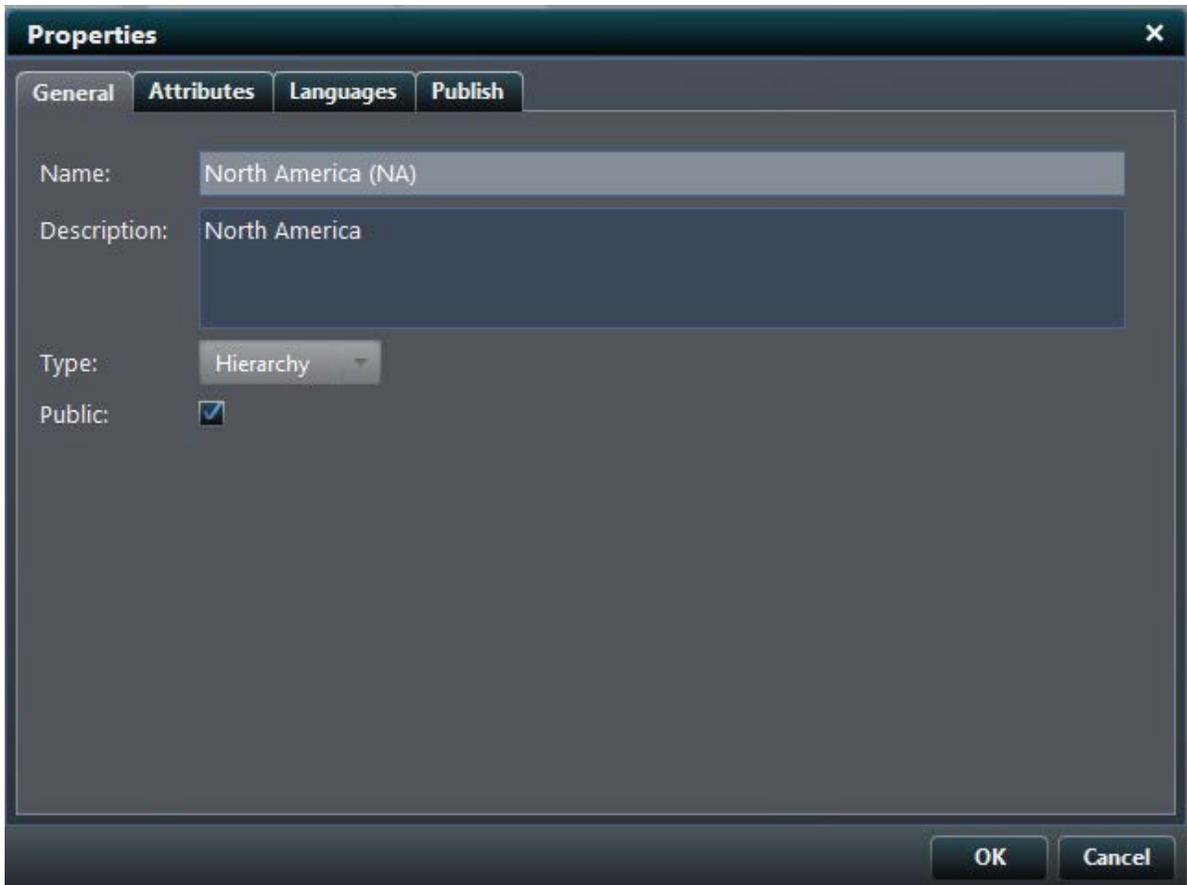
1. In the **New Domain** dialog, select the **General** tab.
2. On the **General** tab, specify the following domain properties:
 - a. In the **Name** field, enter a name for the domain (such as *OhioCityGeo*). Domain names can contain up to 50 characters and must be unique.

 **Note:** The domain name cannot be changed after the domain has been created.

- b. (Optional) In the **Description** field, enter a description for the domain. Domain descriptions can contain up to 256 characters. Enter *Ohio City Geocodes* for this example.
 - c. From the **Type** drop-down menu, select the domain type (List, Lookup, or Hierarchy). Select **Hierarchy** for this example.

 **Note:** The domain type cannot be changed after the domain has been created.

- d. Select or clear the **Public** check box. If a domain is public, any Reference Data Manager user can open, search, and edit the domain. If a domain is private, only the domain's owner can open, search, and edit the domain (the domain will not appear in the domain list for other users).



3. Click **OK** to save the changes and close the **New Domain** dialog.

Creating and Selecting Attributes

To create new [attributes](#) and select them for use in a reference data domain, perform the following steps.

 **Note:** This procedure assumes that you are [creating a new domain](#) and selecting attributes for use in the domain. You can also add attributes to an existing domain. For instructions, see [Editing Domain Properties](#).

1. In the **New Domain** dialog, select the **Attributes** tab.
2. On the **Attributes** tab, click the **Add Attribute** button to display the **Add Attribute** dialog.
3. In the **Add Attribute** dialog, enter the following:
 - a. In the **Name** field, enter a name for the attribute. Attribute names such as *Latitude* can contain up to 50 characters and must be unique.
 - b. (Optional) In the **Description** field, enter a description for the attribute. Attribute descriptions can contain up to 254 characters. Enter *Latitude value* for this example.
4. Click **OK** to save the changes, close the **Add Attribute** dialog, and return to the **New Domain** dialog. The new attribute appears in the **Available Attributes** list on the **Attributes** tab.
5. Repeat steps 2 through 4 as desired to add more attributes.
6. To select the new attribute or attributes for use in the domain, use any of the following methods:
 - Double-click the attribute in the **Available Attributes** list to move it to the **Domain Attributes** list.
 - Left-click and drag the attribute from the **Available Attributes** list to the **Domain Attributes** list.
 - Select the attribute in the **Available Attributes** list, and click the **Add** button to move it to the **Domain Attributes** list. Note that the CTRL-click and SHIFT-click multiple-selection methods are supported.
 - To select all the attributes in the **Available Attributes** list and move them to the **Domain Attributes** list, click the **Add All** button.
7. To designate an attribute as a [default attribute](#), select the check box next to the attribute name in the **Domain Attributes** list. To designate an attribute as an [optional attribute](#), clear the check box.

When you add a new default attribute, it is added to every item that is subsequently added to the domain (see [Adding, Editing, and Removing Domain Items](#)). When you add a new optional attribute, it becomes available for selection when adding new domain items, and can be added to existing domain items.

 **Note:** To be available for mappings during [imports into a domain](#), attributes in the domain must be designated as default attributes.

8. To remove an attribute or attributes from the domain, use any of the following methods:
 - Double-click the attribute in the **Domain Attributes** list to move it to the **Available Attributes** list.
 - Left-click and drag the attribute from the **Domain Attributes** list to the **Available Attributes** list.
 - Select the attribute in the **Domain Attributes** list, and click the **Remove** button to move it to the **Available Attributes** list. Note that the CTRL-click and SHIFT-click multiple-selection methods are supported.
 - To select all the attributes in the **Domain Attributes** list and move them to the **Available Attributes** list, click the **Remove All** button.

Select the **Latitude**, **Longitude**, and **Match Code** attributes for this example.

9. Click **OK** to save the changes and close the **New Domain** dialog.

Selecting Attribute Languages

The default language for item attributes in a reference data domain is English. To select additional languages or to designate a different default language, perform the following steps.

 **Note:** This procedure assumes that you are [creating a new domain](#) and selecting languages for use in the domain. You can also add languages to an existing domain or change an existing domain's default language. For instructions, see [Editing Domain Properties](#).

1. In the **New Domain** dialog, select the **Languages** tab.
2. On the **Languages** tab, the English (EN) language appears in the **Domain Languages** list by default. To select additional languages for the domain, use any of the following methods:
 - Double-click a language in the **Available Languages** list to move it to the **Domain Languages** list.
 - Left-click and drag a language from the **Available Languages** list to the **Domain Languages** list.
 - Highlight a language in the **Available Languages** list, and click the **Add** button to move it to the **Domain Languages** list. Note that the CTRL-click and SHIFT-click multiple-selection methods are supported.
 - To select all the languages in the **Available Languages** list and move them to the **Domain Languages** list, click the **Add All** button.
3. The default language for a new reference data domain is English (EN). To select a different default language, select the **Default** option button next to the language in the **Domain Languages** list. The default language is the language that will be selected in the [attributes panel](#) when a domain is opened for editing new items.

 **Note:** You must select a default language.

4. To remove a language or languages from the domain, use any of the following methods:
 - Double-click a language in the **Domain Languages** list to move it to the **Available Languages** list.
 - Left-click and drag a language from the **Domain Languages** list to the **Available Languages** list.
 - Highlight a language in the **Domain Languages** list, and click the **Remove** button to move it to the **Available Languages** list. Note that the CTRL-click and SHIFT-click multiple-selection methods are supported.
 - To select all the languages in the **Domain Languages** list (except for the default language) and move them to the **Available Languages** list, click the **Remove All** button.

 **Note:** When you remove a language from a domain, any attributes entered in that language will be lost. You cannot remove the default language.

5. Click **OK** to save the changes and close the **New Domain** dialog.

Defining Domain Publication Channels

Before you can [publish reference data domain items](#), you must first define at least one publication channel for the domain. A publication channel can be either a database, a comma-separated values (CSV) file, or a tab-delimited text file.

Notes:

1. This procedure assumes that you are [creating a new domain](#) and defining publication channels for the domain. You can also define publication channels for an existing domain. For instructions, see [Editing Domain Properties](#).
2. For details on the names, locations, and layouts of database publication outputs, see [Publishing a Domain](#).

To define a publication channel, perform the following steps:

1. In the **New Domain** dialog, select the **Publish** tab.
2. On the **Publish** tab, click the **New Publish Channel** toolbar button. A new publication channel named "New Channel" appears in the channel list on the left side of the **Publish** tab, and the channel definition form on the right side of the tab is enabled.
3. In the **Name** field, enter a name for the publication channel by overwriting the "New Channel" value. Publication channel names can contain up to 50 characters and must be unique. Enter *Write to text file* for this example.
4. To specify that the channel will always publish the current [domain version](#) (the default), select the **Use current version** check box. To publish a different domain version, clear the **Use current version** check box and enter or select a version number in the **Version** field. Use the current version for this example.
5. From the **Type** drop-down menu, select the publication channel type:
 - **Database** - Publish to a database.
 - **CSV** - Publish to a comma-separated values (CSV) file using double-quote text qualifiers.
 - **TXT** - Publish to a tab-delimited text file.

Select **TXT** for this example.

 **Note:** Because Reference Data Manager uses double quotes as the text identifier when publishing reference data, we recommend selecting either the **Database** or **TXT** publication channel type if your data contains double quotes.

6. The **DSN** and **Schema** fields apply only to Database publication channels. In the **DSN** field, select the DSN of the data connection to which to publish. In the **Schema** field, enter the name of an existing database schema to which to publish.

 **Note:** The schema name is case sensitive.

 **Note:** All publications to CSV and TXT publication channels are written to the following directory: **[DMServer]\var\batch_jobs\ReferenceData\publish**.

7. (Optional) Click the **View Publish Log** toolbar button to view the publish log, which contains a list of dates/times when the domain was published. To clear the publish log, click the **Clear Publish Log** toolbar button.
8. To remove a publication channel from the channel list, select the channel, and click the **Delete Publish Channel** toolbar button.
9. Click **OK** to save the changes and close the **New Domain** dialog.

Duplicating a Domain

To create a new reference data domain using the structure of an existing domain, perform the following steps.

 **Note:** When you duplicate a domain, the new domain has the same type, permissions, attributes, and languages as the original domain, but contains no items and has no publication channels defined.

1. Select the domain in the domain list.
2. Click **Actions** > **Duplicate** to display the **Duplicate Domain** dialog.
3. In the **Duplicate Domain** dialog, enter the following:
 - a. In the **Name** field, enter a name for the domain. Domain names can contain up to 50 characters and must be unique. Enter *Duplicate of States* for this example.
 - b. (Optional) In the **Description** field, enter a description for the domain. Domain descriptions can contain up to 256 characters. Enter *State codes* for this example.
 - c. Select or clear the **Public** check box. If a domain is public, any Reference Data Manager user can open, search, and edit the domain. If a domain is private, only the domain's owner can open, search, and edit the domain (the domain will not appear in the domain list for other users).
4. Click **OK** to save the changes and close the **Duplicate Domain** dialog. The new domain opens in a [domain editor](#) and is locked for editing. The domain name appears in the [domain list](#).

Opening a Domain

To open a reference data domain, use either of the following methods:

- Double-click the domain in the domain list.
- Left-click the domain in the domain list, and click **Actions** > **Open**.

The most recent version of the domain is opened in a [domain editor](#). The version number appears in parentheses after the domain name on the domain editor tab, for example, "(v2)".



Note: When you open a reference data domain, you open the most recent [version](#) of the domain by default. You can also [open a previous domain version](#).

When you open a domain, it is initially opened in view (read-only) mode, enabling you to [view domain items](#). To switch to edit mode, click the **Edit** button on the domain editor toolbar. In edit mode, you can [add, edit, and remove domain items](#) and modify attribute values.

When you open a domain and choose to edit it, the domain is [locked](#) and is marked with a **Lock** icon.

Opening a Previous Domain Version

When you open a reference data domain, the most recent [version](#) of the domain is opened by default. To open a previous domain version, perform the following steps.

 **Note:** You can have multiple versions of a domain open at the same time, but only one version can be [locked](#) for editing at any time.

1. Select the domain in the domain list.
2. Click **Actions** > **Open Archived** to display the **Open Archived** dialog.
3. In the **Open Archived** dialog, select the domain version that you want to open, and click **OK**.

The selected domain version is opened in a [domain editor](#). The version number appears in parentheses after the domain name on the domain editor tab, for example, "(v2)".

When you open a domain, it is initially opened in view (read-only) mode, enabling you to [view domain items](#). To switch to edit mode, click the **Edit** button on the domain editor toolbar. In edit mode, you can [add, edit, and remove domain items](#) and modify attribute values.

When you open a domain and choose to edit it, the domain is locked and is marked with a **Lock** icon.

Editing Domain Properties

To edit the properties of a reference data domain, perform the following steps.

 **Note:** You cannot edit the properties of a domain that is [locked](#) for editing. Before editing a domain's properties, you must close its domain editor.

1. Select the domain in the domain list.
2. Click **Actions** > **Properties** to display the **Properties** dialog.
3. On the **General** tab of the **Properties** dialog, you can change the domain description. You can also select or clear the **Public** check box to change the domain from private to public, or from public to private.

 **Note:** You cannot change the name or type of an existing domain.

4. On the **Attributes** tab, you can do the following. The steps for performing these tasks are the same as those described in [Creating and Selecting Attributes](#).
 - Add new attributes. When you add an attribute to a domain that already has items defined, the new attribute will not automatically be added to the existing items. However, the new attribute will automatically be added to new items, and can be designated as either a default or optional attribute.
 - Change existing attributes from default to optional, or from optional to default. When you change an attribute from default to optional, the attribute will continue to be associated with existing domain items, but will not be automatically associated with new items. When you change an attribute from optional to default, the attribute will be associated with all new domain items, but not with existing items.
 - Remove existing attributes. When you remove an attribute from a domain, the attribute is removed from all items in the domain.
5. On the **Languages** tab, you can do the following. The steps for performing these tasks are the same as those described in [Selecting Attribute Languages](#).
 - Add new languages.
 - Remove existing languages.

 **Note:** You cannot remove the default language.

- Select a new default language.
6. On the **Publish** tab, you can add, modify, or delete domain publication channels. The steps for performing these tasks are the same as those described in [Defining Domain Publication Channels](#).
7. Click **OK** to save the changes and close the **Properties** dialog.

Disabling or Enabling a Domain

To disable or enable a reference data domain, perform the following steps. When a domain is disabled, it is unavailable to all Reference Data Manager users, including its [owner](#).

Notes:

- To disable or enable a domain, you must be the domain's owner.
 - You cannot disable or enable a domain that is [locked](#) for editing. Before disabling or enabling a domain, you must close its domain editor.
1. To disable a domain, do the following:
 - a. Select the domain in the domain list.
 - b. Click **Actions** > **Disable**. A confirmation dialog appears.
 - c. Click **Yes** to confirm that you want to disable the domain.
 - d. The disabled domain no longer appears in the domain list. If you want to display the disabled domain in the domain list, click the **Actions** > **Filter Disabled** toggle option. The disabled domain appears in the domain list but is marked with a **Disabled** icon and cannot be opened for editing.
 2. To enable a previously disabled domain, do the following:
 - a. Click the **Actions** > **Filter Disabled** toggle option to show the disabled domain in the domain list.
 - b. Select the disabled domain in the domain list.
 - c. Click **Actions** > **Enable**. The domain is no longer marked with a **Disabled** icon, and can be opened for editing.

Locking or Unlocking a Domain

When you [open a domain](#) and choose to edit it, the domain is locked and is marked with a **Lock** icon in the domain list. A locked domain is unavailable to all Reference Data Manager users except its [owner](#). When you close the domain and save your changes, the domain is unlocked.

You can also lock a domain without choosing to edit it. To lock a domain, select the domain in the domain list, and click **Actions** > **Lock**. To unlock a previously locked domain, select the domain in the domain list, and click **Actions** > **Unlock**.

Publishing a Domain

In addition to managing reference data in the DataFlux repository, your organization may need to use the reference data in other systems or locations. By publishing a domain, you can manually/automatically push domain changes as needed based on domain and downstream requirements.

 **Note:** Before you can publish a domain, you must first define at least one publication channel for the domain. A publication channel can be a database, a comma-separated values (CSV) file, or a tab-delimited text file. For instructions, see [Defining Domain Publication Channels](#).

[Publication Outputs](#)

[Publication Procedure](#)

Publication Outputs

Database Publications

Publishing a domain to a database creates the following database tables:

[domain_name]_[version]_DM - Domain

[domain_name]_[version]_IT - Items

[domain_name]_[version]_AT - Attributes

[domain_name]_[version]_AV - Attribute values

where **[domain_name]** is the domain name (truncated to 23 characters), and **[version]** is the domain version being published. If you are publishing the most recent [version](#) of the domain, the table names do not contain the version number.

The table layouts are as follows.

DM (Domain) Table Layout

Value	Description	Type
DOMAIN_NAME	Domain name	C
DOMAIN_DESC	Domain description	C
DOMAIN_VERSION	Domain version published	N
DOMAIN_TYPE	Domain type (List, Lookup, Hier)	C
DOMAIN_SCOPE	P-Public, S-Private	C
DOMAIN_ENABLED	Was domain enabled at the time it was published (Y/N)	C
PUBLISH_DATE	Date and time of publication	D

IT (Items) Table Layout

Value	Description	Type
ITEM_ID	Internal item identifier	N
ITEM_KEY	Item's ITEM KEY value	C
ITEM_VALUE	Item's ITEM_LABEL value	C
PARENT_ID	ITEM_ID of this item's parent	N

AT (Attributes) Table Layout

Value	Description	Type
ATTRIBUTE_ID	Internal attribute identifier	N
ATTRIBUTE_NAME	Attribute name	C
ATTRIBUTE_DESC	Attribute description	C

AV (Attribute Values) Table Layout

Value	Description	Type
ITEM_ID	Internal item identifier	N
ATTRIBUTE_ID	Internal attribute identifier	N
ATTRIBUTE_VALUE	Attribute value	C
LANGUAGE_NAME	Language in which attribute is expressed	C
LANGUAGE_CODE	Language code	C

CSV or Text File Publications

Publishing a domain to a .csv file or a tab-delimited text file creates the following four files in the following directory: **[DMServer]\var\batch_jobs\ReferenceData\publish**. If this directory does not already exist, it is created during the publication process.

[domain_name]_[version]_DM.[ext] - Domain

[domain_name]_[version]_IT.[ext] - Items

[domain_name]_[version]_AT.[ext] - Attributes

[domain_name]_[version]_AV.[ext] - Attribute values

where **[domain_name]** is the domain name (truncated to 23 characters), **[version]** is the domain version being published, and **[ext]** is the file extension (**.csv** or **.txt**). If you are publishing the most recent [version](#) of the domain, the file names do not contain the version number. Note that if the .csv format file contains Latin2 characters, it will not display properly in Microsoft Excel. Instead review the file in a text editor such as Notepad.

Publication Procedure

To publish a reference data domain, perform the following steps:

1. Select the domain in the domain list.
2. Click **Actions** > **Publish** to display the **Publish** dialog, which lists the [publication channels](#) that have been defined for the domain.
3. In the **Publish** dialog, select the check boxes next to the desired publication channels (such as **Publish Write to qMDM Location**). You can select any number of publication channels.
4. Click **Publish**. The following dialog appears. Click **Close** to close this dialog.
5. (Optional) You can view the publish log for the domain, which contains a list of dates/times when the domain was published. To view the publish log, do the following:
 - a. Select the domain in the domain list, and click **Actions** > **Properties** to display the **Properties** dialog.
 - b. In the **Properties** dialog, click the **View Publish Log** toolbar button to view the publish log.
 - c. To clear the publish log, click the **Clear Publish Log** toolbar button.

Deleting a Domain

To delete a reference data domain, perform the following steps.

Notes:

- To delete a domain, you must be the domain's owner.
 - You cannot delete a domain that is [locked](#) for editing. Before deleting a domain, you must close its domain editor.
 - Deleting a domain is permanent and cannot be undone.
1. Select the domain in the domain list.
 2. Click **Actions** > **Delete**. A confirmation dialog appears.
 3. Click **Yes** to confirm that you want to delete the domain. The domain is deleted from the Reference Data Manager repository and no longer appears in the domain list.

Working with Domain Items

[Viewing Domain Items](#)

[Adding, Editing, and Removing Domain Items](#)

[Importing Domain Items](#)

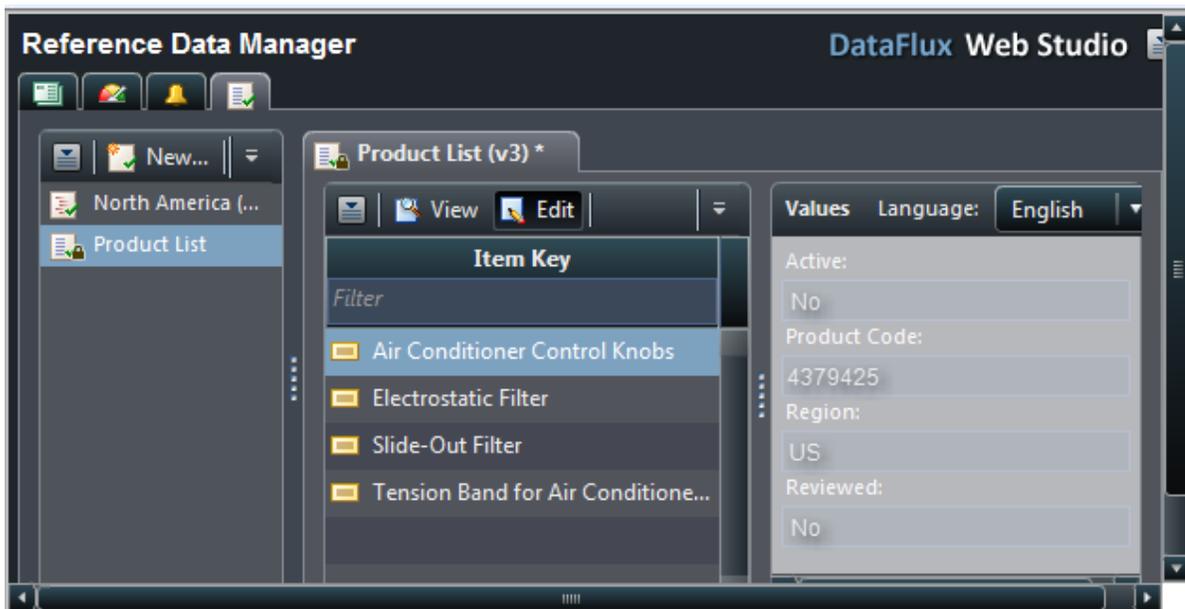
[Searching for Domain Items](#)

Viewing Domain Items

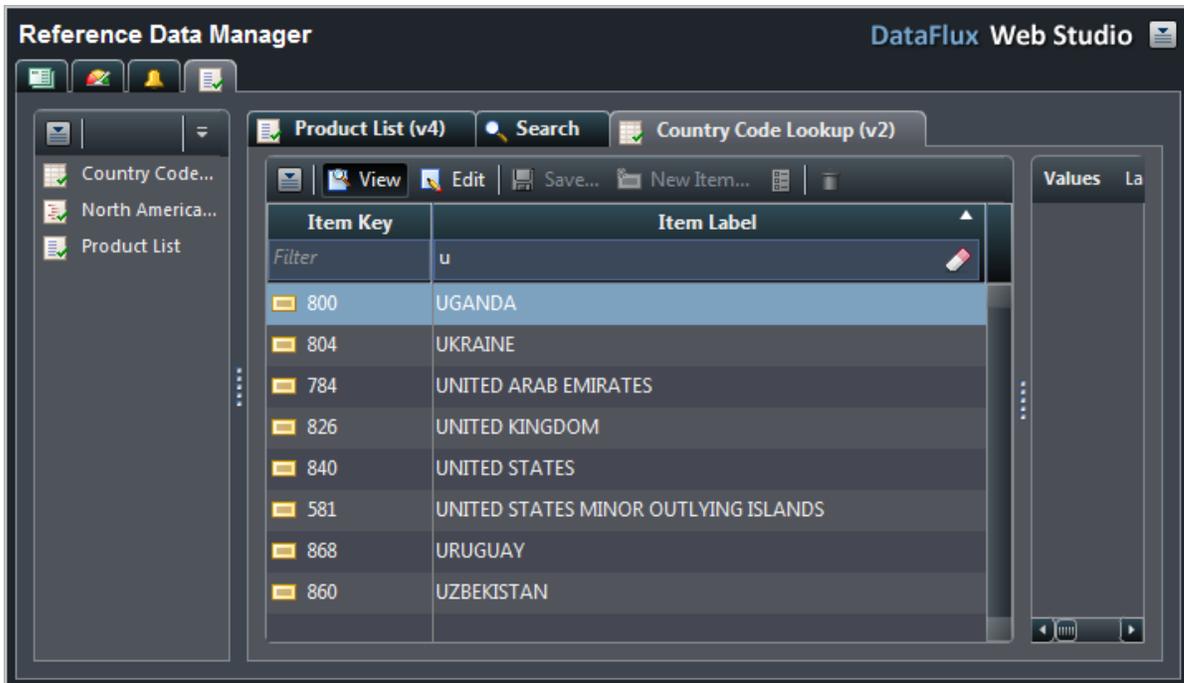
To view items in a reference data domain, perform the following steps.

 **Note:** For additional information on viewing items in a hierarchy domain, see [Hierarchy Domain Views](#).

1. [Open the domain](#). By default, the domain is opened in view mode.
2. In the domain editor, select the item that you want to view. The item's attributes are displayed in the attributes panel on the right side of the domain editor.



3. If you have [selected more than one language for the domain](#), you can display attribute values in one of the other languages. Select the desired language from the **Language** drop-down menu at the top of the attributes panel. The attribute values are displayed in the selected language.
4. For list domains, a "begins with" filter field appears at the top of the **Item Key** column in the domain editor, enabling you to easily locate domain items. For lookup domains, filter fields appear for both the **Item Key** and **Item Label** columns. Only the items that begin with the character that you enter in the filter fields will be displayed. The filters are case-insensitive. To clear a filter field and remove the filtering from the item list, click the **Clear** button.

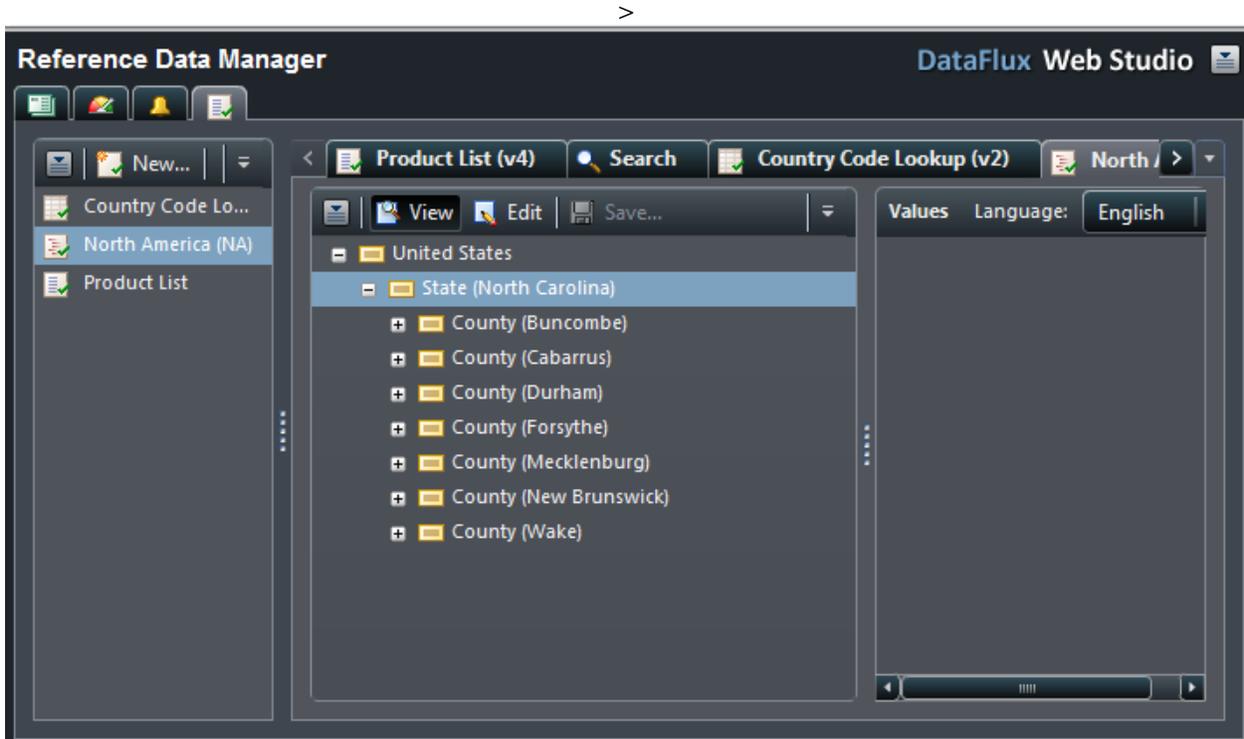


Hierarchy Domain Views

You can display hierarchy domains in either **tree view** or **column view**. To switch between the views, click the **Tree** and **Column** buttons on the right side of the domain editor.

Tree View

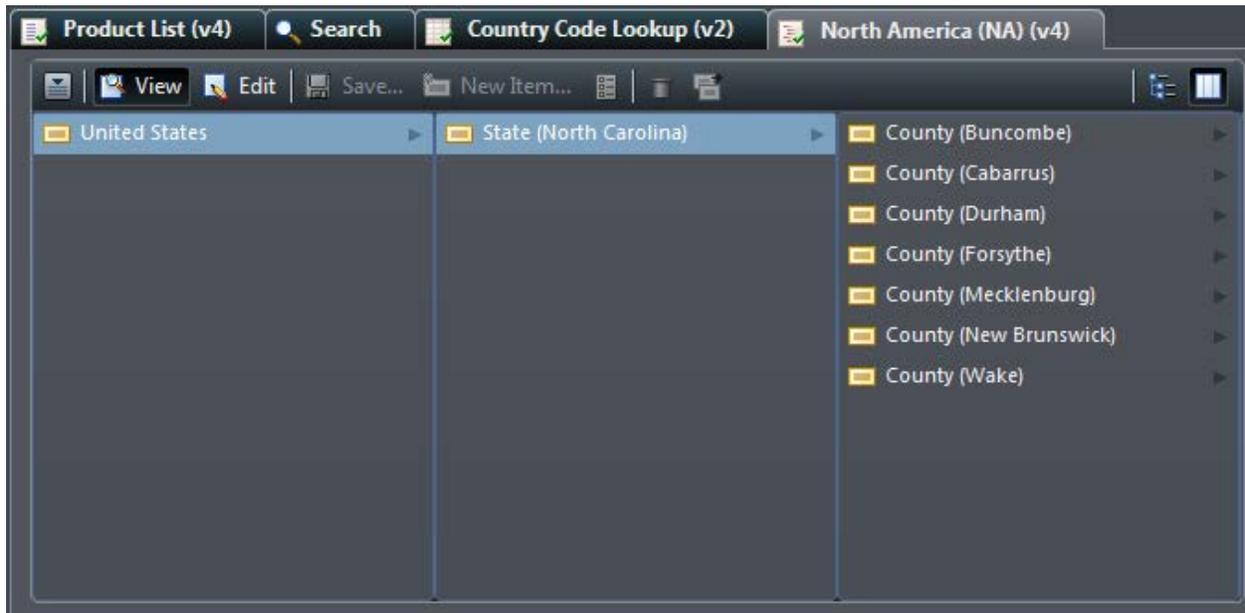
By default, items in a hierarchy domain are displayed in tree view. In this view, you can expand or collapse items in the tree by double-clicking the items or by clicking the expand and collapse buttons next to the items.



Column View

In column view, each level of the hierarchy domain appears in a separate column. Select an item in one column to display the item's child items in the column to the right. Items with no arrow icon to the right of their names have no child items. The current drill path is always highlighted.

To collapse and hide a column, you can CTRL-click the parent item for the column.



Adding, Editing, and Removing Domain Items

[Adding Domain Items](#)

[Editing Domain Items](#)

[Removing Domain Items](#)

Adding Domain Items

To add items to a reference data domain, perform the following steps:

1. [Open the domain](#).
2. The domain is initially opened in view (read-only) mode. Switch to edit mode by clicking the **Edit** button on the domain editor toolbar.
3. (Optional, hierarchy domains only) If you are adding a child item, select the desired parent item for the new child item. Note that if you prefer, you can skip this step and select the parent item in step 5. For example, you can select **North Carolina** from a hierarchy of states in the United States as the parent item.
4. Click the **New Item** button on the domain editor toolbar to display the **New Item** dialog. Note that the fields in this dialog are different depending on the domain type that you are working with.
5. Enter the following in the **New Item** dialog:
 - a. By default, the [item key](#) for a new item is "Item x", where x is an incremental value starting at 1. Enter the desired item key by overwriting the "Item x" value in the **Item Key** field. Enter *Raleigh* as the item key.



Note: The item key is required and must be unique.

- b. (Optional, lookup and hierarchy domains only) By default, the [item label](#) for a new item is *Label*. Enter the desired item label by overwriting the *Label* value in the **Item Label** field.
- c. (Hierarchy domains only) If you are adding a top-level parent item, clear the **Add as child to** check box.

By default, when you add a child item, its parent item is the item that was selected when you clicked the **New Item** button (see step 3). In this case, **North Carolina (NC)** has been populated into the field. If you are adding a child item and you have not already selected a parent item, or if you want to select a different parent item, select the **Add as child to** check box. Click the browse (...) button to display the **Select Parent** dialog. Select the desired parent item in the **Select Parent** dialog, and click **OK** to save the changes and return to the **New Item** dialog.

- d. In the **Select Attributes to add** list, select the [attributes](#) for the new item by selecting the check boxes next to the attribute names. Select **Population** and **Square Miles** for this example.

 **Note:** Attributes that were designated as default attributes when the domain was created (see [Creating and Selecting Attributes](#)) will automatically be selected.

6. Click **OK** to save the changes and close the **New Item** dialog. The new item now appears in the domain editor.

Editing Domain Items

To edit items in a reference data domain, perform the following steps:

1. [Open the domain](#).
2. The domain is initially opened in view (read-only) mode. Switch to edit mode by clicking the **Edit** button on the domain editor toolbar.
3. To edit an item's properties, do the following:
 - a. Select the item in the domain editor, and click the **Properties** button on the domain editor toolbar to display the **Properties** dialog.
 - b. In the **Properties** dialog, you can change the item key and item label. You can also add attributes to the item by selecting the check boxes next to the attribute names (such as *Largest City*, *Population*, and *Square Miles*). In hierarchy domains, you can select the **Cascade** check box to add an attribute to the item being edited and to all of its child items.

 **Note:** The **Cascade** check box appears only if the item that you are editing has child items.

- c. Click **OK** to save the changes and close the **Properties** dialog.
4. (Hierarchy domains only) To change a child item to a parent item, or to move a child item to a different parent item, do the following:
 - a. Select the child item in the domain editor, and click the **Change Parent** button on the domain editor toolbar to display the **Change Parent** dialog.
 - b. To change the selected child item to a parent item, select the **No parent** option button in the **Change Parent** dialog.
 - c. To designate a different parent item for the child item, select the **Select a parent for <item>** option button, and select the desired parent item (such as **North Carolina**). Note that this will move the child item and all of its child items (if any) to the new parent item.
 - d. Click **OK** to save the changes and close the **Change Parent** dialog.
 5. To edit an item's attribute values, do the following:

- a. Select the item in the domain editor. The item's attributes are displayed in the attributes panel on the right side of the domain editor.
- b. Edit the attribute values as desired by typing into the fields on the attributes panel.



Note: If you have [selected more than one language for the domain](#), you can edit attribute values in one of the other languages. Select the desired language (such as **English**) from the **Language** drop-down menu at the top of the attributes panel.

Removing Domain Items

To remove items from a reference data domain, perform the following steps:

1. [Open the domain](#).
2. The domain is initially opened in view (read-only) mode. Switch to edit mode by clicking the **Edit** button on the domain editor toolbar.
3. Select the item that you want to remove, and click the **Remove Item** button on the domain editor toolbar.

Importing Domain Items

You can import items into a reference data domain from a comma-separated values (CSV) or delimited text file with a header row. The domain can be empty or can contain existing items.

Importing items into a reference data domain automatically creates a new [version](#) of the domain.

 **Important:** Before you can import items into a reference data domain, the domain must already exist and must contain all the attributes and languages that you will be importing. For instructions for creating a reference data domain, see [Creating a Domain](#).

[Import File Requirements](#)

[Attributes](#)

[Import Processing](#)

[Sample Import Files](#)

[Import Procedure](#)

Import File Requirements

The import file must be a CSV or delimited text file with a header row. The delimiter can be any character.

There is no file size limitation for the DataFlux Data Management Server. However, your application server (for example, Tomcat) may limit the size of files that you can upload and process. If you encounter any issues related to file size limitation, you will need to increase the maximum heap size setting for your application server. For instructions, refer to your application server's documentation.

If you are importing into a list domain, the only required field in the import file is the Value.

If you are importing into a lookup domain, the import file must have two columns to be used as the Value and Label in the domain.

If you are importing into a hierarchy domain, each row in the import file must contain a Value, a Label, and a field that defines that row's Parent. (Top-level items will have blank parent fields.) There are two ways to define a parent:

- The Parent Key field can contain the Item Key of its parent row.

Following is an example of an import file that uses the Item Key as the parent. The Parent Key column contains the Value for the row's parent.

Item Key	Item Label	Parent Key
NA	North America	
NA-US	United States of America	NA
NA-US-NC	North Carolina	NA-US
NA-US-NC-183	Wake County	NA-US-NC

- The import file can contain a separate Parent ID field, and the Parent Key will refer to the Parent ID. The Parent ID field is a unique identifier for the row of data. It can be either numeric or character, but it must be unique for each row.

Following is an example of an import file that uses a Key field. In this case, the Parent Key value refers to the Parent ID field. These fields will be used to determine the parent-child relationship during import, but they are not retained in the imported domain.

Parent ID	Item Key	Item Label	Parent Key
1	NA	North America	
2	NA-US	United States of America	1
3	NA-US-NC	North Carolina	2
4	NA-US-NC-183	Wake County	3

Attributes

The items in the domain into which you are importing can contain attributes, and attributes can be presented in any language that is defined for the domain. In the import file, the attributes associated with an item should be on the same row as the item. If using multiple languages, there should be one column for each attribute/language pair.

```

VALUE DISPLAY_VALUE PARENT_VALUE EnglishDescription FrenchDescription
GermanDescription
25100000 25-10-00-00 25000000 Motor vehicles Véhicules à moteur Motor Fahrzeuge
25101500 25-10-15-00 25100000 Passenger motor vehicles Véhicules à moteur pour
le transport de personnes Passagier Motor fahrzeuge
25101501 25-10-15-01 25101500 Minibuses Minibus Kleinbus
25101502 25-10-15-02 25101500 Busses Bus Busse
25101503 25-10-15-03 25101500 Automobiles or cars Véhicules automobiles
Automobilen oder Autos
25101504 25-10-15-04 25101500 Station wagons Breaks ou familiales Station Wagen
25101505 25-10-15-05 25101500 Minivans or vans Mini-vans ou vans
Minilieferwagen oder Güterwagen
25101506 25-10-15-06 25101500 Limousines Limousines Limousine
25101507 25-10-15-07 25101500 Light trucks or sport utility vehicles Pick-up,
véhicules utilitaires de sport, tout-terrains, 4x4 Lastkraftwagen oder
Sportwagen
25101508 25-10-15-08 25101500 Sports car Voitures de sport Sportwagen

```

 **Note:** It is not required that every import file contain values, or even columns, for every attribute/language pair. Blank attributes will not be imported, and attributes with no corresponding column in the import file will not be defined. This procedure applies even to default attributes. Therefore, the default attributes are not defined for an item after import when it does not have a value in the import file.

 **Important:** The Value column must be unique for each record. If an import encounters a Value that already exists in the domain, its label and attributes will be updated with any non-blank values provided in the import, and any new attributes defined in the import will be added.

Import Processing

This section explains the processing that occurs during the first import and subsequent imports into a domain.

First Import

If the import file contains multiple records for an item key (or item key/parent key combination), the following occurs:

1. The item label is taken from the first occurrence in the import file, even if the first occurrence is blank and later occurrences are not blank.
2. Attribute values are taken from any record for that item key, using the first non-blank occurrence of each attribute value in the import file.

For example, if the import file is as follows, the highlighted values are selected.

Item Key	Item Label	Attribute 1 - Employees	Attribute 2 - State
DF	DataFlux	140	
DF		165	NC
SAS			NC
SAS	SAS Institute, Inc	9000	

For hierarchy domains, if an item key appears under multiple parent keys, it is added to each parent.

If an item key is listed with a parent key that is not in the import file, it is added at the root level.

If the import file contains multiple legal instances of an item key/parent combination, you will need to use a Parent ID to identify the relationship. Otherwise, all instances will be rolled up to the first appearance of the item key in the import file.

Subsequent Imports

Subsequent imports will either add new items or update existing items. Items will never be deleted or moved.

If you import an item that does not currently exist, it is handled as though it were the first import.

If you import an item that already exists, the following occurs:

1. The existing record is updated with the new item label, even if that label is blank.
2. Existing attributes are updated with any non-blank incoming data.
3. Attributes are added to items if and only if a value is supplied.

If an item key is listed with a parent key that is not in the import file, it is added at the root level, even if the parent key already exists in the domain. For hierarchy imports, all parents should exist in the import file.

If the import file contains multiple legal instances of an item key/parent combination, you need to use a Parent ID to identify the relationship. If you do not, the data from all instances will be used to update item with the lowest internal item ID.

Specific Scenarios

The following table lists specific scenarios for subsequent imports into a domain.

Action	Result
Add new item	New item is added as in a first import.
Remove item	Invalid (action cannot be done in an import).
Add new attribute to domain and import new values	New attribute values are added to existing items.
Change attribute value to blank	Blank attribute values do not overwrite existing values
Change blank attribute to a value	Change is made.
Change attribute value to a new value	Change is made.
Change blank label to value (lookup or hierarchy domain)	Label is changed to new value.
Change label value to blank (lookup or hierarchy domain)	Label is changed to blank value.
Change label value to new value (lookup or hierarchy domain)	Label is changed to new value.
Delete attribute	Invalid (action cannot be done in an import).
Default attribute not represented in file	Attribute is not added to any items.
Optional attribute not represented in file	Attribute is not added to any items.
Default attribute represented in file	Attribute is added to the item if it has a value.
Optional attribute represented in file	Attribute is added to the item if it has a value.
Change parent value to blank (hierarchy domain)	New item is created at root level; existing item is not deleted.
Change blank parent to value (hierarchy domain)	Item remains at root level, and new item is created under the new parent.
Change parent value to new value (hierarchy domain)	New item is created under new parent; existing item is not deleted.

Sample Import Files

The following sample import files are included with Reference Data Manager. These files are automatically placed in the **C:\Program Files\DataFlux\DMServer\2.2\share\web\sample_data** directory during Web Studio installation.

- **RDM_CurrencyImport.txt** - ISO Currency codes and their descriptions
- **RDM_NAICSImport.txt** - North American Industry Classification System (NAICS) hierarchy
- **RDM_OccupationsImport.txt** - Standard Occupation Classification (SOC) hierarchy
- **RDM_UNSPSCIImport.txt** - United Nations Standard Products and Services Code (UNSPSC) hierarchy

Import Procedure

To import items into a reference data domain, perform the following steps.



Note: You cannot import items into a domain that is [locked](#) for editing. Before importing items into a domain, you must close its domain editor.

1. Select the domain in the domain list.
2. Click **Actions** > **Import** to display the **Import** wizard.
3. On the first page of the **Import** wizard, select the import file and define its structure:
 - a. In the **Input file** field, click the browse (...) button to browse and select the desired import file (such as **RDM_GeocodeOHIImport_MC.TXT**).
 - b. From the **Text qualifier** drop-down menu, select the text qualifier (None, ', or ") that is used in the import file. Select " for this example.
 - c. From the **Field delimiter** drop-down menu, select the field delimiter character that is used in the import file (Comma, Tab, Space, Semicolon, or Other). If you select Other, enter the delimiter character in the adjacent text entry field. Select **Comma** for this example.
4. Click **Next** to continue. The next page of the **Import** wizard enables you to map the fields in the import data to the ways they will be used within the domain.

On the right side of the **Import** wizard page, the **File Preview** panel displays the first 100 records from the import file. This enables you to verify that you have selected the correct file and file parameters on the previous wizard page.

On the left side of the **Import** wizard page, the **File Column** column contains the list of fields in the import file. The **Domain Field** column enables you to choose how each incoming column will be used in the imported domain.

If you are importing into a hierarchy domain, the **This data contains a key for parent identification** check box appears. If your incoming data uses the parent's

item key to identify each item's parent, you should clear this check box. If your incoming data uses some other key value to identify the parent, you should select this check box and select the appropriate key values in the **Domain Field** column. For more details on parent identification, see [Import File Requirements](#).

The **Domain Field** values are:

- **ITEM_KEY** - The key value for the item. (All domain types.) For example, this value could be *VALUE*.
- **ITEM_LABEL** - The label for the item. (Lookup and hierarchy domain types only.) This value could be *DISPLAY_VALUE*.
- **PARENT_KEY** - The value on each item that specifies its parent. (Hierarchy domain types only.) This value could be *PARENT_VALUE*.
- **PARENT_ID** - The ID value on each row used to refer to this row as a parent. (Hierarchy domain types only. Available only if the **This data contains a key for parent identification** check box is selected.)
- **[Attribute (Language)]** - One selection appears for each combination of attribute and language. Associate each selection with the column containing that attribute in that language. Your attributes could include values such as *LATITUDE*, *LONGITUDE*, and *MATCHCODE*.

5. Click **Next** to continue. A consistency check is performed on the import file. The **Item Preview** panel on the next page of the **Import** wizard displays the first 500 rows of the file, enabling you to confirm that the import is being performed correctly. This may take a minute depending on your data.

The **Messages** area (not shown here) at the bottom of the **Item Preview** panel returns any messages generated by the consistency check of the import file. For example:

'You have x instances of duplicate Item Key values. If you continue, they will be consolidated into a single item.'

'You have x records with invalid Parent Key values. If you continue, those items will be placed at the root level.'

'You have x records with missing Item Key values. Item keys cannot be blank, so these records will be ignored.'

6. Click **Finish** to proceed with the import. A progress indicator appears next to the domain name in the domain list while the import is being performed.

 **Note:** You can continue to work in other Reference Data Manager domains, or in other Web Studio components, while the import is in progress.

7. When the import is complete, the a confirmation message appears. Click **Yes** if you want to [open the domain](#).

Searching for Domain Items

The Search capability enables you to find items containing data values that match specified criteria. You can quickly find specific item key, item label, or attribute values within a domain or across multiple domains.

To search for items in a reference data domain, perform the following steps:

1. Click the **Search** toolbar button. A **Search** tab appears in the information pane.
2. Enter a search term in the text entry field at the top of the **Search** tab, and press **Enter** or click the **Search** button to the right of the text entry field. The search results appear in a table on the **Search** tab.



The screenshot shows the 'Product List (v3) *' window with a 'Search' tab active. The search string is 'north'. Below the search bar is a table with the following data:

ID	Value	Item Type	Domain Name	V...	Modified ...	User	Domain Type
2	North America	Domain descrip...	North America (NA)		10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North America ...	Domain name	North America (NA)		10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	2	10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	3	10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	4	10/15/2012 11...	PUBDIS\dfad...	Hierarchy

3. The search results table contains the following columns:
 - **ID** - The item key of the item in which the search term was found.
 - **Value** - The search result value.
 - **Type** - The search result type, which can be any of the following:
 - o Attribute Description
 - o Attribute Name
 - o Domain Description
 - o Domain Item Key
 - o Domain Item Value
 - o Domain Name
 - o Domain Version Label
 - o Item Attribute Value
 - **Domain Name** - The name of the domain in which the search term was found.

- **Version** - The version number of the domain in which the search term was found.
- **Modified** - The "last modified" date/time of the domain in which the search term was found.
- **User** - The user ID of the user who last modified the domain in which the search term was found.

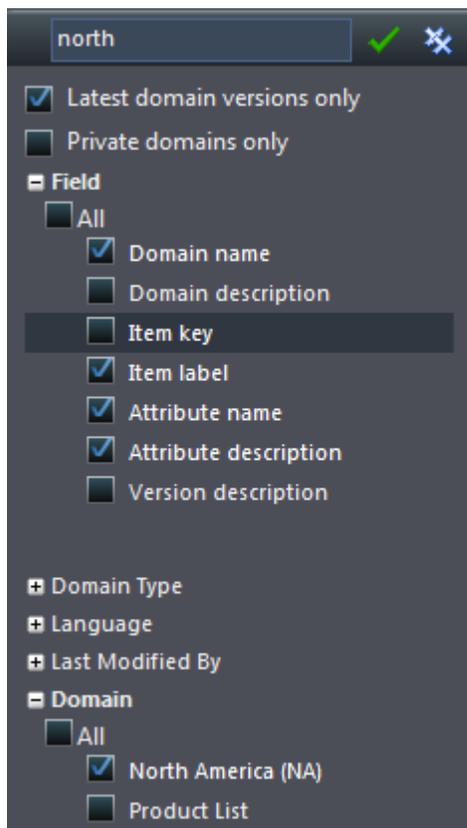
For terms that are unique to an item (Item Key, Item Label, Attribute Value), each record is returned individually. For terms that are common across many items (Attribute Name, Attribute Description), each term is shown only once, and the **ID** column indicates how many times each term appeared.

To change the order in which the columns in the search results table are displayed, left-click and drag the column headers to the desired positions.

To resize columns, left-click and drag the column dividers.

To sort columns in ascending or descending order, left-click the column headers.

4. To clear the search term and search results, click the **Clear** button on the right side of the text entry field.
5. To further refine or filter the results, you can perform an advanced search. Click on the panel slider to open the advanced search panel with the following filters:



 **Note:** All filters are populated when you invoke a search. To update the filters, open a new search window.

6. To apply the new options to your search, click on the **Apply Filter** icon.
7. The updated search results appear:



	Value	Item Type	Domain Name	V...	Modified...	User	Domain Type
2	North America	Domain descri...	North America (NA)		10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North America ...	Domain name	North America (NA)		10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	2	10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	3	10/15/2012 10...	PUBDIS\dfad...	Hierarchy
2	North Carolina	Item key	North America (NA)	4	10/15/2012 11...	PUBDIS\dfad...	Hierarchy

8. To go directly to a found reference data object from the search results without having to manually navigate to it, simply double-click on the item. It will open the domain directly to that item.

Usage Notes for Reference Data Manager

- [Using Multiple Browser Sessions](#)

Using Multiple Browser Sessions

For the Reference Data Manager component of Web Studio, it is not advisable to log in to Web Studio with the same credentials from different browser sessions and manipulate the same reference data domain in each session. Doing so may result in errors for one session if the other session deletes the domain. Doing so may also cause modifications of the "current" version of the domain for one session to be superseded by modifications to the "current" version of the same domain for the other session.

Dashboard and Monitor Viewers

[Overview of Dashboard Viewer and Monitor Viewer](#)

[Prerequisites for Dashboard Viewer and Monitor Viewer](#)

[Dashboard Viewer Interface](#)

[Using the Dashboard Viewer](#)

[Monitor Viewer Interface](#)

[Using the Monitor Viewer](#)

Overview of Dashboard Viewer and Monitor Viewer

DataFlux Dashboard Viewer and DataFlux Monitor Viewer are used to display exceptions to monitored business rules. The exceptions are generated by data monitoring jobs that are created in Data Management Studio and are deployed to a Data Management Server.

Business analysts and executives can use Dashboard Viewer to get an at-a-glance summary or trend view of the data quality and data management processes being monitored. Data stewards and data stewardship groups can use Monitor Viewer to access the details about the specific triggers raised when an exception to a monitored rule is encountered. Monitor Viewer also enables you to evaluate exceptions and assign related work to the appropriate technical personnel. Technical personnel will typically have access to Data Management Studio, and they can see and respond to the assignments made from Monitor Viewer in Web Studio.

For information about the data monitoring jobs that are created in Data Management Studio, see the "Business Rules and Tasks" chapter and the "Data Monitoring" chapter in the *DataFlux Data Management Studio User's Guide*.

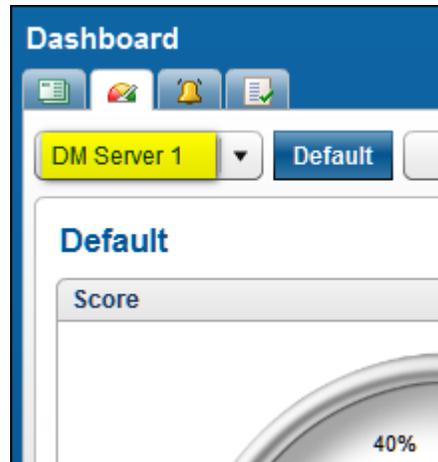
Prerequisites for Dashboard Viewer and Monitor Viewer

The Dashboard Viewer and Monitor Viewer must be installed and configured as described in the "Installing Web Studio" chapter in the *DataFlux Web Studio Installation and Configuration Guide*.

In order to use Dashboard Viewer and Monitor Viewer:

- You must be registered with the Authentication Server that is associated with the Web Studio Server for Dashboard Viewer and Monitor Viewer. This task is performed by the Authentication Server administrator, as described in the *DataFlux Web Studio Installation and Configuration Guide*.
- You (or a group of which you are a member) must have permission to access Dashboard Viewer and Monitor Viewer features. This permission is granted by a member of the group that controls access to Web Studio, as described in the *DataFlux Web Studio Installation and Configuration Guide*.

Dashboard Viewer and Monitor Viewer are used to display exceptions to monitored business rules. The exceptions are generated by data monitoring jobs that are created in Data Management Studio and are deployed to a Data Management Server. In order for the Dashboard Viewer and Monitor Viewer to display the appropriate information, the appropriate Data Management Server must be selected at upper left of the Dashboard Viewer, as shown in the next display.

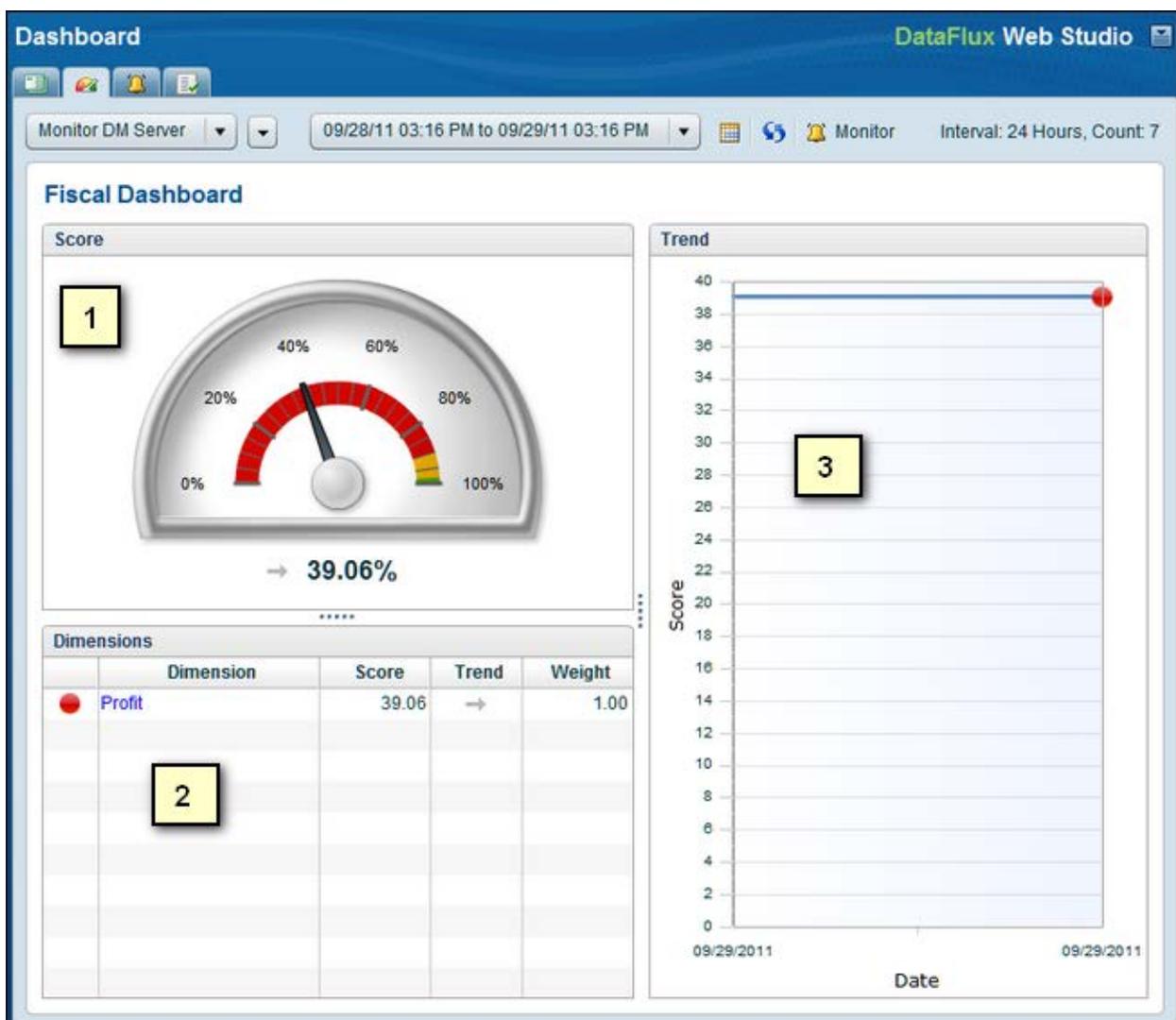


The list of Data Management Servers that can be selected from the control shown above are established when Web Studio is installed. To update the list of available servers, administrators should see "Updating Your Web Studio Configuration" in the *DataFlux Web Studio Installation and Configuration Guide*.

Dashboard Viewer Interface

A dashboard is a group that is created in the Business Rules Manager in Data Management Studio. It is used to group a set of dimensions and their rules into a subject area. For example, in Data Management Studio, you might create a dashboard called **Fiscal Dashboard** to monitor financial data. One of its dimensions might be **Profit**, which contains a set of rules that measure profit. These rules would be associated with a task that specifies an action to be taken when an exception to the rule is encountered. This task and the **Fiscal Dashboard** could be selected in the **Data Monitoring** node in a Data Management Studio data job. When the job is run, the selected task is executed and the exceptions are associated with the selected dashboard (**Fiscal Dashboard**).

In Web Studio, the results of this data monitoring job could be displayed in the Dashboard Viewer, as shown in the next figure.



The main areas in the Dashboard Viewer are as follows:

1. Score speedometer
2. List view (lists dimensions, rules, etc.)
3. Trend graph

The speedometer displays a score that is based on the number of exceptions to monitored rules during a given time interval. The rules are associated with the selected dashboard, dimension, rule or task. The name of the selected item is displayed at top left of the Score pane, such as **Fiscal Dashboard** in the previous figure.

In the previous figure, the list view lists the dimensions that are associated with the current dashboard, such as the **Profit** dimension of the **Fiscal Dashboard**. This pane displays other information when other kinds of items are selected.

The Trend graph displays a graph of the score over a given period of intervals.

For more information about using this window, see [Using the Dashboard Viewer](#).

Using the Dashboard Viewer

The Dashboard Viewer provides a visual summary of the state of ongoing data stewardship in a dashboard format that illustrates trends, such as where rule exceptions are decreasing or increasing. In addition, you can easily modify the time slice of the data visualized.

The dashboard display is based on the following items included in business rules:

- **Thresholds** - Used to classify the status of a score and typically used to represent bands of scores that are of high, medium, and low concern
- **Dimensions** - Used to group similar rules together and are applied when rules are assigned to a task
- **Dashboards** - Used to group dimensions, and subsequently rules, together into like subject areas and are assigned in the **Data Monitoring** node in Data Management Studio when a task is set up

In the Business Rule Manager in Data Management Studio, each task has weight, threshold, and dimension assigned to it. In a data monitoring job, a task and a dashboard are selected in the **Data Monitoring** node. When the job is run, the selected task is executed and the exceptions are associated with the selected dashboard.

The Dashboard Viewer contains three main elements: the speedometer graphic, the list view, and the trending graph. The speedometer gives the score of the item named in the caption just above the speedometer (either a Dashboard, Dimension or Rule-Task). The trending graph shows the score over a given period of intervals. To use these elements, perform the following tasks:

- [Access the Dashboard Viewer](#)
- [Select a Dashboard](#)
- [Review Dimensions](#)
- [Examine Rules](#)

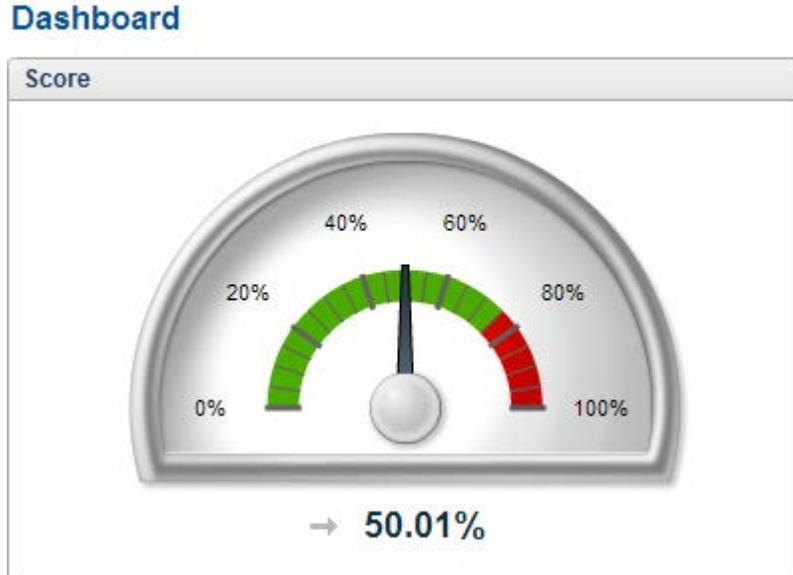
Access the Dashboard Viewer

You can access the Dashboard Viewer by clicking the **Dashboard** tab at the top of the Web Studio window.

Select a Dashboard

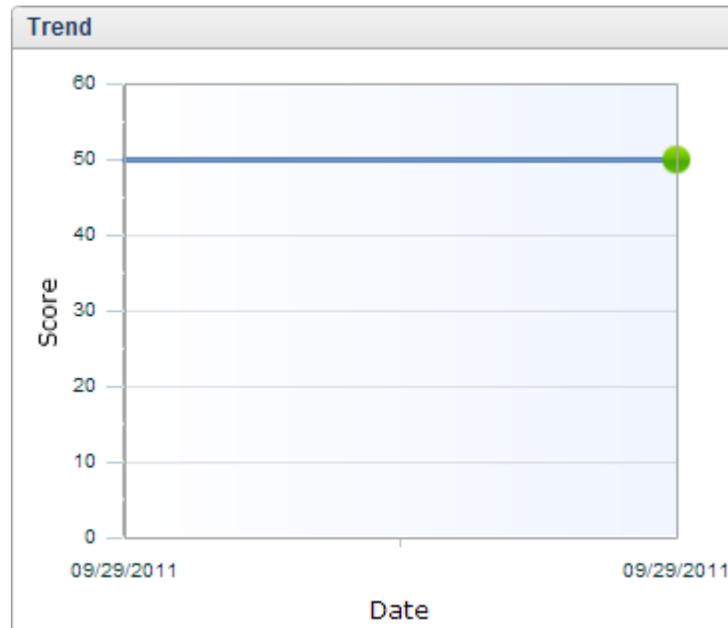
Dashboards are located in servers. The current server is listed in the drop-down field at the top left of the Dashboard Viewer. The dashboards available in the current server are displayed across the top of the viewer, along with the reporting interval, a button to change the interval, a button to refresh the viewer, and a button to access the Monitor Viewer. Click the dashboard that you need to review.

The following display shows the speedometer for a selected dashboard:



The Threshold value in the Business Rule Manager in Data Management Studio affects how the speedometer is displayed in Web Studio by changing the proportion of red to green. For more information, see the “Creating Dashboards, Dimensions, and Thresholds” topic in the “Business Rules” chapter of the *DataFlux Data Management Studio User’s Guide*.

The score in the speedometer is also reflected in the trend graph, as shown the following display:



The score (at a particular interval) represents the *sum* of the *weighted dimension scores* (at that same interval) of all the dimensions included in **Dashboard**. The *weighted score* for a dimension is calculated using the following formula:

```
(dimension score * dimension weight)/(sum of weights of all dimensions in the dashboard)
```

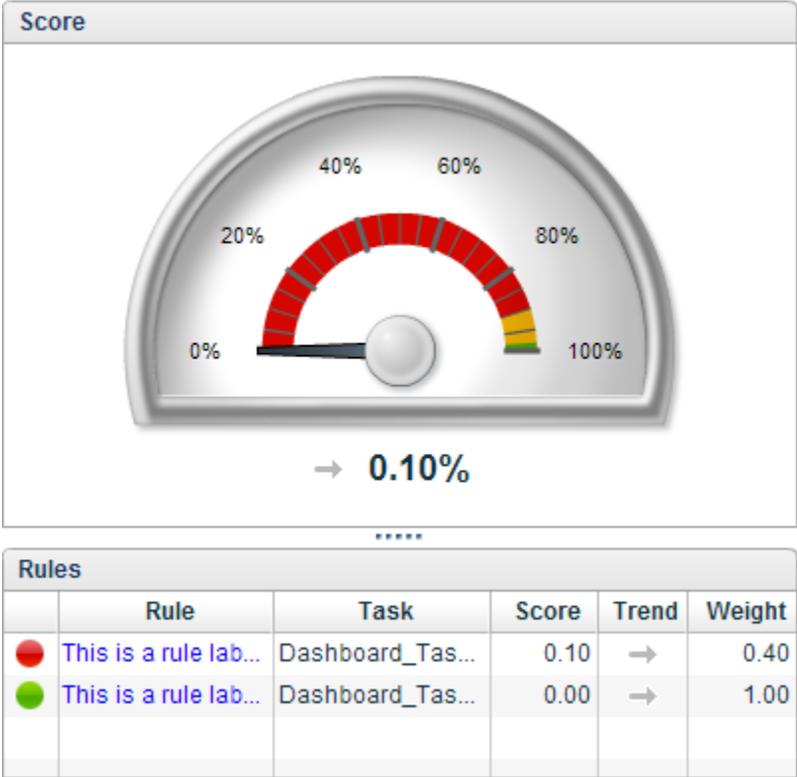
Your interpretation of this score depends on how you designed the rules that are running in your monitoring jobs. For example, you can design your jobs so that a high score is good or bad, so that it indicates a healthy or unhealthy system. Obviously, you must communicate your design goals clearly so that your users know how to interpret the dashboard score. More triggers occurring for a rule result in a lower score while fewer triggers yield a higher score.

Review Dimensions

Once you select a dashboard, you see its name displayed above the speedometer. As you drill down into the dashboard to examine dimensions and rules, the listing expands to include all of the elements under review. For example, you can click the **Validity** dimension in **Dashboard**. The display now reads *Dashboard > Validity*. **Dashboard** contains several dimensions, which are shown in the following display:

Dimensions				
	Dimension	Score	Trend	Weight
●	Accuracy	0.00	→	0.80
●	Validity	0.10	→	0.40
●	Completeness	100.00	→	1.00
●	DashboardDimension	100.00	→	1.00

When you click a dimension, such as **Validity**, the display changes. The new screen is shown in the following display:

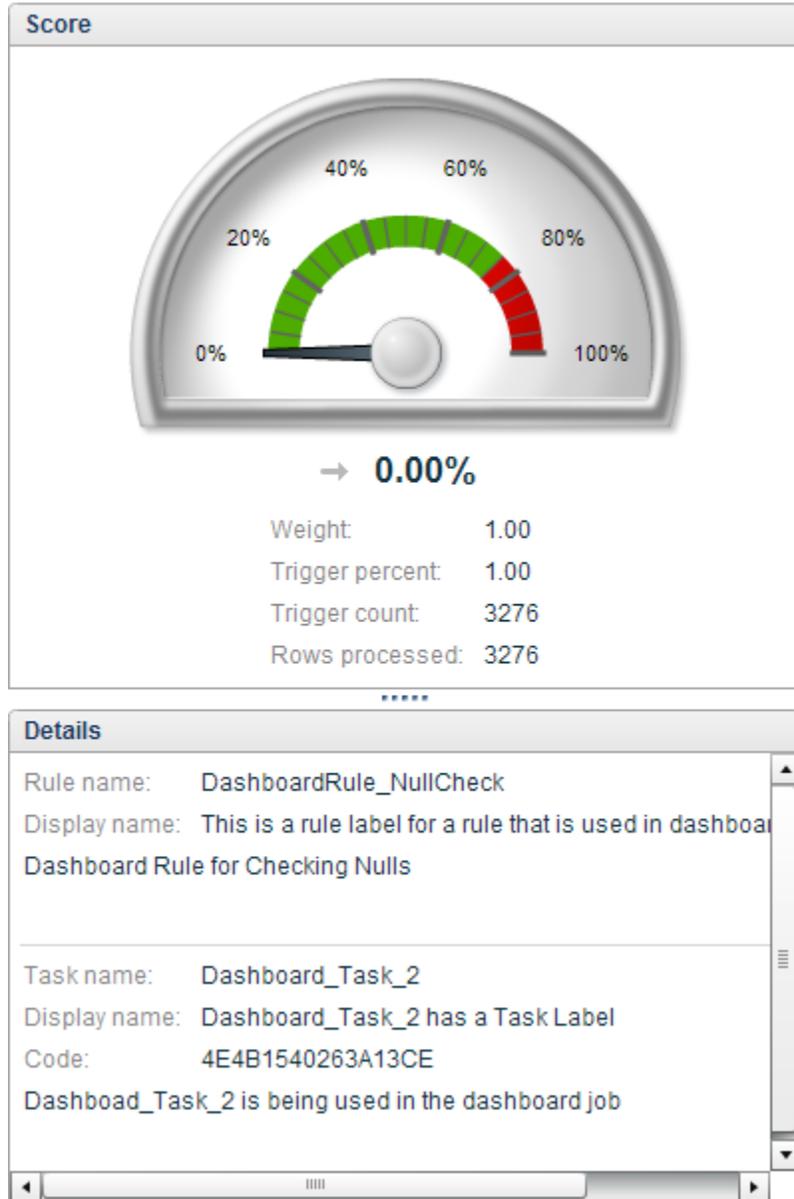


The dimension score shown on the speedometer (at a particular interval) represents the *sum* of the *weighted rule scores* (at that same interval) of all the rules included in the dimension. The *weighted score* for a rule is calculated using the following formula:

$$(\text{raw score} * \text{rule weight}) / (\text{sum of weights of all of the rules in the dimension})$$

Examine Rules

You can click a rule in a dimension to see more detailed perspective of its impact, as shown in the following display:



Note that the Score pane lists the weight, trigger percent, trigger count, and rows processed. The weight is set when the business rule is created. At this rule layer, a raw value is calculated with the following formula:

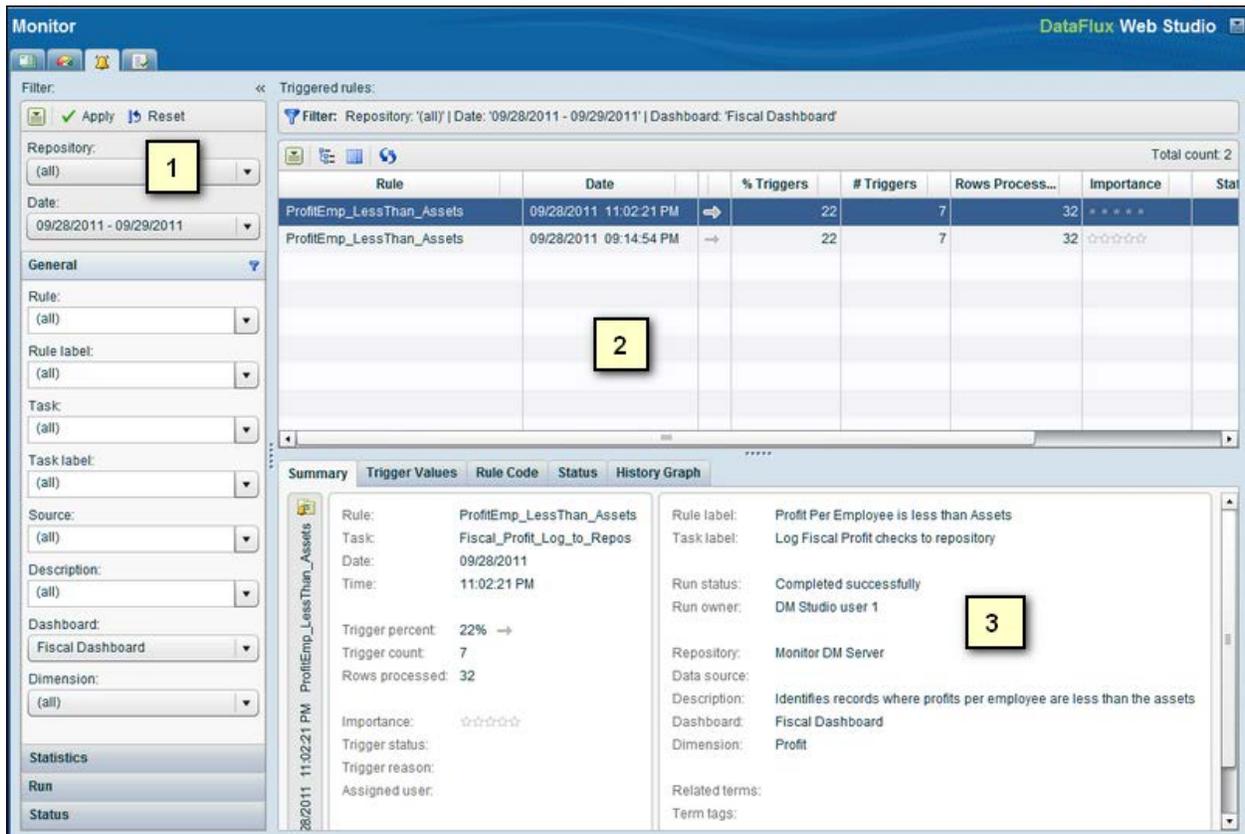
$$100 * (1 - (\text{trigger count} / \text{rows processed}))$$

where the trigger count and rows processed count are the sum of the trigger count and rows processed count for all runs of the rule-task that occurred during the currently selected time interval.

The Details pane displays source and task information about the selected business rule. You can use this information to work back to the rule in the Data Management Studio Business Rule Manager.

Monitor Viewer Interface

The Monitor Viewer provides a detailed, interactive view of the exceptions to monitored business rules. The exceptions are generated by data monitoring jobs that are created in Data Management Studio. The output of these jobs can be monitored in Web Studio, using Monitor Viewer.



Monitor Viewer contains the following panes:

1. [Filter Pane](#)
2. [Triggered Rules Table Pane](#)
3. [Rule Tabs Pane](#)

These panes match the natural workflow for reviewing dashboards in the Monitor Viewer. Typically, you would filter repositories in the Filter pane to select a dashboard and see the most useful information. Then, you would review the triggered rules table in the Triggered Rules Table pane. Finally, you would drill down into a selected rule from the rules table in the Rule Tabs pane.

Filter Pane

You always access the Monitor Viewer for a selected repository, but you can filter that repository's data in the Filter pane to refine your monitoring process. You should consider using a filter whenever you have several hundred thousand or more records to avoid

performance problems. The filters include the **Date** field and the fields in the following riser buttons:

- **General** - Enables you to filter data based on the rule and its label, the task and its label, the source, the description, the dashboard, and the dimension. Note that a repository can contain more than one dashboard, so it is important to review the **Dashboard** field to ensure that you are selecting the one that you need.
- **Statistics** - Enables you to filter data based on trigger percent, trigger count, and rows processed.
- **Run** - Enables you to filter data based on the run status and run owner.
- **Status** - Enables you to filter data based on importance, trigger status, trigger reason, and assigned user.

You can apply and reset your filters with the buttons at the top of the pane.

Triggered Rules Table Pane

The Triggered Rules pane displays the filtered rules in a table. You can perform the following functions in this table:

- Click **Show Columns** in the toolbar to review the list of columns for each rule and modify it as needed.
- Select a column and click **Show In Groups** to group the rules by the selected column.
- Click the **Action** button and click **Export To** to export the repository data to a CSV file.
- Click any column to sort by that column.

Rule Tabs Pane

The Rule Tabs pane enables you to see detailed information about a selected rule from the table in the Triggered Rules pane. The pane contains the following tabs:

- **Summary** - Displays a detailed summary of data concerning the rule and dashboard.
- **Trigger Values** - Displays the trigger values for the selected rule. You can print the values and export them to a CSV file.
- **Rule Code** - Displays the code for the selected rule.
- **Status** - Enables you to set status indicators for the selected rule. You can also add a note to the rule. You can use this tab to assign users, provide a reason for the trigger, and indicate how important it is. These metrics can be used to help prioritize work for individuals. For example, you can evaluate exceptions and assign related work to the appropriate technical personnel. Technical personnel will typically have access to Data Management Studio, and they can see and respond to the assignments made from this pane in Web Studio.
- **History Graph** - Displays a graph that documents the trigger history of the repository data. You can choose to view the percentage of rows processed in a line graph or the

rows processed and trigger counts in a bar graph. You can click the **Action** button to print either graph.

For more information about how to use this window, see [Using the Monitor Viewer](#).

 **Note:** Some features, such as adding additional Data Management Servers to be monitored, require changes outside of the Web Studio interface. For more information about such updates, see the *DataFlux Web Studio Installation and Configuration Guide*.

Using the Monitor Viewer

The Monitor Viewer collects information about the data in a selected dashboard in a repository and the business rules that monitor it. It provides a detailed, interactive view of the exceptions to monitored business rules. The exceptions are generated by data monitoring jobs that are created in DataFlux Data Management Studio. The output of these jobs can now be monitored outside of Data Management Studio in DataFlux Web Studio.

Business users can use the Monitor Viewer in Web Studio to monitor data quality. Then administrative users can review that same data quality information remotely using the Monitor Viewer within Data Management Studio and perform the detailed analyses needed to address any problem areas.

You can set filters that control the subset of the data presented in the viewer and review that information from a variety of perspectives. Perform the following tasks to use the Monitor Viewer:

- [Access the Monitor Viewer](#)
- [Filter Repository Data](#)
- [Review Business Rules](#)
- [Review Rules Tabs](#)

Access the Monitor Viewer

You can access the Monitor Viewer by clicking the **Monitor** tab at the top of the Web Studio window. You click the **Monitor** tab after you have selected a rule in the Rules pane of the **Dashboard**, the Monitor Viewer is displayed with the selected rule highlighted in the Triggered rules pane and the appropriate filters applied.

Filter Repository Data

Before you can work with the Monitor Viewer, you must select a repository from the drop-down menu in the **Repository** field in the Filter pane. Once you have selected the repository, you can filter the data to select the dashboard within the repository that you need to examine.

For performance purposes you should consider applying a filter to your repository data if the data number several hundred thousand records or more. Note that the **Date**, **Dashboard**, and **Dimension** filter values yield the greatest performance improvement because they restrict which data is returned from the repository. The Monitor Viewer applies the other filter values after retrieving the data from the repository, so they have no impact on the data retrieval time.

You can select a time frame in the **Date** field and drill-down into categories to set more specialized filtering criteria. For example, you can pick a trigger status from the **Status** category, as shown in the following display:

Filter: <<

Apply Reset

Repository:
(all)

Date:
09/22/2011 - 09/22/2011

General

Statistics

Run

Status

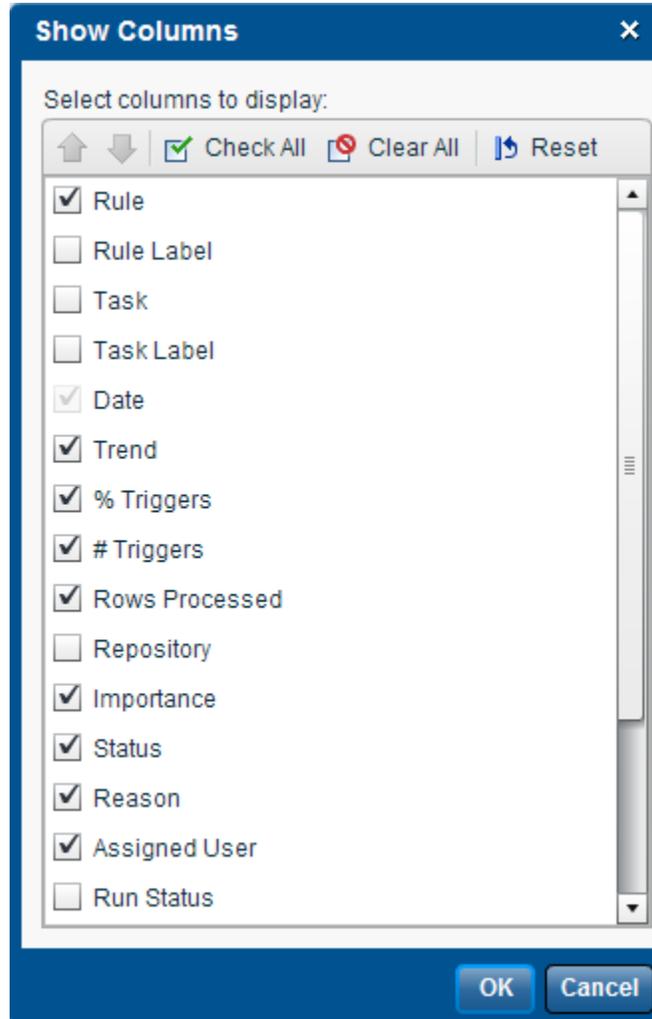
Importance:
(all)

Trigger status:
(all)
(blank)
ASSIGNED
RESOLVED
UNRESOLVED

Note that a repository can have more than one dashboard. This feature enables you to create custom dashboards to perform specialized functions, such as financial or system-performance monitoring and analysis. You can use the drop-down menu in the **Dashboard** field in the **General** section of the Filter pane to select the dashboard that you need.

Review Business Rules

The business rules for the selected repository are displayed in the Triggered rules table. You can click **Show Columns** in the toolbar to select the columns displayed in the table. The Show Columns dialog is shown in the following display:



The Triggered rules table displays the business rules that remain after the filters in the Filter pane have been applied. The table is shown in the following display:

Triggered rules:

Filter: Repository: '(all)' | Date: '09/22/2011 - 09/22/2011' | Dashboard: 'Dashboard'

Total count: 8

Rule	Date		% Triggers	# Triggers
DashboardRule_Nu	09/22/2011 03:32:15 PM	↔	100	3264
DashboardRule_Mix	09/22/2011 03:32:15 PM	→	100	3264
DashboardRule_Mix	09/22/2011 03:32:15 PM	→	100	30
DashboardRule_Nu	09/22/2011 03:32:15 PM	→	100	30
DashboardRule_Mix	09/22/2011 02:31:08 PM	→	100	3264
DashboardRule_Mix	09/22/2011 02:31:08 PM	→	100	30
DashboardRule_Nu	09/22/2011 02:31:08 PM	→	100	3264
DashboardRule_Nu	09/22/2011 02:31:08 PM	→	100	30

You can click the heading for any column to sort on the column. You can also select a column heading and click **Show In Groups** in the toolbar to see the rules grouped by the selected heading. The following display shows the rules grouped by the **# Trigger** heading:

Triggered rules:

Filter: Repository: '(all)' | Date: '09/22/2011 - 09/22/2011' | Dashboard: 'Dashboard'

Total count: 8

Rule	Date		% Triggers	# Triggers
▼ Trigger Count (2)				
DashboardRule	09/22/2011 03:32:15 PM	→	100	30
DashboardRule	09/22/2011 02:31:08 PM	→	100	30
DashboardRule	09/22/2011 03:32:15 PM	→	100	30
DashboardRule	09/22/2011 02:31:08 PM	→	100	30
▼ Trigger Count (>)				
DashboardRule	09/22/2011 03:32:15 PM	→	100	3264
DashboardRule	09/22/2011 03:32:15 PM	→	100	3264
DashboardRule	09/22/2011 02:31:08 PM	→	100	3264
DashboardRule	09/22/2011 02:31:08 PM	→	100	3264

Now you can select a business rule and examine its components.

Review Rules Tabs

The Rules Tabs section of the Monitor Viewer: enables you to review the selected rule in more depth by moving from one tab to the next. The **Summary** tab collects identification information and parameters for the selected rule, as shown in the following display:

Summary		Trigger Values	Rule Code	Status	History Graph
 09/22/2011 03:32:15 PM DashboardRule_NullCheck	Rule:	DashboardRule_NullCheck			
	Task:	Dashboard_Task_2			
	Date:	09/22/2011			
	Time:	03:32:15 PM			
	Trigger percent:	100% →			
	Trigger count:	3264			
	Rows processed:	3276			
	Importance:	☆☆☆☆☆			
	Trigger status:				
	Trigger reason:				
Assigned user:					
Rule label:	This is a rule label for a rule that is used in dashboards for null checks				
Task label:	Dashboard_Task_2 has a Task Label				
Run status:	Completed successfully				
Run owner:	monitorAdmin1				
Repository:	Monitor DM Server				
Data source:					
Description:					
Dashboard:	Dashboard				
Dimension:	Validity				
Related terms:					
Term tags:					
Term contacts:					

The **Trigger Values** tab contains a list of the trigger values for the selected rule, along with a toolbar for moving values around the list, printing the list, and exporting the list. The **Trigger Values** tab is shown in the following display:

Summary Trigger Values Rule Code Status History Graph

Page 1 of 33 Rows per page: 100

DashboardRule_NullCheck

NewField
Saint Louis
Raleigh
Cleveland
S Northfield
Clementson
Urb Canas
Old Mission
Bartow
Fort Worth
Charleston
Crawfordsvle
Lyman

09/22/2011 03:32:15 PM

The **Rule Code** tab displays the code for the selected rule, as shown in the following display:

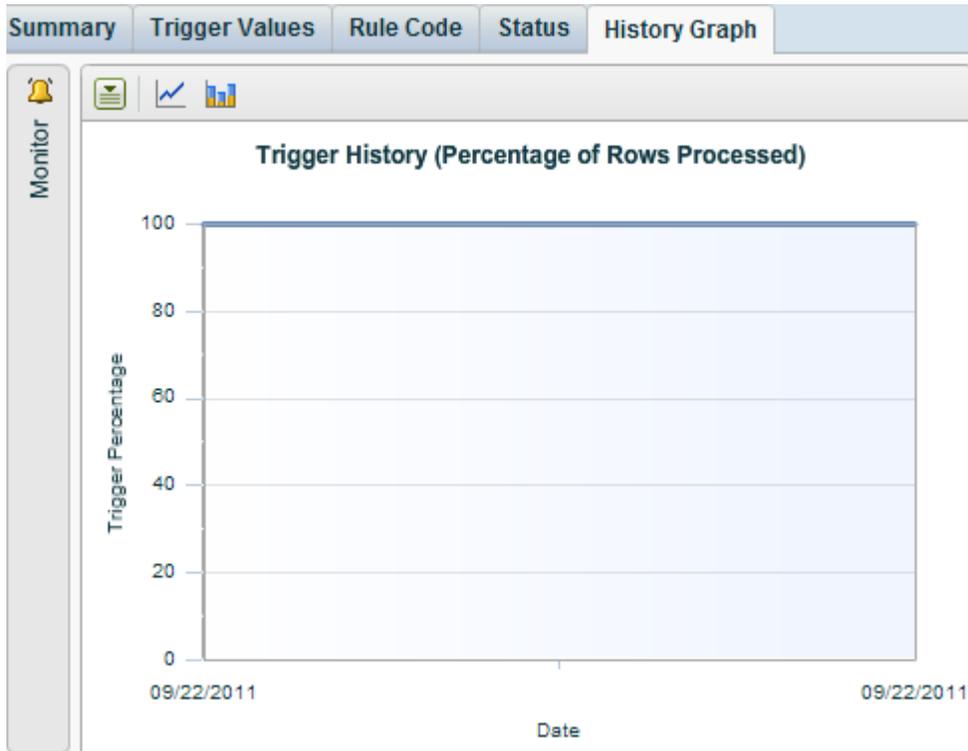
Summary	Trigger Values	Rule Code	Status	History Graph
				
if not isnull('NewField') then				
return true				
else				
return false				

09/22/2011 03:32:15 PM DashboardRule_NullCheck

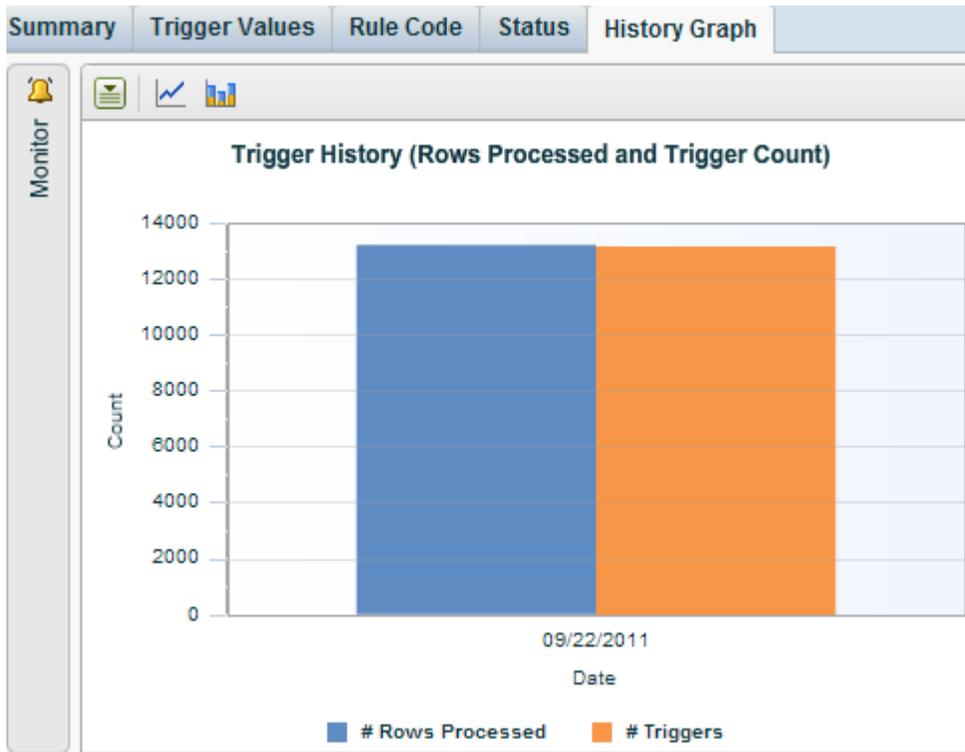
The **Status** tab enables you to review and modify status indicators for the selected rule. Therefore, you can use the tab to assign users, provide a reason for the trigger, and indicate how important it is. These metrics can be used to help prioritize work for individuals. The tab is shown in the following display:

The screenshot displays the 'Status' tab for a rule named 'DashboardRule_NullCheck'. The interface includes a vertical sidebar on the left with a document icon, the rule name, and a timestamp '09/22/2011 03:32:15 PM'. The main content area features five configuration fields: 'Trigger status' set to 'ASSIGNED', 'Trigger reason' set to 'PROCESS', 'Importance' set to 'Medium' (indicated by three yellow stars and two grey stars), 'Assigned user' set to 'Smith', and a 'Notes' section with an 'Edit...' button. At the top, there are five tabs: 'Summary', 'Trigger Values', 'Rule Code', 'Status', and 'History Graph', with 'Status' being the active tab.

The **History Graph** tab displays trigger history for the selected rule, both by percentage of rows processed and trigger counts. The percentage of rows processed version is shown in the following display:



The trigger counts version is shown in the following display:



Technical Support

This section addresses questions and issues related to DataFlux Web Studio.

[Frequently Asked Questions](#)

Frequently Asked Questions (FAQ)

The following questions and answers are designed to assist you when working with DataFlux Web Studio.

- [Security Issues](#)

Security Issues

The Web Studio administrator at your site is responsible for setting up login access and other permissions in Web Studio. Contact your Web Studio administrator if there are any problems with logins or other permissions. For more information about security issues, see the *DataFlux Web Studio Installation and Configuration Guide*.

Why can't I log into Web Studio?

In order to log in to Web Studio, you must be a registered user on the Authentication Server, and you must be a member of the group that is permitted to log in to Web Studio. Contact your Web Studio administrator if there are any problems with logins.

I can log in to Web Studio, but I cannot add or edit terms in Business Data Network. Why not?

Probably because you have not been added to the Web Studio Server for Business Data Network. In order to add or update terms in Business Data Network, you must be listed in the **Users** panel of the Business Data Server Administration window in DataFlux Data Management Studio.

How is it possible that my read-only users can see the "Add Term" button in Business Data Network?

Probably because these read-only users were mistakenly added to the Web Studio Server for Business Data Network. If a user is listed in the **Users** panel of the Business Data Server Administration window in DataFlux Data Management Studio, then he or she will be able to edit terms.

How can I set or unset edit permissions in Reference Data Manager?

Edit permissions are enabled by default for all valid users of Reference Data Manager. There is no way to revoke these permissions and have technical enforcement of a "read only" user in Reference Data Manager.

Can I configure Business Data Network so that there is a group of users who only have permissions to add notes and interested parties, but not to add or edit terms?

No, this is not possible.

Glossary

A

attribute

A bit of data that describes an item more fully

D

domain

A collection of related reference data

H

hierarchy domain

A reference data domain with two columns and a parent ID field to facilitate item linking

I

item

One element of information in a domain

L

list domain

A reference data domain with a single column

lookup domain

A reference data domain with two columns

P

publish

To push data out to other applications and users

R

reference data

A set of data elements that describe some standard set of values that change infrequently. One example is a list of countries where business is conducted. Another example is a product taxonomy supplied by a third party such as UNSPSC or eCI@ss.

Appendix

- [Legal Notices](#)

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