



**data
cookbook[®]**

User's Guide

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Version History

Version	Date	Description	Editor
4.6	01/28/19	Updates for release 18.11.0 <ul style="list-style-type: none"> added description of the Documentation Links available from the Data Cookbook's Help menu. clarified the way the Data Cookbook evaluates a quality rule's threshold to determine the Quality Rule Assessment added information about using the new ETL Template 	kwg
4.5	10/08/18	Updates for release 18.9.1	kwg
4.4	08/27/18	Updates for release 18.8.0	kwg
4.3	07/16/18	Updates for release 18.7.0	kwg
4.2	06/27/18	Updates for release 18.5.0 and release 18.6.0	kwg
4.1	05/08/18	Updates for release 18.4.0	kwg
3.9	02/05/18	Updates for release 18.1	kwg
3.8	12/11/17	Updates for release 17.12	kwg
3.7	11/16/17	Minor update for release 17.11.1	kwg
3.6	11/15/17	Updates for release 17.11.0	kwg
3.5	10/11/17	Updates for release 17.10.0	kwg
3.4	9/20/17	Updates for release 17.9.0	kwg
3.3	8/15/17	Updates for release 17.8.0.	kwg
3.2	7/18/17	Updates for release 17.7.1	kwg
3.1	7/05/17	Updates for release 17.7.0	kwg
3.0	6/21/17	Major updates for the Enterprise and Enterprise + Integration Editions release	kwg
2.1	4/11/17	Updated for release 17.4.0.	kwg
2.1	1/7/2017	Revised information about Definitions and Comments.	kwg
2.0	2/6/2016	Updated for Workflow	kwg
1.0		initial publication	kwg

1 Introducing the Data Cookbook

Your organization has reporting needs, but what information needs to be reported, *exactly*? How is it calculated and displayed? And where is that information stored in your system or systems?

All too often, when a report is requested, the report requirements leave too much room for interpretation. Room for interpretation means room for misunderstanding, error, and frustration.

The Data Cookbook exists to help you and your colleagues effectively and efficiently create report specifications with all the right details so that your reports can be built right the first time.

The Data Cookbook provides a central location for you and your colleagues to organize and store report designs, and the data definitions used in those reports.

What makes this tool so powerful is its ability to help you collectively discuss, define, and approve a single definition for each of your report's elements so that there is no confusion about what is meant when someone refers to an approved definition.

For example, if you determine that you need to design a report that includes "Graduation Rate," you can be clear about what is meant by "Graduation Rate." The term is already defined and ready to be included in a specification.

1.1 Conventions Used in this Guide

1.1.1 User Roles

As a Data Cookbook user, your ability to perform certain functions—such as add, edit, and approve objects—is determined by the user roles assigned by your Data Cookbook account administrator. In general, the possible roles you might have while working with the Data Cookbook are **viewer**, **editor**, or **manager**.

Viewer

Viewers can only view and comment on approved and in-progress objects. When assigned to objects through a workflow, you may be able to edit that object. When working with viewer permissions, your ability to see some details (such as technical information about a data system) may be restricted.

Editor

Editors have the same rights as a viewer, as well as the ability to create new objects, initiate a change in approved objects, and edit attributes not managed by version.

Manager

Managers have the same rights as a viewer and editor, as well as the ability to perform all operations necessary to manage an approved object. This includes deleting the object, sharing the object with a Community, and changing the object's functional area assignment.

Administrator

Administrators are those individuals charged with maintaining your Data Cookbook account. Their tasks and responsibilities include defining your site-specific codes and workflows. The *Data Cookbook Administrator’s Guide* explains the administrator role. For the purpose of this guide, it is important to be aware of this role and understand what is meant when we refer to your account administrator.

User Role and Functional Area

Permission to work with most objects is a combination of role (viewer, editor, or manager) and one or more functional areas. Through the assignment of permissions, you might have editor-level permissions for definitions restricted to a few functional areas, allowing you to create a new definition, but limit the functional areas to which you can assign the definition. Because of the tight relationship between user roles and functional areas, we do not explicitly mention functional area when describing roles. When the guide refers to “definition editors”, we are referring to users with editor-level permissions who can work on definitions, based on the functional area assignments associated with their user group.

User Roles in this Guide

Throughout this guide, we may refer to a role generically (“users with editor-level permissions”) or in relation to a specific object or data type (“definition editors” or “quality managers”). The following are the roles and the type of objects that these roles are concerned with.

Role		Object Types
Definition viewer, editor, or manager		Definitions
Specification viewer, editor, or manager		Specifications and collections
Quality viewer, editor, or manager		Data quality rules, data quality issues, reference data
Technical viewer, editor, or manager		Technical information, and using data Systems and data models, applied to Data Cookbook objects, such as a definition or specification. These roles are further qualified by functional area.
Data system <i>viewer</i> or <i>editor</i>		Data systems and data models associated with those systems. Data system permissions are not qualified by functional area.
Research Data <i>viewer</i> or <i>editor</i>		Research data is information added to a data quality issue that supports the researching or resolving of an issue through data system-specific queries. Research data editors can add this information to a data quality issue.

To learn how to view your user permissions, see [User Groups and User Permissions](#).

Default User Roles

The Data Cookbook assigns a special role to users who create new objects or request information. These roles are *version creator* (someone who creates a new version of an object, such as a definition or quality rule) and a *version requester* (someone who makes a request for a new version of a specification). Two other default roles, *requester* (someone who creates an information request) and a *version reporter* (someone who reports a quality issue) are also automatically assigned when the objects are created.

Your ability to function as a version creator or requestor is tied to your overall user permissions/functional area assignments. For example, you may be able to create new definitions for a specific functional area but not new specifications. To understand your different roles, view your User Profile and scroll to the User Groups and User Permissions section. User groups and user permissions are described in chapter 12.

1.1.2 Data Cookbook Editions

This document covers setting up and running all three editions of the Data Cookbook: Knowledge, Enterprise, and Enterprise + Integration. Most of the tasks a Data Cookbook administrator does are common to all Editions; however, where there are features that apply to either the Enterprise or Enterprise + Integration editions, we note the distinctions either explicitly in the text or with the icons you see here.

Knowledge Edition

The Knowledge Edition includes the ability to document your reporting terminology (*definitions*) and *specifications* and *collections* of your reports and dashboards and workflows (built-in and user-definable) for managing the approval of these objects. This edition allows users to establish data governance within an organization or to provide a tangible work product for your existing governance structures.

Enterprise Edition

With the Enterprise Edition of the Data Cookbook, you have access to all the functionality included with the Knowledge Edition (definitions, specifications, and workflows) as well as the *data quality* and extended *data systems*.



Enterprise + Integration

Through the IDataHub, the Enterprise + Integration adds integration with other data systems and brings automation to your data management.

Unless otherwise indicated, any features noted as part of the Enterprise Edition (either explicitly or with the icon shown above) are available to the Enterprise + Integration Edition as well. When you see the icon for the Enterprise + Integration Edition, these features are available *only* in this edition.



2 Navigating through the Data Cookbook

The Data Cookbook is delivered as Software-as-a-Service (SaaS). You access your institution's Data Cookbook account through a web browser using a URL that is defined for your institution. Typical Data Cookbook URLs follow the convention, `yourschool.dataData Cookbook.com`, where the Data Cookbook subdomain ("yourschool" in this example) typically matches your institution's website's subdomain. Check with your Data Cookbook administrator for the exact web address.

The www prefix typically used in web addresses is not used with the Data Cookbook URL.

Log in using the credentials e-mailed to you. Depending on how your school has set up your Data Cookbook account, you may be required to log in with a username and password specific for the Data Cookbook or you might use the same username and password used to access other applications on your institution's network.

2.1 Your Home Page

When you log in to the Data Cookbook, you land on your **Home** page. From here, you can quickly see tasks requiring your attention and updates on items you are watching. When you are a new user there won't be much content here, but once you've been working for a while your home page will show a fair amount of information.

Tasks

In the top, left portion of your **Home** page, you'll find your **Tasks** list. These are the items assigned to you to work on. Depending on your own permissions, you could see tasks for any or all of the following object types:

- Information Requests
- Quality Issues
- Definitions
- Specifications
- Collections
- Quality Rules
- Reference Data

The tasks for an IData University user are shown in Figure 1.

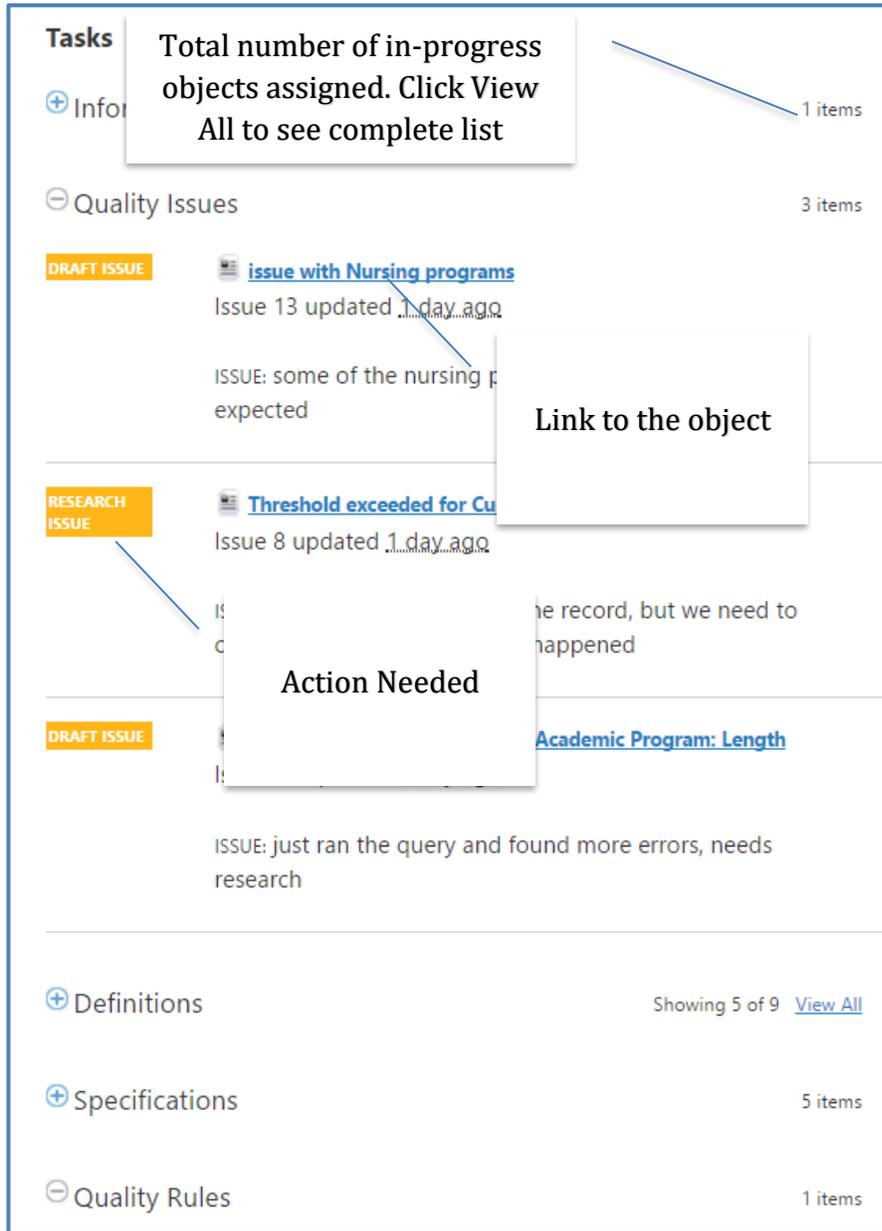


Figure 1 Tasks List on a User's Home Page

In this example, we see that there are several sections, one for each type of object in her task list. The expanded section, Quality Issues, shows the three issues to which she is currently assigned. One issue has the action "Research Issue" and the other two have the action "Draft Issue."

On the sidebar panel on the right side of your **Home** page, are links to the information requests, definitions, and specifications you have created, and recent definitions added by everyone. Click **See All** under any of these categories to see the complete list.

If you have permission to add objects such as definitions or specifications, you will also have buttons to take you directly to the creation page for these objects (**Create a Definition** or **Create a Specification**). Enterprise clients will also have an option for reporting a quality issue, create a quality rule, or create a collection.

At the bottom of your **Home** page is the **My Feed** section. In this area, you will find activity about any of the items you are watching. These items could include any Data Cookbook object, other institutions, or Data Cookbook Communities.

In the **My Feed** section illustrated in Figure 2, the activity related to the definition, *Payroll Address*, includes comments as well as various changes to the definition.

Report Quality Issue

Create a Definition

Create a Quality Rule

Create a Specification

Create a Collection

My Information Requests ⓘ

[there must be a report we have already with tui...](#)

[See All >](#)

My Specifications ⓘ

[Applicants Aid by Program](#) (In progress)

[Current Student Listing](#)

[Annual Revenue Rpt](#) (In progress)

[Incoming Freshman Report](#) (In progress)

[Institutional Metrics](#) (In progress)

[Financial Aid Awards Summary and Counts](#) (Approval requested)

[Financial Aid Awards in Progress](#) (Approval requested)

[See All >](#)

Definitions Recently Added (by me)

My Feed

[View All Activity](#)

NEW VERSION

[Payroll Address](#) was Created by [Reggie Stratton](#) 8 days ago

IN DRAFT

[Payroll Address](#) (2) was moved to Draft by [Reggie Stratton](#) 8 days ago

COMMENT

[Payroll Address](#)

COMMENT: I should be able to view the technical information, but I can't. Why not? [View / Reply](#)

8 days ago by [Stew Worker](#)

RELATED

[Payroll Address](#) related to definition [Address](#) by [Stew Worker](#) 8 days ago

TAG

"address" tag added to [Payroll Address](#) by [Stew Worker](#) 9 days ago

Figure 2 My Feed

2.2 The Data Cookbook Menu Bar

The Data Cookbook Menu Bar provides access to your **Home** page, the **Definitions**, **Specifications**, and **Quality** pages, the Data Cookbook **Community**, as well as **Organization** settings.

Figure 3 shows the menu options for users of the Knowledge Edition.

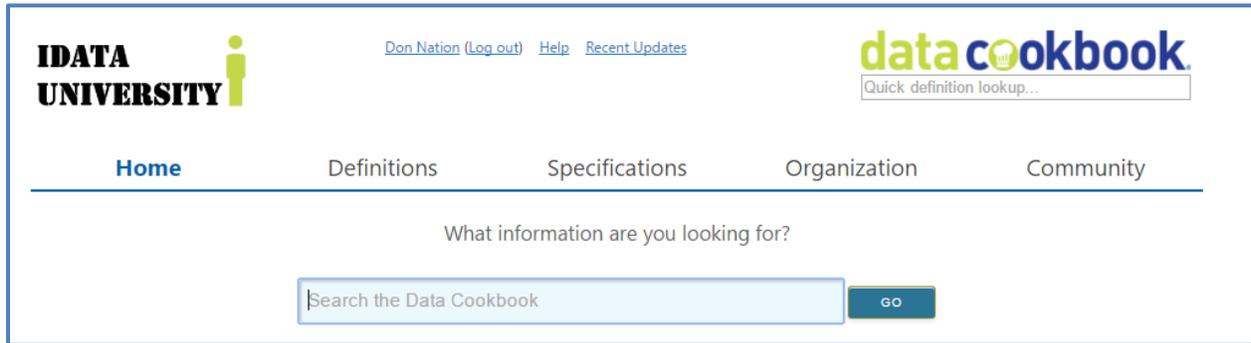


Figure 3 Menu Bar – Knowledge Edition

Figure 4 shows the menu options for users of the Enterprise Edition or Enterprise + Integration.

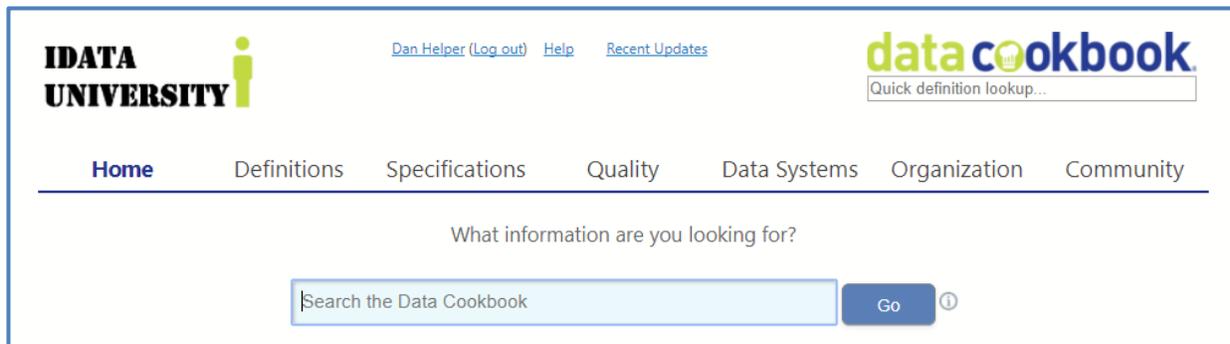


Figure 4 Menu Bar – Enterprise Edition

Most users will work with options available from the **Home**, **Definitions**, **Specifications**, **Quality**, and **Data Systems** menus. In the descriptions that follow, actual menu options are shown in bold.

The options you have available from each of the Data Cookbook menus may be different than described here due to your user group permissions.

Click on any of menu option to move to the section or hover over to select a specific task (such as **Browse definitions**).

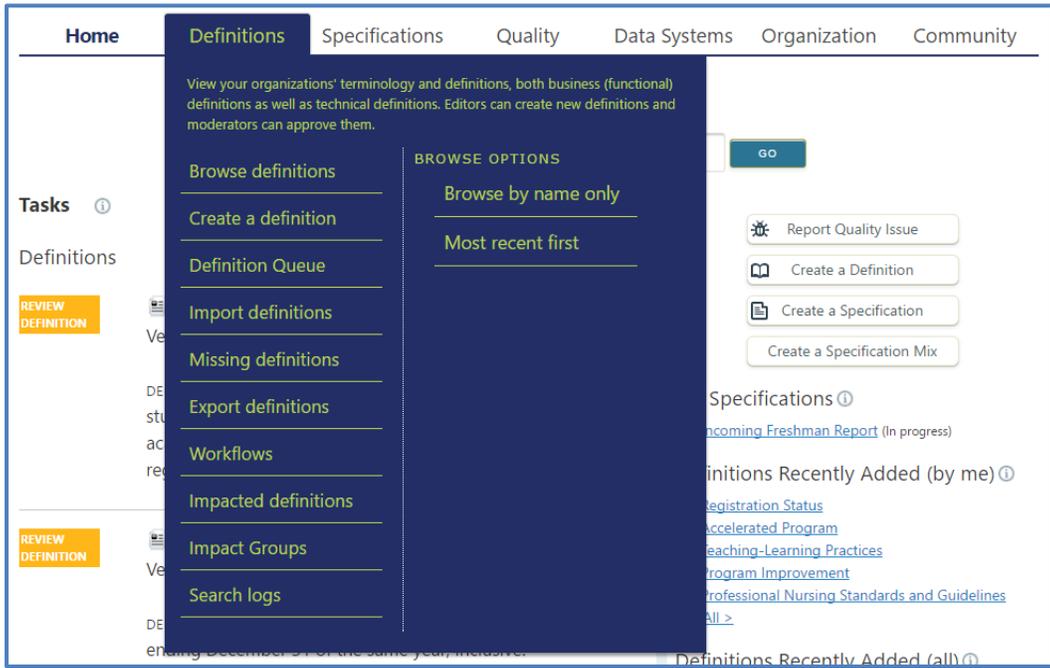


Figure 5 The Definitions Menu

Prefer to use your keyboard?

You can navigate the Data Cookbook’s menus with your keyboard’s tab key and spacebar. Press tab key to move across the menu options and then use the space bar to open a menu. Once the menu is open, press the tab key to move through the options on the menu. Press enter to select the highlighted menu option.

Home

From the **Home** menu, you can quickly access

- A listing of your recent Data Cookbook activity (**Recent Activity**)
- **Tasks** assigned to you
- Notifications and communications (**My Feed**)
- The Data Cookbook Search option (**Find Data**)
- All Information Requests¹
- Any pending jobs, such as copy requests, operating in the background

Definitions

Definitions are the basic building blocks of your reports. From the **Definitions** menu, you can

- See a list of all your organization's definitions (**Browse Definitions**). Additional browse options provide a direct link to viewing all definitions by name (**Browse by name only**) or the most recent (**Browse recent first**)
- **Create a Definition** (based on your permissions).
- View & manage the definitions waiting for approval (**Definition Queue**).
- **Import Definitions** from a CSV file or from the Data Cookbook community.
- See a list of Missing definitions (**Missing Definitions**).
- **Export Definitions** to a file for use outside of the Data Cookbook.
- Access the definition **Workflows**.
- View the impacts to and by definitions (**Impacted Definitions**).
- See the list of impact groups, with definitions as an originating object (**Impact Groups**)
- View the definition **Search Logs**.

For more information on working with definitions, see [Working with Definitions](#).

Specifications

A specification is the term used by the Data Cookbook to encompass any reporting deliverable that you want to document. From the **Specifications menu**, you can

- See a list of all your organization's specifications (**Browse Specifications**).
- **Create a specification** (based on your permissions).
- View specifications waiting for approval (**Specifications Queue**).
- **Import Specifications** from a CSV list or from specifications downloaded from the Data Cookbook Community.
- See a list of all your organization's collections (**Browse Collections**).
- **Create a specification** (based on your permissions).
- View specifications waiting for approval (**Specifications Queue**).
- Access the specification **Workflows**.
- View the impacts to and by specifications (**Impacted Specifications**).
- See the list of impact groups, with specifications as an originating object (**Impact Groups**)

¹ Only available if this feature is implemented for your organization's Data Cookbook account.

- View the specification **Search Logs**.

To learn more about specifications, see [Working with Specifications](#).

Quality

The **Quality** menu is where you will find your organization's data quality rules, reference data, and queues for quality rules and quality issues. From the **Quality** menu, you can:

- Report a quality issue (**Report a Quality Issue**).
- View all quality issues waiting for resolution (**Quality Issue Queue**).
- See a list of all your organization's quality rules (**Browse Quality Rules**).
- **Create a Quality Rule** (based on your permissions).
- View quality rules waiting for approval (**Quality Rule Queue**).
- See a list of all your organization's reference data (**Browse Reference Data**).
- **Create Reference Data** (based on your permissions).
- View reference data waiting for approval (**Reference Data Queue**).
- Access the quality rules approval, quality issues resolution, or reference data approval **Workflows** (the default filter from this menu option is quality rule approval; select a different workflow type to see the other data quality-related workflows).
- View the impacts to and by specifications (**Impacted Quality Rules**).
- See the list of impact groups, with quality rules as an originating object (**Impact Groups**)
- View the quality rules **Search Logs**.

To learn more about quality rules, see [Working with Data Quality](#).

Data Systems

The **Data Systems** menu is where you will find information about the organizational systems defined in the Data Cookbook. These systems could include transactional administrative systems, such as Colleague or PeopleSoft; recruitment or application management systems; and a reporting infrastructure, such as an ODBC data warehouse. From the **Data Systems** menu, you can

- **Browse** all your organization's data systems.
- **Create a Data System** (based on your user permissions).
- **Create a Data System Group** (based on your user permissions).

To learn more about data systems, see [Working with Data Systems](#).

Organization

Unless you are an administrator, nearly every link on the **Organization** menu will be read-only. However, depending on your user role, some of the options on this menu may be of interest to you and may affect your work directly. For details, refer to the *Data Cookbook Administrator's Guide*.



Community

Many schools, organizations, and vendors have shared some of their Data Cookbook content (definitions, specifications, or other files) with the Data Cookbook community. This is a public repository, where users can import definitions, or interested parties can browse. Some organizations are also part of what's known as private communities, which is an optional Data Cookbook feature that allows institutions to share more content with each other, and not necessarily with the public community.

From the Community menu, you can:

- View a list of all **Organizations** participating in the Data Cookbook community.
- View a list of all shared **Definitions**.
- View a list of all shared **Specifications**.
- View a list of all shared **Quality Rules**.
- Access Community **Forums**
- View your queue of objects being copied from the community (**Copy Queue**)

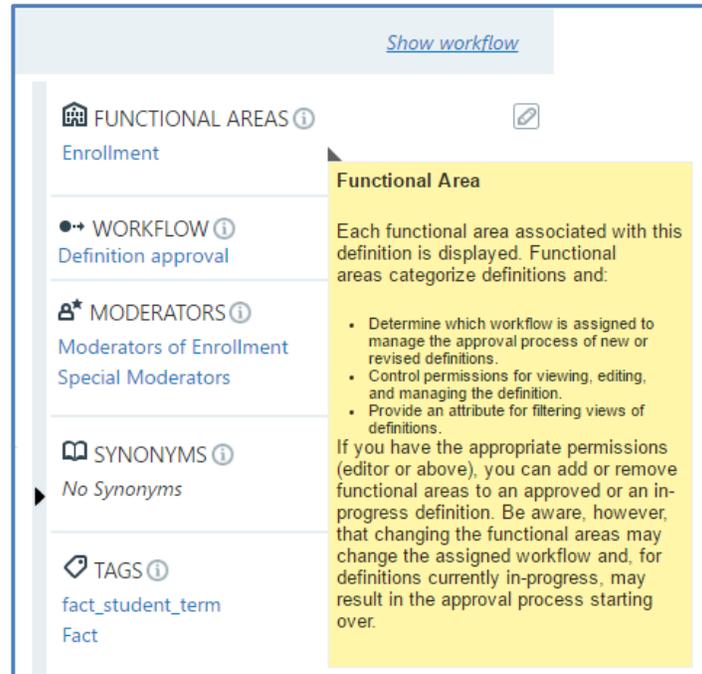
For more on the Data Cookbook Community, see [Collaborating with the Data Cookbook Community](#).

2.3 Help and Tutorials

Online help, [links to documentation](#), and interactive tutorials are available to all Data Cookbook users to assist in you using your Data Cookbook account.

2.3.1 Online Help

Throughout the Data Cookbook, help is provided for many fields that you will see or need fill-in as you define objects such as definitions or specifications. To see the field-specific help, simply hover your cursor over any help icon, as illustrated below.



You can also click on the help icon and the help text will display in a pop-out window that you can keep open on the screen and move to wherever you need while you are working.

2.3.2 Documentation Links

The **Help** page, which is available from anywhere in the Data Cookbook, has links to all our documentation and resources such as user forums, blogs, webinars, even IData’s Twitter and YouTube feeds and channel. A portion of this page is illustrated in Figure 6.

IDATA UNIVERSITY [Karen Gwynn \(Log out\)](#) [Help](#) [Recent Updates](#) [Enable Admin](#) [System](#) **data cookbook**
Quick definition lookup...

Home Definitions Specifications Quality Data Systems Organization Community

Help

Documentation

Document	Last Updated	Description
User Guide	10/08/2018	Reference documentation for users of the Data Cookbook. The users guide includes descriptions of workflows and features.
Administrator Guide	06/27/2018	Reference documentation for administrators of the Data Cookbook. The admin guide includes information on configuring the account as well as managing permissions and designing workflows.
External Authentication	12/05/2017	The Data Cookbook allows organizations to authenticate users through their existing authentication repositories. Currently it supports LDAP, Active Directory, CAS and Shibboleth protocols. This document provides details for administrators on configuring external authentication for your organization.
Test Instances	06/20/2018	Reference documentation for administrators and users who are working in the Test Instance of the Data Cookbook.
Metrics Dashboard	09/27/2018	Reference documentation for users for working with the Metrics Dashboard feature, which provides insights into your organization's usage of the Data Cookbook.
Private Community User's Guide	06/27/2018	Reference documentation for users who have access to a private community. This guide should be used in conjunction with the Data Cookbook User's Guide

Additional Resources

Resource	Description
Data Cookbook Forums	Online forums for Data Cookbook clients only. Can be used for support questions as well. Monitored by IData.
Email Support	Email our support group for additional help on the Data Cookbook
News Blog	Public news and announcements from the Data Cookbook website
Extra Resources	Additional resources for clients on using and implementing the Data Cookbook. Contains tutorials, examples, and information about ways to extend the use of the Data Cookbook at your organization.
Twitter Account	Latest Information on the Data Cookbook
YouTube Channel	Latest Data Governance and Data Cookbook videos

Figure 6 The Help Page

2.3.3 Step-by-Step Tutorials

Tutorials are available within the Data Cookbook to show you how to accomplish many of the tasks you can do with the Data Cookbook, such as searching for objects and creating a new definition. Many tutorials are designed to provide just-in-time assistance, with "shout-outs" displaying on the screen to inform you about different tasks you can perform in the Data Cookbook. If you do not want to walk through the instruction steps at that time, dismiss the tutorial. You can also access the list of tutorials at any time by clicking the Need Help icon that displays at the bottom of every page (as illustrated in Figure 7).

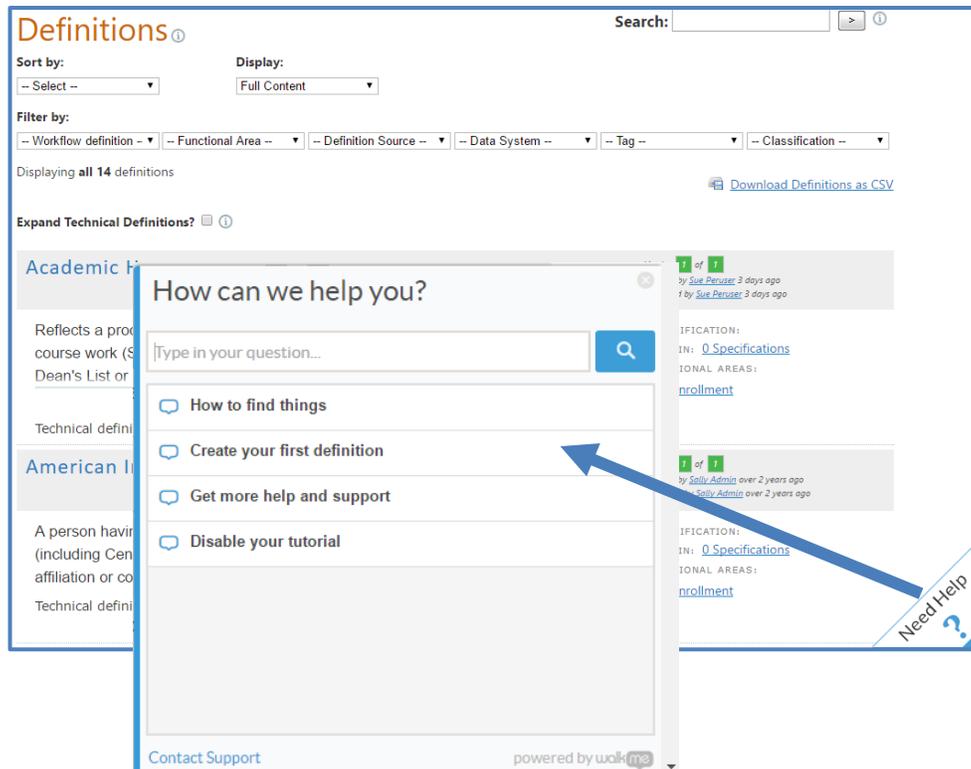


Figure 7 Accessing the Interactive Tutorials

If you do not want to see the link to tutorials displayed, you can turn off the feature, from your user profile. When IData releases new tutorials, we will turn the feature back on for you, providing you with the opportunity to see what is new. Simply turn the feature off to remove the link. For details on setting the tutorials for your user account, see [Interactive Tutorials](#).

3 Working with Data Cookbook Objects

A Data Cookbook **object** is any item you work with to define your organization's business glossary and data dictionary; describe specifications for reports and reporting objects; create collections of reporting objects; set rules for data quality; and describe your data systems. The basic Data Cookbook objects are Definitions, report Specifications and Information Requests. Enterprise Edition clients can also define Data Quality Rules, Data Systems², Reference Data, and Data Quality Issues.

When you create an object and until that object is approved, resolved, rejected, or closed, it is said to be **in-progress**. Once the object is approved (or the review process has otherwise ended) the object is either **approved**, **rejected**, or **resolved**. Unless otherwise stated, in this guide we refer to all objects that are not in-progress as approved. The process of creating and approving an object is controlled by a set of stages and steps defined in an approval **workflow**. Workflows are described in section 3.7, [Approve Objects](#).

Much of what you will do in the Data Cookbook—creating new or revised objects; reviewing and approving object versions; responding to and entering comments—follow the same, or similar processes regardless of the type of object you are working with. Once you understand the basics of how to accomplish these tasks, it becomes easier to work with a specific type of object.

In this chapter, we describe the basic components common to all objects ([Basic Components of All Data Cookbook Objects](#)) and explain how to

- create a new object ([Create Objects](#))
- reassign the version creator role ([Reassign the Version Creator Role](#))
- revise an approved object ([Create a New Version of an Object](#))
- edit an object ([Edit an In-Progress Object](#))
- approve an object ([Approve Objects](#))
- look for objects ([Finding Objects](#))
- relate objects ([Relate Objects](#))
- report a quality issue (Enterprise and Enterprise + Integration only; [Report a Quality Issue](#))
- request information ([Request Information](#))
- comment on an object ([Comment on an Object](#))
- delete objects ([Delete Objects](#))
- keep track of the objects you are interested in ([Watch Objects](#))

3.1 Basic Components of All Data Cookbook Objects

Whether you are looking at a data definition, reviewing changes to a specification, or reporting a data quality issue, each object in the Data Cookbook has a number of elements

² In the Knowledge Edition, data systems are an attribute available for defining definitions and specifications. The Enterprise Edition expands the functionality and the amount of information available for defining and utilizing data systems.

on the page that are similar to each other. In this section, we describe the basic parts of a page and the information you will find, as well as some of the user interface controls and actions that you will utilize in your work with the Data Cookbook.

To begin, let's start with objects that are already created. Whether they have been approved or are still within the approval process, you can find a listing of a specific object by clicking the menu name (such as **Definitions, Specifications, Quality, or Data System**) or by choosing the browse option from those menus (for complete information about how to browse object lists and search for specific objects, see [Finding Objects](#)).

When you have located the object, click the object's name to see the details in view-mode, as illustrated in Figure 8.

Workflow Header

Attributes

Sidebar

Version-specific History & Comments

Academic Advisor
Synonyms: Faculty Advisor
Approved Version 2 [New version](#)

Comment (0 comments)
★ On my watch list
[Show workflow](#)

FUNCTIONAL AREAS
Student Life

WORKFLOW
Definition approval

MODERATORS
Moderators of Student and Stud
Special Moderators

SYNONYMS
Faculty Advisor

TAGS
Workflow demo

ATTACHMENTS

RELATED SPECIFICATIONS (0)

RELATED DEFINITIONS (1)
academic credit

RELATED QUALITY RULES (0)
No Related Quality Rules

QUALITY ISSUES (1)
2: bug w

COM
Public
IData Schools

[Copy this version](#)

DEFINITION

Academic Advisor
Synonyms: Faculty Advisor
Approved Version 2 [New version](#)

Functional Definition: ⓘ
An assigned University staff members who help students decide which classes to take and who provide academic advice about degree programs and academic regulations, practices, and procedures. Usually they work in the faculty or federated college through which a student is registered.

Other Information:
SOURCE OF DEFINITION: ⓘ [University of Regina](#)
COPIED FROM COMMUNITY DEFINITION: ⓘ [Academic/F](#)
CLASSIFICATION: ⓘ

Quality Attributes ⓘ No quality attributes defined

Technical Definitions ⓘ
PRIMARY OBJECTS: No Primary Objects
No technical definitions defined.

History and Comments ⓘ [View History](#)
2: Approved (0 Comments) [show/hide version details](#)
Related definition [academic credit](#) added by [John Admin](#) about 22 hours ago
Primary system event
1: Previously Approved (0 Comments) [show/hide version details](#)
Tag 'Workflow demo' added by [Dan Helper](#) about 1 month ago
Primary system event
S Synonym 'Faculty Advisor' created by [Reggie Stration](#) 3 months ago
Primary system event

Figure 8 Components of a Definition

Figure 8 shows an example of a definition, and although other objects will look different, they will have many of the same features, such as those pointed out in this example.

3.1.1 Workflow Panel

The **workflow panel** is where you find information about the workflow assigned to the object. Workflows control the process of approving, resolving, or responding to an object after it has been created.

When you first open an object, the workflow panel is collapsed, as illustrated in Figure 9. Click **Show Workflow** to see the details about the workflow associated with this object, its current state, including who created the version and any assigned collaborators or individual “named roles.”

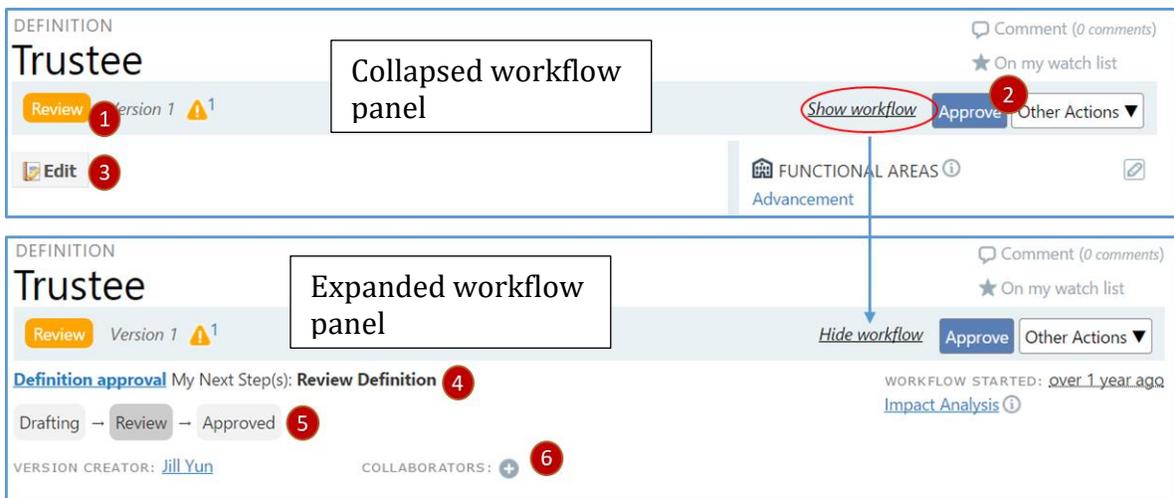


Figure 9 In-progress Definition—With and Without Workflow Information

From the workflow panel, we can tell that the definition illustrated in Figure 9 is in the Review stage (1); that this user can approve the definition or take other actions (2). Before taking an action, she can edit (3) the definition and add to or change any of the information the version creator provided.

The expanded workflow panel shows additional information about the stages and steps that the workflow is currently in (4) and (5) as well as who created the definition and, if any collaborators have been added (6). To add a collaborator, open the **Collaborators** section to select from the list of Data Cookbook users (for information about collaborators, see [Collaborate with Others](#)).

3.1.2 Sidebar

Some information associated with an object are not controlled by the workflow process and can be changed without creating a new version. Generally speaking, any information in an object’s sidebar can be changed (added or removed) in an approved or in-progress object. The ability to add some information is, however, controlled by user permissions and may not be available to all users outside of the workflow process.

The following table lists, by object type, the non-version-controlled attributes that an editor or manager can edit.

Object Type		Non-version Controlled Attributes
Collections		Functional Area, Tags
Definitions		Domains, Synonyms, Tags, Related Definitions, Related Quality Rules
Information Requests		Related Definitions, Related Specifications
Quality Issue		Related Quality Rules
Quality Rule		Functional Area, Related Definitions
Specifications		Functional Area, Related Specifications, Tags, Milestones/Milestone Template
Reference Data		none

Quality Issues

Quality issues can be reported by any user about a definition, specification, quality rule, or a set of reference data. The object can be in-progress or approved when the issue is reported. For information about quality issues, see [Report a Quality Issue](#).



3.1.3 Attributes

The attributes that are not in the sidebar are versioned attributes and are managed by the Data Cookbook's approval process. For example, a definition's functional and technical definition are defined when a user creates the definition and after the definition is approved, these attributes can only be edited by a definition editor or manager who creates a new version of the definition.

The specific attributes that are version controlled are different for each object type.

Object Type		Version Controlled Attributes
Collections		All attributes
Definitions		Name, Functional Definition, Source, Classification, Technical Information, Quality Attributes
Information Requests		n/a
Quality Issue		n/a
Quality Rule		Name, Description, Severity, Validation, Technical Information

Object Type	Version Controlled Attributes
Specifications	Name, Type, Purpose, Description and other attributes that vary based on Specification type and template
Reference Data 	Name, Description, Value Lists

See the online help and the chapters for each object for more information about these attributes.

Name Attribute

All objects must have a unique name. Object creators must provide a name before they can create a new object and that name must be unique to your Data Cookbook account. These names are case insensitive and do not depend upon the associated functional area. For example, if you have a definition “grade point average”, a definition creator cannot define a different definition “Grade Point Average”, as these are the same name. Likewise, if you have defined “Student” and associated it with one functional area, you cannot create another term “Student” for a different functional area.

Functional Area

Functional area is a requirement for all objects. The functional area categorizes items by topic or business area and:

- Determine the workflow for an item
- Control permissions for viewing, editing, and managing an item
- Filter items on a Browse page

You can assign as many functional areas to an object as necessary to properly categorize that item. For example, a definition that is used by both the financial aid and the business office may have two functional areas. Some organizations create a general, institution-wide functional area to use for objects that transcend departments or organizational units.

For many objects, the functional area can be changed at any time, including once the object has been approved, without creating a new version of the object. Be aware, however, that changing or adding a functional area may impact the assigned workflow. For example, if an in-progress object was assigned a workflow based on the functional area, and then that functional area assignment is changed (either another functional area is added or the original one is changed), the workflow might change, and this will result in the approval process restarting based on the new workflow.

3.1.4 History and Comments

The **History and Comments** section shows, in reverse chronological order, the comments added and various system events.

System events are actions the Data Cookbook takes when you work with an object. For example, if someone adds a tag or synonym to a definition, a system event is recorded.

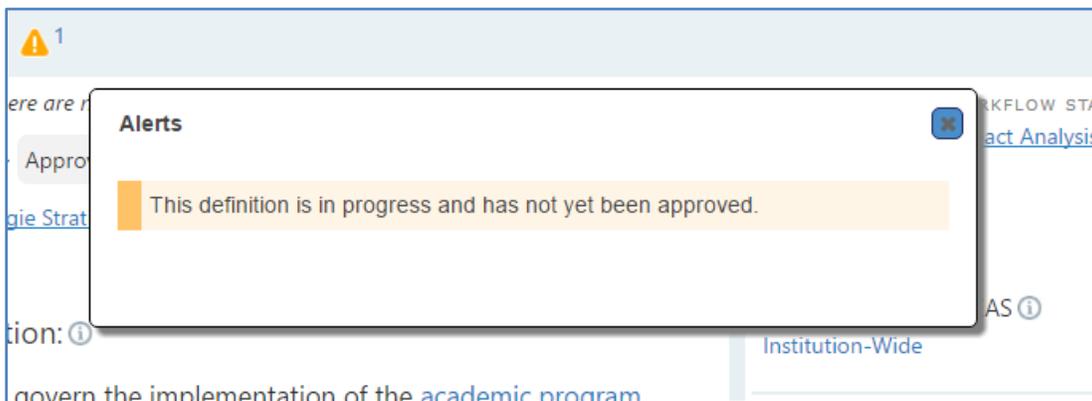
System events that chronicle the actions taken during workflow processing (such as submitting or approving the object) are associated with a specific version of the object and are visible when you show a version's history.

Click **show/hide version** details to see the comments and system events associated with a different version of the object.

Click **View History** to see a summary comparison of current and past versions of the object.

3.1.5 System Alerts

The warning icon shown next to the object's version number indicates that there is an alert associated with an object. To see the message, click the icon:



Some examples of when alerts display when viewing an object include:

- There is newer version in progress
- You are not viewing the latest approved
- You are viewing an older, previously approved version
- There are pending impacts on the object (for information about impacts, see [Understanding the Impact of Changing an Object](#)).
- There are issues with the assigned workflow

When viewing a specification, you might also see alerts if certain non-required attributes are not completed, such as the specification’s purpose or description or any of the related definitions are missing information or are in-progress. Figure 10 illustrates a list of alerts for an in-progress specification at IData University.

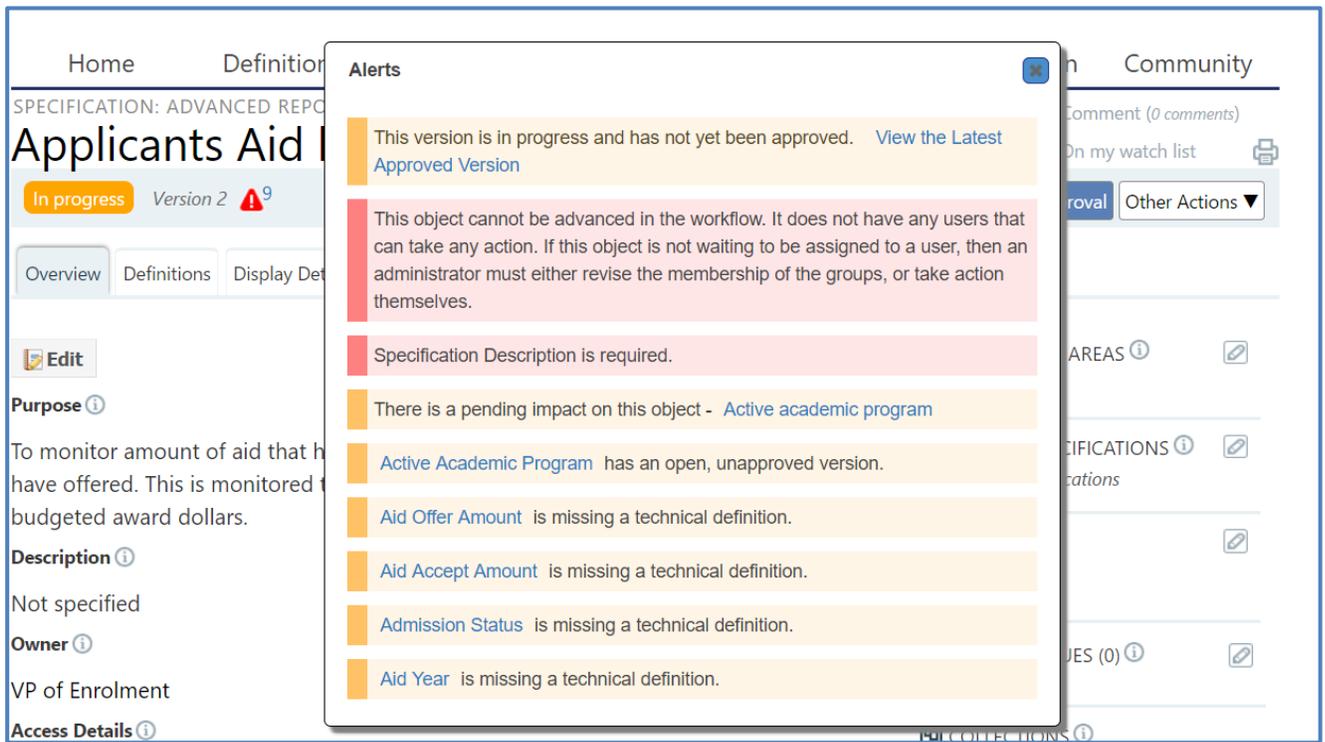


Figure 10 Example of Alerts on a Specification

Figure 10 also shows an alert that indicates the object (in this example, a specification) cannot advance in its current workflow because there are no assigned users who can take action. In this particular case, this alert is because the step has a named role assignment which requires a user from a specified group assign a user to the current step. This error can also occur if a workflow step is assigned to a user group and there are no users assigned to the group. In that scenario, your Data Cookbook administrator will need to adjust the workflow or the user group.

3.2 Create Objects

Whether you need to create a new definition, quality rule, or report specification, the basic steps for creating an object are the same:

- 1 Choose the option to create an object from the appropriate menu (such as **Create a Specification** from the **Specifications** menu) or by clicking the appropriate button on the sidebar on your **Home** page.³

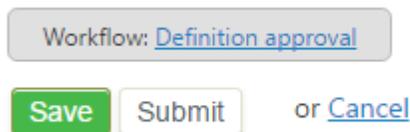
Note that the options you have available to you are based on your user permissions.

- 2 Complete the required fields for the new object.

At a minimum, you are required to provide a name and select a key attribute, typically a functional area, before saving a draft of the new item. All required fields are indicated on the new object form with an asterisk beside the attribute name.

For more information about object-specific attributes, see the chapter about the individual object or refer to the online help.

- 3 Choose the appropriate action to either complete the save or submit the work you have just completed.
 - To save a draft of the object without submitting it for review, click **Save**.
 - To save the object and submit it for review, click **Submit**.
 - To leave the form without saving, click **Cancel**.



Example of the basic options available when creating a new definition

The specific set of options available to you when you create a new object will depend on the associated workflow and your own level of permissions. Most workflows provide the version creator with these three basic options.

Until you submit a new object for approval, you can continue to work with the object, making any adjustments and adding information as necessary to fully describe the item. Simply open the item and click **Edit** to continue with where you left off.

³ The **Home** page side bar provides options to create new objects (definition, specification, quality rules, or collections or reporting a quality issue). For all other objects, you will need to access the Create option from the appropriate menu.

As you add attributes to a new item, be sure to click **Update** to save the changes you make, or **Cancel** if you do not want to save your modifications.

3.3 Create a New Version of an Object

To change any of the version-controlled attributes of an approved object, you must create a new version of that definition.

The steps for creating a new version of an approved definition are provided below. The steps for creating a new version of any object follow a similar process:

- 1 Open the last approved version of the definition.
- 2 Click **New Version** from the definition's header.



- 3 Make your changes to the definition.
- 4 Save your work and either continue working on the definition or click **Edit** to continue working.

The specific options you have will depend on your permissions, the object you are working with, and the assigned workflow.

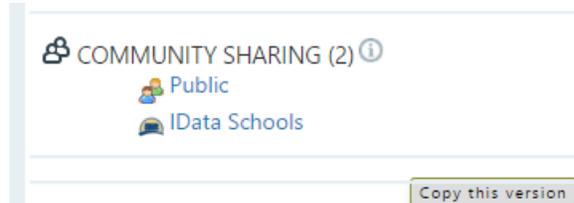
3.4 Create a Copy of an Object

Creating a copy of an object allows you to define a new object based on another object. For example, if you have a definition that is similar to a new definition you need, instead of beginning from scratch, you can create a copy of the existing definition to use as the basis for your new definition.

To create a copy of an object, you must have editor- or manager-level permissions for that object type. The functional area of the source object does not need to match your permissions for you to copy that object. For example, Don Nation is a definition editor at IData University. He has definition editor permissions for the Advancement functional area only. However, he can copy any definition from the university's account and associate the Advancement functional area.

The steps for creating a copy of definition are provided below. The steps for copying any object follow a similar process:

- 1 Open the version of the definition you want to copy.
- 2 Click **Copy this version** from the definition's sidebar.



- 3 Complete the **New Definition** form as appropriate.
Notice that the name of the new definition is "Copy of <definition name>" where <definition name> is the definition you copied.
- 4 Save your work and either continue working on the definition or click **Edit** to continue working.

The specific options you have will depend on your permissions, the object you are working with, and the assigned workflow.

3.5 Edit an In-Progress Object

To edit an in-progress object, you must be assigned a role during the approval process (see [Edit an In-Progress Object](#)), either through a user group or named role assignment or by someone providing you editor rights as a collaborator.

The steps for editing an in-progress specification are provided below. The steps for creating a new version of any object follow a similar process:

- 1 Open the object you want to edit.
- 2 If editing a specification, go to the tab with the information you want to edit.

Click **Edit**.



- 3 If the object you are editing has any pending impacts, you will be prompted to indicate whether the change you are making is part of the impact group.
Mark the impact (click Yes to select the appropriate impact group and click **Save**) or close without saving. For more information about impacts and impact analyses, see [Understanding the Impact of Changing an Object](#).
- 4 Make your changes.
- 5 Click **Save** to save the changes or **Cancel** to return to view-mode without saving your changes.

If editing a specification, repeat steps 2-4 for each tab that needs editing.

When you are editing an in-progress object, you will also have workflow-specific actions for you to choose from. These actions will vary depending on your role and the workflow, but generally the purpose of the actions is moved the object through the approval process. These actions are displayed in the workflow panel, which is visible in view-mode (before you click **Edit**). Approving objects is described in detail in [Approve Objects](#).

3.6 Reassign the Version Creator Role

The user who creates a new version of an object (including the first version), is given the role of **Version Creator**. As long as the object remains in the drafting, or initial workflow stage, this user is the generally the primary individual working on the object. Once the

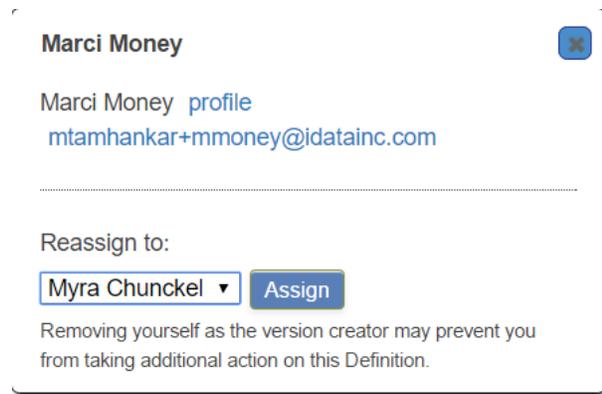
object moves to the next stage (when the user takes any other action other than cancelling the version), the work of reviewing and approving progresses based on the assigned workflow. Depending on the workflow, the version creator may have additional assigned functions, such as revising changes suggested by users during a review stage or making the final approval for the object.

If, at any time during the approval process, as long as the object remains in-progress, the version creator or a Data Cookbook administrator can reassign this role to another Data Cookbook user.

To reassign the version creator to another user, you must be the current version creator or a Data Cookbook administrator. With the workflow panel expanded, click the name of the version creator and select another user from the list of Data Cookbook users.

Notice that when the version creator (Marci Money) reassigns that role to another user, she is reminded that removing herself as the version creator may prevent her from taking additional action on the specification. Her ability to work on the specification while it remains in-progress will depend upon the user groups she is assigned and whether those groups have a role in the approval process.

To reassign the version creator role, she will select from the list and click **Assign**. At that point, she is no longer in the role of version creator and any actions available to that role will be transferred to the user to whom she assigned the specification.



The screenshot shows a user interface for reassigning a role. At the top, the name "Marci Money" is displayed with a close button (X) to its right. Below this, there is a link for "Marci Money profile" and an email address "mtamhankar+mmoney@idatainc.com". A horizontal line separates this information from the reassignment section. The section is titled "Reassign to:" and features a dropdown menu currently showing "Myra Chunckel" with a downward arrow, and a blue "Assign" button to its right. Below the dropdown and button, a warning message reads: "Removing yourself as the version creator may prevent you from taking additional action on this Definition."

3.7 Approve Objects

In the Data Cookbook, the process of creating and approving an object is controlled by a **workflow**. A workflow is a defined set of **stages** and **steps** that determine who can work on an object while it is in progress and what options are available to each user at any given point during the process. Workflows are defined by object type. Any object type may have multiple workflows that provide different steps for approving objects based on different object attributes (such as functional area or data system).

Figure 11 illustrates the default **Definition Approval Workflow** provided with all Data Cookbook accounts. This workflow consists of four **Stages**: Drafting, Review, Approved, and Rejected, as represented by the circles and squares in the diagram.

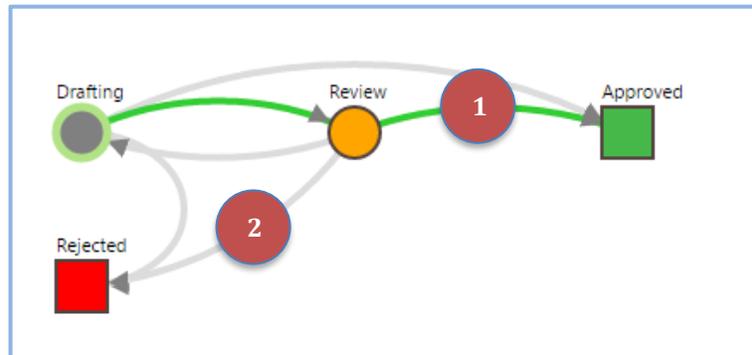


Figure 11 Definition Approval Workflow Diagram

In the workflow diagrams, the squares represent stages that are the end-points of the workflow. There are no actions, or steps, associated with these stages. The circles are stages with steps that users complete as part of the process. The arrows illustrate how the object “moves” from one stage to the next during the approval process.

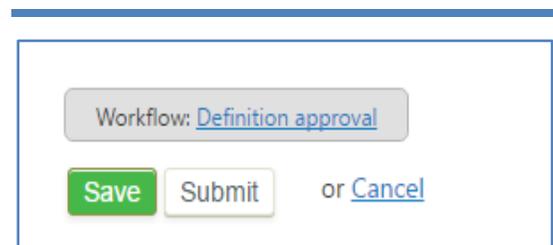
The green arrows (1) show the **happy path**, or the preferred flow of the process. The grey arrows (2) show all alternative paths. The happy path for the default Definition Approval workflow is from the *Drafting* stage to the *Review* stage and ends at the *Approved* stage. In this workflow, users assigned to the process at different stages may move a definition from *Drafting* to *Approved* or from *Review* back to *Drafting* or even from *Review* or *Drafting* to *Rejected*.

To show how the approval works, we’ll step through the process by looking at an example from IData University using the default definition approval workflow.

Finn Aide, a financial aid officer at IData University, adds a definition for *Financial Aid Year* to the university’s Data Cookbook account. To begin, Finn clicks **Create a Definition** from his **Home** page.

He completes the required attributes Name, Functional Definition, and Functional Area and clicks **Save** so he can to continue work on the functional definition before submitting the definition for review.

When the definition’s detail page is presented to Finn, he clicks **Edit** to continue drafting the definition. Once he feels he has documented everything he knows about the university’s use of the term “financial aid year,” he clicks **Submit**, a **transition action** that moved the



These are the options available when a definition is first created. Notice that the Data Cookbook has assigned a workflow—Definition approval.

definition from the Drafting stage to the Review stage. Transition actions are the buttons available when you first create an object and that display in the workflow panel that allow you to save, submit, approve, and take other actions during the approval process. Each default workflow has the basic transition actions necessary to complete the approval process. If your account administrator has customized or created new approval workflows you will see a variety of different options on the different workflows you encounter.

Using the information from the workflow, the Data Cookbook advances the definition to the Review stage and generates tasks for the users assigned to steps in that stage, including Myra ChuncKel.

Myra receives an email notifying her there is a definition requiring her review. She can follow the link from the email and go directly to the Data Cookbook or next time she logs in, she can review all tasks assigned to her from her **Home** page, as illustrated on page 9.

To go to the newly assigned definition, Myra clicks the definition's name, *Financial Aid Year*, from her **Tasks** list.

To make changes to any of the definition's attributes, Myra clicks **Edit**, and the definition redisplay in edit mode. After she makes a change to the functional definition, she clicks **Update**. As she reviews what Finn has written, she also provides some general feedback in the **Comments** field before she approves the definition.



This scenario is just one of many possible ways in which the definition approval process may happen. As you work with your organization's account, to draft new definitions and participate in the approval process, you will likely encounter variations of this scenario.

As a Data Cookbook user, you should understand that:

- The Data Cookbook chooses which workflow to assign to a new object version based the following criteria, in this order:
 1. Order in the **hierarchy**—the hierarchy is the order in which workflows are listed on the **Workflows** page for the associated workflow type. Thus, when you create a new definition, the Data Cookbook looks only at the list of all workflows defined for definitions (workflow type = definition approval).
 2. **Workflow Conditions**—all conditions associated with a workflow must be met. When workflows have conditions, such as functional area, then the first

workflow in the hierarchy whose conditions match the object’s attributes is assigned.

For example, when IData University’s Finn Aide creates a new definition, he assigns the functional area “Financial Aid.” Because the university has a definition approval workflow with the workflow condition of “Functional Area is Financial Aid,” that workflow is assigned to definitions with “Financial Aid” as the functional area. When a different user creates a definition with a different functional area, a different workflow is assigned.

3. **Status**—the workflow must be Active. If a workflow has not been activated, even if it meets the other criteria, the Data Cookbook looks at the next workflow and repeats the criteria evaluation.
- Stages and steps vary among workflows and, even within the same workflow, an object can progress through different paths, all depending on the conditions defined for the workflow. Therefore, when acting as a reviewer of one definition you may have a set of options (such as *Approve*, *Reject*, or *Return to Creator*) and for a different definition, you may have a different set of options (*Approve* or *Reject*). These variations are determined by the workflow and your assigned role in that workflow.

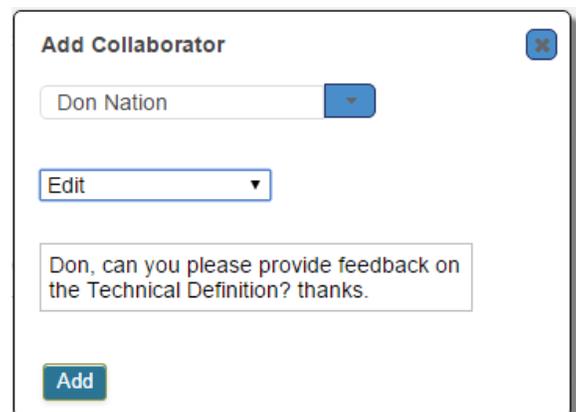
3.7.1 Collaborate with Others

Throughout the approval life cycle, there may be multiple users involved in reviewing, revising, and approving an object. When necessary (and if the option is provided in the assigned workflow), additional users can be brought in as **collaborators** for a step in the process.

Collaborators are often added because of their technical or subject matter expertise. For example, if an editor needs assistance with a technical definition, they might add a technical user as a collaborator. Or perhaps the creator enters both a functional and a technical definition and submits the definition for review, but one of the reviewers wants someone else to work on it prior to approving the definition. Adding people to the process is what collaboration is all about.

Finn Aide, IData U’s FA officer, needs assistance with the technical definition for a definition he is drafting. For this effort, he reaches out to Don Nation, from IData U’s advancement office. From the definition’s header, Finn opens the workflow panel (**Show Workflow**) and then clicks on the **Collaborators** section to open the **Add Collaborator** dialog box and select’s Don from the list of available collaborators.

Notice that before he adds Don as a collaborator, Finn provides Don with the ability to edit this definition.



Once Finn adds Don as a collaborator, Don receives an email letting him know he’s been assigned a Data Cookbook task and updates his Tasks list on his **Home** page.

Don’s role as a collaborator on this definition remains as long as the definition is in the current step. Once the step is completed (through an action of one or more of the users assigned to the step), he will no longer be a collaborator on this definition. If this definition returns to this step, Don will once again be assigned as a collaborator.

3.7.2 Manage Objects during the Approval Process

You may have numerous objects assigned to you that need approval. Perhaps you have reviewed their content, but simply have not clicked the approved button. To see all in-progress versions of any object type, go to that object’s **approval queue**. Approval queues, which work the same for regardless of the type of object, are available for definitions, specifications, quality rules, information requests, and quality issues.

In this section, we describe how to use an approval queue to view in-progress objects and to act upon objects without opening each one individually. For details about a specific object, refer to the appropriate chapter.

When you open an approval queue, you will see all in-progress items that are available for you to act upon. For example, if you open the Quality Rule Approval Queue (a portion of which is illustrated in Figure 12), you will see all in-progress quality rules available for you to work on. You can filter the queue or see closed objects as well as those that are assigned to others, by changing the different options at the top of the page.

Quality Rule Approval Queue

Filter by:

Quality Rule Approval -- Workflow definition -- -- Stages -- -- Actions --

-- Functional Area -- -- Data System -- -- Originator --

Hide closed objects
 Available for action by me

Displaying **all 3** quality rule approvals

Name	▲ Date started	Date last updated	Version	Stage	Named roles
Valid Majors	05/12/17	05/12/17	#1	Drafting	VERSION CREATOR: John Admin
Graduating Seniors Must Have a Major	03/20/17	05/11/17	#1	Drafting	VERSION CREATOR: Reggie Stration
Maximum and Minimum Credits Rule	03/19/17	05/11/17	#1	Drafting	VERSION CREATOR: Reggie Stration

Figure 12 Approval Queue – Filtering and View Options

Viewing options for an approval queue include:

- Filtering by workflow type, workflow, stage, available actions, functional area, data system, or originator. An additional filter, classification code, is available on the **Definition Approval Queue**.
- Showing or hiding closed objects (the default is to hide closed objects).
- Showing all or limit to objects that are available for you to act upon (the default is to show only those items that you can act upon).

Switching Between Approval Queues

You can also switch between approval queues without selecting a different queue from the menu, by changing the workflow type filter. In Figure 13 we see the **Definition Approval Queue** with the workflow type filter selected. The Definition approval workflow type is the default, but to change to a different approval queue, simply choose a different workflow type from this filter.

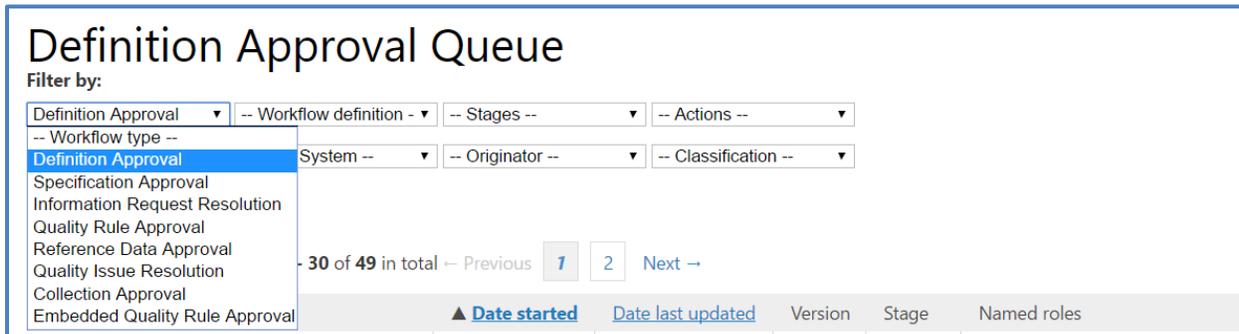


Figure 13 Switching Between Approval Queues

Acting Upon a Group of Objects

To approve items from an approval queue, you need to first filter the view to display only those items that are available for approval. From the **Filter By** options, select a workflow, a stage of the workflow, and one of the available actions (such as **Approve**).

- **Workflow type:** if your organization has multiple approval workflows for the selected object, choose the one associated with the object you want to approve. You can only filter by one workflow at a time, so you may need to repeat this process to capture all available objects.

When the selected workflow has several different versions, you will see the version number following the name of the different workflows, as illustrated below. In this

example, there are three different versions of the specification approval workflow. For now, we will look at the most current version, *Specification approval: 3*.

Filter by:

Specification Approval ▾ -- Workflow definition - ▾ -- Stages -- ▾ -- Actions -- ▾

-- Functional Area -- ▾ -- Workflow definition --

Hide closed objects Specification approval:3

Available for action by me Specification approval:2

Specification approval:1

-- Originator -- ▾

No specification approvals found

- **Stages:** choose the stage that has the approval step. Use the information from the queue to identify which stage to select.

As illustrated below, once we filtered by a specific workflow, we see that the available specifications are in different stages. Since you can only work on objects in one stage at a time, we will choose those specifications in the *Approval requested* stage.

Filter by:

Specification Approval ▾ Specification approval: ▾ -- Stages -- ▾ -- Actions -- ▾

-- Functional Area -- ▾ -- Data System -- ▾

Hide closed objects

Available for action by me

Displaying all 8 specification approvals

Name	▲ Date started	Date last updated	Version	Stage	Named roles	Priority	Due
Giving by Event	12/06/16	12/06/16	#1	Approval requested	SPECIFICATION ASSIGNEE: Jill Yun		N/A
Student to Alumni Feed	07/29/16	01/07/17	#1	In progress	SPECIFICATION ASSIGNEE: Not Assigned		N/A

- **Actions:** select the action you want to take, such as **Approve**. The list of actions you can choose are based upon the workflow stage you selected and your role in that stage.

A button for the action you selected is displayed, along with a **Select All** column.

Name	▲ Date started	Date last updated	Version	Stage	Named roles	Priority	Due	Select all
Giving by Event	12/06/16	12/06/16	#1	Approval requested	SPECIFICATION ASSIGNEE: Jill Yun edit		N/A	<input type="checkbox"/>

Select the objects you want to approve. Click **Select All** to act upon all objects listed. Click the action button (such as **Approve**) to complete the action for all selected objects.

Resolving Issues with a Workflow

If you are monitoring objects through their respective **Approval Queues** you might notice a warning indicator displayed in the **Stage** column, as illustrated in Figure 14.

Home Definitions Specifications Quality Organization Community

Specification Approval Queue

Filter by:

Specification Approval -- Workflow definition -- -- Stages -- -- Actions --

-- Functional Area -- -- Data System -- -- Originator --

Hide closed objects

Available for action by me

Displaying all 27 specification approvals

Name	▲ Date started	Date last updated	Version	Stage	Named roles	Priority	Due
Admissions Pipeline by FA Need	02/10/17	02/10/17	#23	Drafting			
Basic Student Listing	02/08/17	02/08/17	#2	Drafting			N/A
AR Aging Dashboard	02/06/17	02/06/17	#10	Drafting		Medium	N/A

Figure 14 Invalid Object Indicator in the Specification Approval Queue

These indicators let you know that there is a problem with the workflow assigned to the object. Generally, the problem is that the assigned workflow has one or more stages assigned to a user group without members or with members who cannot be assigned based on some condition. A Data Cookbook administrator must review the workflow to determine the source of the issue and take corrective action.

3.8 Finding Objects

There are two ways to find objects in the Data Cookbook, you can browse through a listing of the objects or you can search for the object by name or keywords. In this section, we describe how to use both methods to find the object you are interested in.

3.8.1 Browsing Objects

Browsing for an object is simply a scrolling through an alphabetic listing from the Data Cookbook. All users, regardless of their permissions, can view the objects you have in your Data Cookbook account. The amount of information displayed on these pages, however, will vary based on user permissions.

To browse through the list of definitions, specifications, collections, quality rules, or data system, select the appropriate option from the object's menu.

Figure 15 illustrates the **Definitions** page available by selecting **Browse Definitions** from the **Definitions** menu or clicking **Definitions** from the menu bar.

The screenshot shows the 'Definitions' page with the following elements:

- Search:** A search bar with a magnifying glass icon and an information icon.
- Sort by:** A dropdown menu set to '-- Select --'.
- Display:** A dropdown menu set to 'Full Content'.
- Filter by:** Multiple dropdown menus for 'Workflow definition', 'Functional Area', 'Domain', 'Definition Source', 'Data Systems', 'Tag', and 'Classification'.
- Displaying definitions 1 - 50 of 233 in total**
- Navigation:** 'Previous' and 'Next' buttons, and a series of numbered buttons (1-5) for pagination.
- Download Definitions as CSV:** A link with a download icon.
- Expand Technical Definitions?** A checkbox and an information icon.
- Definition 1: Academic Advisor**
 - Synonyms:** Faculty Advisor
 - Version:** 2 of 3
 - Created by:** Karen Gwynn 3 months ago
 - Approved by:** Karen Gwynn 3 months ago
 - Description:** Assigned University faculty or staff members who help students decide which classes to take and who provide academic advice about degree programs and academic regulations, practices, and procedures.
 - Technical definitions:** All ERP Systems » My ERP System
 - CLASSIFICATION:**
 - USED IN:** 12 Specifications
 - FUNCTIONAL AREAS:** Student, Student Life
 - TAGS:** Workflow demo
- Definition 2: academic credit**
 - Description:** The quantitative number of credit hours assigned to a course that can be applied by a recipient toward the requirements for a degree or other academic award.
 - Technical definitions:** All ERP Systems » My ERP System
 - CLASSIFICATION:**
 - USED IN:** 2 Specifications
 - FUNCTIONAL AREAS:** Enrollment, Test FA

Figure 15 Browsing Definitions

The default view for each object is an alphabetical listing. At the top of each listings page, are different options for filtering the list, and for definitions and quality rules, changing the sort order and the displayed content.

The choices for filtering vary slightly for different types of object, as indicated in the following table.

When browsing	You can filter by
Definitions	<ul style="list-style-type: none"> • Workflow • Functional Area • Domain • Definition Source • Data System • Tag • Classification Code
Specifications	<ul style="list-style-type: none"> • Functional Area • Version • Data System • Specification Type • Tag
Collections	<ul style="list-style-type: none"> • Collection Type • Functional Area • Data System • Tool • Tag
Quality Rules 	<ul style="list-style-type: none"> • Workflow • Functional Area • Data System • Rule Severity • Validation Type
Reference Data 	none
Data System 	<ul style="list-style-type: none"> • Data System Usage Type

3.8.2 Searching for Objects

There are multiple ways to search for content in the Data Cookbook. In this section, we describe how to:

- Find a word or phrase in all definitions, specifications, or data systems
- Find a specific object

We also describe some additional searching and browsing options available from the **Definitions** menu.

For details about how the Data Cookbook searches for objects, including a list of the attributes of each object that are include in the search, see Appendix 13.6A, Where Does the Data Cookbook Find My Search Terms?.

Search the Data Cookbook

To search for a word or phrase in all definitions, specifications, and data systems in your institution's Data Cookbook account, use the **Data Cookbook** search from your **Home** page or by clicking **Find Data** from the **Home** menu.

The screenshot shows the top navigation bar of the Data Cookbook website. On the left is the IDATA UNIVERSITY logo. In the center, there are links for 'Reese Urcher (Log out)', 'Help', and 'Recent Updates'. On the right is the 'datacookbook' logo with a search input field labeled 'Quick definition lookup...'. Below the navigation bar is a horizontal menu with 'Home', 'Definitions', 'Specifications', 'Quality', 'Data Systems', 'Organization', and 'Community'. The 'Home' link is highlighted. Below the menu is a search prompt 'What information are you looking for?' followed by a search input field containing the text 'Search the Data Cookbook' and a 'GO' button.

If the results provided don't match what you are looking for, click **refine search** to dig deeper into all definitions or specifications. Note: searches from the main search bar on the home page will return only approved definitions, specifications, or specification collections that include your search term in the appropriate fields. Search from the appropriate browse page for approved and in-progress definitions or specifications. To see only those items that are in progress, use the appropriate queue.

Searching for Specific Objects

From any listing page (such as the **Definitions**, **Specifications**, or **Quality Rules** page) use the Search option to quickly locate objects by searching for a specific word or phrase.

The screenshot shows the 'Quality Rules' page of the Data Cookbook. The navigation bar at the top has 'Home', 'Definitions', 'Specifications', 'Quality', 'Organization', and 'Community'. The 'Quality' link is highlighted. Below the navigation bar, the page title 'Quality Rules' is displayed in orange. A search input field is located on the right side of the page, with the label 'Search:' and a search button. A callout box points to the search input field with the text 'Enter a search term to locate a quality rule'.

If the search returns too many items, you can use any of the filters available on the page to further refine your search results.

The results of the search are displayed on the object browse page and wherever possible, your search terms are highlighted on this page. Be aware that it may not be immediately evident why an object was selected because the fields with the search term do not display on the browse page. You may need to view the details of the object and look at the narrative fields as well as the related objects to find the reason the collection was selected. For more information about how the Data Cookbook searches for objects from the browse pages, see Appendix A.

Narrowing the Scope of a Search

If, after entering a search term, the list of results is still too broad, you can use the page's filters to further narrow the scope. For example, Marci Money, of IData University, searched the school's definitions for the term "financial." The search yielded 21 results, from which Myra could narrow the list by any of the available filters, such as functional area or data system, to find the specific definition.

Additional Search Options for Definitions

To quickly search through all definitions—your institution's and the community's—use the **Quick Definition Lookup** at the top of any page.



The Data Cookbook finds and displays any definitions with your search term in the Name, Synonym, Functional Definition, or Technical Definition attribute. You can run a search on full words or use an asterisk (*) character for wildcard searches.

For definitions, you also have two additional browse options available from the **Definitions** menu:

- Select **Browse by name only** to see a list of definitions by name, without the associated details
- Select **Most recent first** to see a list of definitions with the most recently added displayed first

3.9 Relate Objects

Objects can be related to one another. For example, a definition can be related to other definitions or to a quality rule, or a specification can be related to other specifications or to multiple definitions or quality rules.

Some relationships are explicit: when you create a specification, you name specific definitions that are used for the reporting object. This creates a relationship between the specification and each definition. Similarly, when you create a definition, you can explicitly relate other definitions when referencing them in the functional definition (see [Relate](#)

[Objects](#) for details). Figure 16 illustrates the functional definition for IData University's term *Academic Program*.

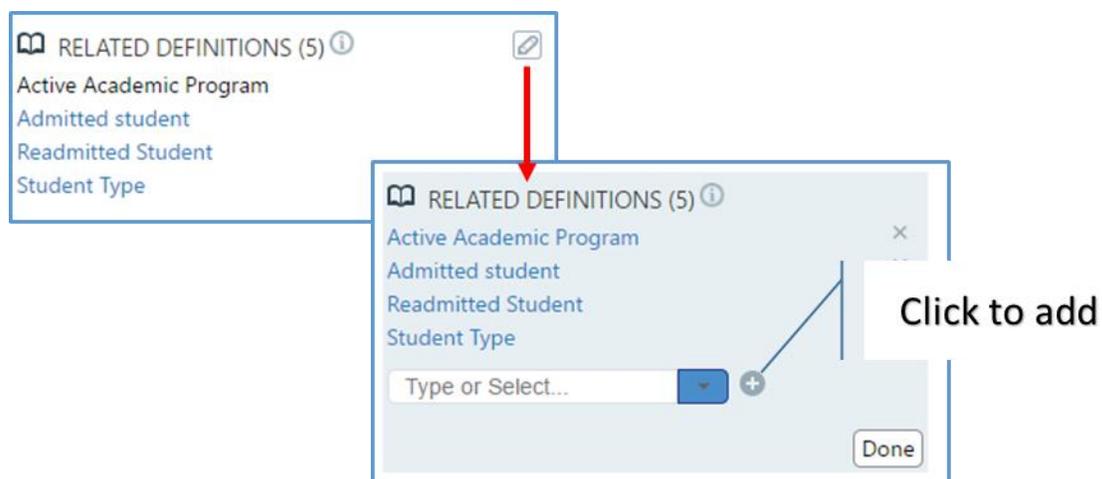
Functional Definition: ⓘ

Reflects a process that calculates and determines if a student is in [good academic standing](#) (GS) for an [academic term](#) or if he/she has a probationary status such as warning, probation or dismissal. The rules look at % of [Term Hours Attempted](#) vs [Term Hours Earned](#) and the [Student Term GPA](#).

Figure 16 Example of a Functional Definition with Related Definitions

In this example, the related definitions are presented as links to the Data Cookbook object (*academic term* is an example of a missing definition; which are described on [View Missing Definitions](#)). There may be other definitions in the school's account that are also related but that are not part of the functional definition. Such relationships are implied, and they are added to the object by creating the relationship through the links in the object's sidebar.

From an object's sidebar, you can also create relationships between other objects, such as specifications and quality rules. In the sidebar, the items that you can relate to the object you are viewing, are labeled "Related ...", such as **Related Definitions** or **Related Quality Rules**. To relate two objects, edit the section in the sidebar and make a selection from the menu. If you do not see the edit icon, you do not have the proper level of permissions or the relationship cannot be created. Refer to online help for additional information.



The implication of relating objects together is that it enables all users to have a better understanding of the purpose of an object or how the object is used and when new versions of an object are created, the impact analysis will identify all potentially impacted objects based on these relationships. This lets the user making the change know that other objects

(such as other definitions or specifications) might need review or new versions because of the change they are making. Impact analysis is described beginning on page 51.

3.10 Report a Quality Issue



Defining your organization's data definitions and reports helps everyone understand these objects and applying quality rules helps to ensure that checks are in place to keep the data at an acceptable level of quality. But when these standards are not met, or if there is a question to of the validity of any applied rule or standard, the issue should be reported and resolved. As a Data Cookbook user, you can report a **quality issue** that you find about a Data Cookbook object, data system, or items that are not Data Cookbook object's. Once recorded, the quality issue is processed through a quality issue resolution workflow, which directs selected individuals to review and resolve the issue. For complete information about quality issues, see [Quality Issues](#).

Two primary ways to report a quality issue are adding an issue directly associated with a Data Cookbook object or you can create a general, "standalone" issue that is not associated with a specific object. Quality issues may also be reported when recording an assessment on a quality rule. Quality rule assessments are described in [Quality Rule Assessment](#).

3.10.1 Report a Quality Issues with a Specific Object

To report an issue with the quality of any aspect of an in-progress or approved object, open the **Quality Issues** panel from the object's sidebar and click **Report Quality Issue**.

3.10.2 Report a General Quality Issue

To report a quality issue that is not specific to one object, select **Report Quality Issue** from the **Quality** menu or from your **Home** page.

3.11 Request Information

If you search the Data Cookbook and cannot find what you are looking for, click **Request Additional Help** from the **Find Data** page, and complete the Information Request form:

REQUEST ADDITIONAL HELP

Provide additional details on your request for help

Workflow: [Default Information Request Resolution](#)

Save

Click **Save** to submit your request. Users at your institution who monitor Information Requests are alerted that a request is in the queue and will respond back to you.

The Data Cookbook will also notify you when someone has responded to your request.

*Your institution may not have any users designated as Information Request Managers, in which case you will not have the Information Request functionality, and you will not see the **Request Additional Help** option. Check with your Data Cookbook administrator to find out if Information Requests have been enabled.*

3.12 Comment on an Object

As a Data Cookbook user, you can provide comments on any Data Cookbook object. You can comment on objects that have been approved or are in-progress, even if you are not directly involved in the approval process. If you are working on an object that is in-progress, adding comments is a way to communicate with other reviewers/approvers about any changes you may have made or thoughts you have about the object.

All comments are associated with the object's versions. When viewing a version, the comments for that version are visible at the bottom of the page. To quickly move to the comments, or to add comments when you are not editing the object, click **Comments**.

DEFINITION

Academic Honors

Approved Version 4 [New version](#)

[Comment \(1 comment\)](#)

[Add to my watch list](#)

[Show workflow](#)

Each comment is associated with a version of the object. To see the comments associated with a version other than the object's current version, scroll through the version history and, click **Show/Hide version details** to expand the versions' comments.

5 : Previously Approved (1 Comment) [show/hide version details](#)

Specification shared with community 14 days ago

Specification shared with community 14 days ago

Specification shared with community 30 days ago

Specification shared with community 30 days ago

4 : Previously Approved (0 Comments) [show/hide version details](#)

Tag 'preview' added by [John Admin](#) about 1 month ago

Primary system event

ent

ent

ent

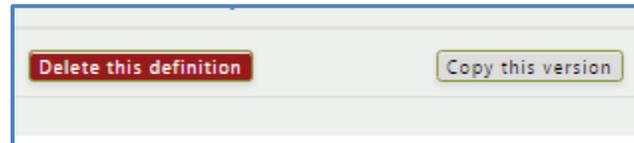
Click here to view the details of the previously approved version

Figure 17 Portion of a Specification's Version History

3.13 Delete Objects

Occasionally you may want to remove an object from the Data Cookbook. This privilege is reserved for Data Cookbook account administrators and users with manager-level permissions. Deleting an object deletes all versions of an object, as well as any comments on any of those versions.

If you have the appropriate level of permissions to delete an object, you will see an option at the bottom of the sidebar, such as the **Delete this definition** button illustrated below.



Exceptions: Deleting Related Definitions, Data Systems

You cannot delete a definition if it is related to a specification. If the specification is in-progress, you can remove the definition from the specification and then delete the definition. If any version of the specification has been approved, then the definition cannot be deleted from the Data Cookbook.

Data system managers and Data Cookbook administrators can delete a data system. For details, see [Deleting a Data System](#).

3.14 Watch Objects

When you are involved in approving a Data Cookbook object, you receive notifications and tasks while that object is being defined and reviewed. You might also receive notifications about objects that you have previously commented on as part of an on-going conversation. These are all ways in which you are automatically alerted to changes in the objects in which you have a direct role. Another way to keep track of a Data Cookbook object is to initiate a “watch.” By watching an object, you are indicating that you want to receive updates, in the form of notices on your **Home** page feed and email notifications, when any activity occurs with those objects.

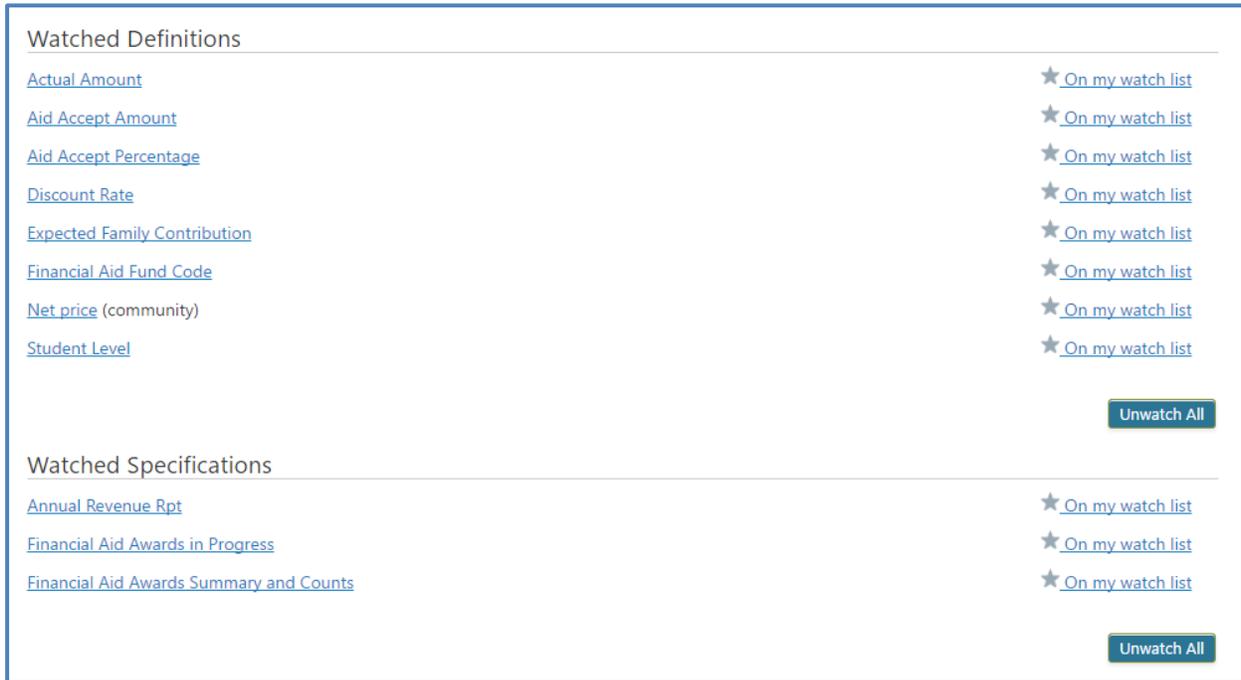
You can choose to watch any definition, specification, data quality rule, quality issue, or set of reference data. The object can be approved or in-progress and associated attributes, such as functional area or data system, do not need to correspond with those for which you have editor- or manager-level permissions. If you can view an object, you can watch it!

To watch an object, open the object and click **Add to my watch list**. The illustration below shows the **Add to my watch list** option on an approved definition.



You may decide you no longer want to watch a definition and you can control the frequency with which you receive all notifications the Data Cookbook generates. To stop watching a specific definition, navigate to that definition and click **Stop Watching**.

You can see all the items you are currently watching from your user profile. From there, click **On My Watch List** for any definition you no longer want to watch. Or click **Unwatch All** to stop watching all definitions.



To change the frequency with which you receive notifications, whether on the items you are watching or the automatically generated notifications, change the **Email Frequency** settings on your **User Profile** page. Changing your profile settings is described in [Managing Your Data Cookbook User Profile](#).

4 Understanding the Impact of Changing an Object

After an object is approved, making changes to the versioned attributes requires a new version of the object. For example, if you need to change a functional definition of an approved definition, you must create a new version of the definition. When you create a new version of definition, do you ever consider what impact the proposed changes have on objects related to that object, such as other definitions or specifications that use that definition? The Data Cookbook’s *impact analysis* shows you all objects to the object you are changing (referred to as the *originating object*) and provides a method for tracking and managing these related changes.

Impact analysis is available for definitions, specifications, and collections and, in the Enterprise Edition, for data quality rules and reference data. The following provides, by originating object, the potential impacts that an impact analysis will reveal.

A change in a ...	may impact ...
Definition	<ul style="list-style-type: none"> • Definitions related to it • Specifications it is related to • Data quality rules that are related or embedded to it
Specification	<ul style="list-style-type: none"> • Definitions included on it • Specifications related to it • Collections it is a part of
Collection	<ul style="list-style-type: none"> • Specifications included in it
Data Quality Rule 	<ul style="list-style-type: none"> • Reference data it contains • Definitions it is related to
Reference Data 	<ul style="list-style-type: none"> • Quality rules they are included in • Other sets of reference data referenced through roll-up lists • Definitions with embedded quality rules with this reference data

The process of indicating that there is an impact to an object (referred to as the *impacted object*) based on changes to an originating object, and then managing the changes to the impacted object is a multi-step process. In this chapter, we review these steps.

4.1 View the Impacts of Changes to an Object

When you create a new version of an object, you should consider whether the changes that precipitated the new version means that any other objects should also be changed. For example, suppose you are adding technical information to a definition. This new information might have an impact to the way that definition is used on a specification. As the definition editor, it may not be your responsibility to edit that specification, but you need to let the specification editors know that the definition changed. That is the role of the first step of impact analysis: indicating that there is an impact between the originating object (the definition) and the potentially impacted objects (the specification).

To see the objects that are potentially impacted by changes to an object, click **Show Workflow** from the object's header and from the opened workflow panel, click **Impact Analysis**.

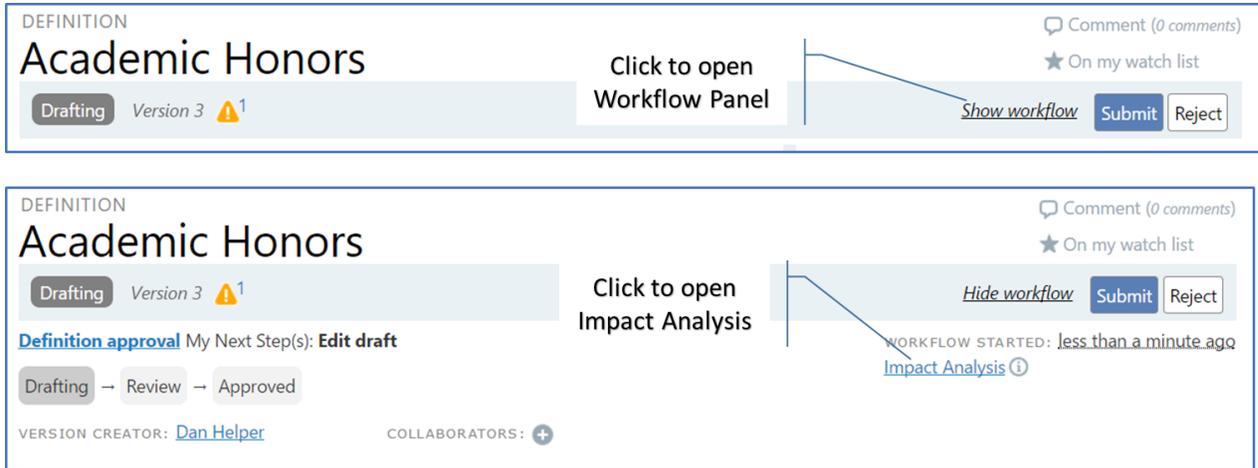


Figure 18 Opening the Impact Analysis Panel

The **Impact Analysis** panel displays, as illustrated in Figure 19.

Potentially Impacted Definitions				
Name	Impact	Comment	Status	Group
Academic Support Services Services available to the nursing program that facilitate fa more	<input type="radio"/> Yes <input type="radio"/> No			
Current Student Status Code applied to students to indicate overall progress toward more	<input type="radio"/> Yes <input type="radio"/> No			
Active Student A Student with at least one credit on the census date in a d more	<input type="radio"/> Yes <input type="radio"/> No			
Academic Policies Published rules that govern the implementation of the academ more	<input type="radio"/> Yes <input type="radio"/> No			

Potentially Impacted Specifications				
Name	Impact	Comment	Status	Group
Student Term Detail Fact table in data warehouse with thirteen elements.	<input type="radio"/> Yes <input type="radio"/> No			

Figure 19 New Impact Analysis

The **Impact Analysis** panel lists all objects potentially impacted by the changes being made to the originating object (refer to the chart on page 51 for a complete list of impacts you might see based on the originating object). In the example illustrated in Figure 19, the originating object, *Academic Honors*, is related to four definitions and one specification.

4.2 Mark an Impact Indication

To indicate that any of the related objects are impacted by the change to the originating object (in this example, the definition *Academic Honors*), check **Yes** and then complete the following:

- Provide a comment about the impact between the originating object and the impacted object (optional).
- Select an impact group. For more information about impact groups, see [View Impact Groups](#).

If you are unsure as to whether an object is impacted by the pending change, do not mark the impact. You, or another user, can return to the originating object *as long as the version is in-progress* and mark other impacts.

If you are certain that one or more of the potentially impacted objects are *not* affected by the change to the originating object, then mark the impact as **No**. As long as the impact group remains active, you or other users can return to the analysis and change the indication to **Yes**.

4.3 Working with Impacted Objects

An impacted object is an object—such as a definition, specification, or collection—that is impacted by the change made to another object. In [View the Impacts of Changes to an Object](#), we saw how to review all the objects *potentially impacted* by the changes you are making to an originating object and in [Mark an Impact Indication](#) we saw how to indicate that a potentially impacted object is impacted by the changes being made to the originating object. Now we will look at how editors of the impacted objects will know that a change was made to another object that could have an impact to work they are doing.

In our previous example, our definition editor was making changes to *Academic Honors*. This definition becomes the originating object to all indicated impacts. One of these impacts was indicated for another definition, *Active Student*. When a different definition editor creates a new version⁴ of *Active Student*, a prompt like the one shown in Figure 20 displays,

⁴ Or edits a current, in-progress version. Impacts are indicated on objects in any stage—in-progress or approved—but the resolution of the impact is only done when the impacted object is either edited (if currently in-progress) or when a new version is created.

letting them know that there are pending impacts to *Active Student* and asking, **are the changes in this version** (of *Active Student*) **a part of the following impacts?**

Impactful Object	Impact Group	Impact Status	Comment	Yes?
Academic Honors	Group Acad Probation	pending		<input checked="" type="checkbox"/>

Buttons: Save, Close

Figure 20 Impact Analysis Panel, Prompt for Applying Changes

If the changes to *Active Student* are related to the changes made to *Academic Honors*, the definition editor will check **Yes** and click **Save**. The Data Cookbook updates the status of the impact indicating “Active” for the impacted object. This active status means that the impacted object is being edited and that the changes being made are as a result of the changes being made to originating object.

If the changes being made are not part of the changes to *Academic Honors*, the definition editor can close this panel without responding and the impact between these two definitions remains pending. As long as *Active Student* remains in-progress, each editor who edits the definition will see the prompt shown in Figure 20 until one of the following occurs:

- The change to *Active Student* is related to *Academic Honors* (by checking **Yes** in the **Impact Analysis** prompt)
- An editor or manager returns to the **Impact Analysis** for *Academic Honors* and indicates that *Active Student* is not impacted by the current change. This can be done as long as *Academic Honors* remains in-progress by opening the **Impact Analysis** panel and editing the indication made to *Active Student*.

Once the current version of *Academic Honors* is closed (approved, closed, or cancelled), a user with manager-level permission for *Active Student* can close the impact from the **Impacted Definitions** page (see [Viewing All Impacts by Object Type](#)).

Notice that one of the options mentioned is *not* closing the current version of *Active Student*. Perhaps the definition editor is making a change to this definition that has nothing to do with the changes made to *Academic Honors*. The changes in the current version could be made and the approval process completed without addressing the related changes. If that occurs, the next time someone creates a new version of *Active Student*, they will once

again be prompted, *are the changes in this version a part of the following impacts?* and the impacts that display will include the change made to *Academic Honors*. The impact between *Active Student* and *Academic Honors* remains open until resolved by one of the methods described above.

4.4 View Impacted Objects

To see a list of all objects impacted by a change to another object, you can

- Browse the list of impacted objects (such as the **Impacted Definitions** page)
- Browse the list of impact groups for a specific object (such as the **Impact Groups** from the **Definitions** menu)
- Open any object and, if the object has any pending impacts, click on the alert in the header.

Each of these methods are described in this section.

4.4.1 Viewing All Impacts by Object Type

If you are interested in seeing all the impacts that have been indicated for a specific object type, go to the **Impact Indications** page from the appropriate menu (**Impacted Definitions**, **Impacted Specifications**, or **Impacted Quality Rules**). To see all impacts for all objects, select **All Impact Indications** from the **Organization** menu.

On this page, managers can close an impact by click **Close Impact**. This option is displayed for any pending impact (impacts that were indicated on the **Impact Analysis** panel for the originating object but have not been marked as being related to a change to impacted object).

The screenshot shows the 'Impact Indications' page with the following filters: Impact Status: Pending + Active; Impact?: Yes; Source Object Type: All; Impacted Object Type: Definition. It displays 1-30 of 43 total impacts. The table below summarizes the visible data:

Source Object Name/Type	Source Object Stage/Workflow	Impact Information	Impacted Object Name/Type	Impacted Object Stage/Workflow
Academic Advisor Definition	Approved Definition approval	Impact?: Yes active Change to Technical Definition Comment	Academic Credit Definition	Approved Definition approval
Academic Honors Definition	Approved Definition approval	Impact?: Yes pending Group Acad Probation Comment	Student Term Definition	Approved Definition approval

Figure 21 Viewing Impacted Objects

4.4.2 View Impact Groups

To see all the impact groups associated with a specific object, select the **Impacts Groups** option from the appropriate menu. For example, select **Impact Groups** from the Definitions menu for a list of all pending and active impacts with definitions as the originating object.

To see all impact groups, for all object types, select **All Impact Groups** from the **Organization** menu.

4.4.3 View Impact Alerts

 Alerts signal potential issues with an object, including pending impacts. Click on the icon to see details, including links to pending or unresolved impacts.

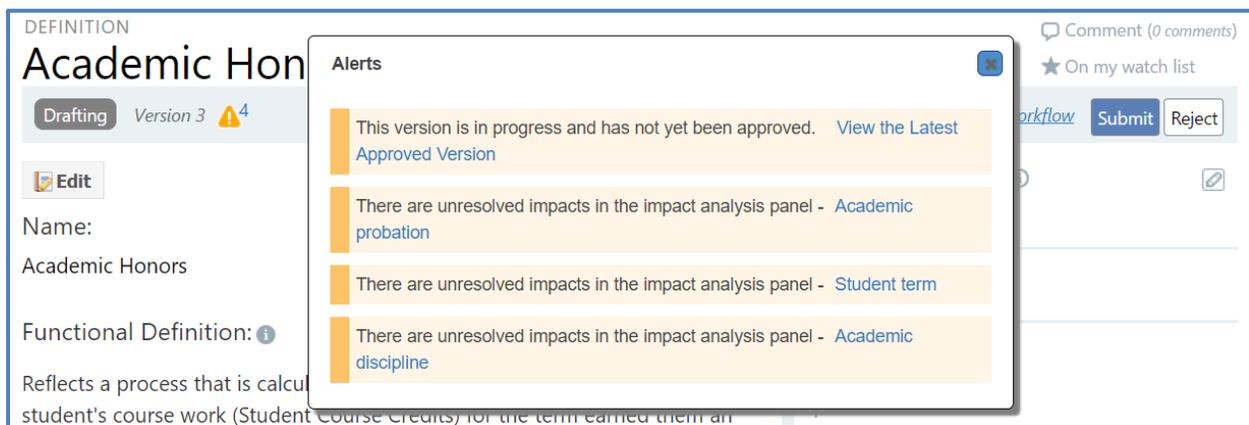


Figure 22 Viewing Impact Alerts

5 Working with Definitions

A **definition** is any word or phrase that refers to an object, person, business concept, measurement, metric, etc., in use at your organization. The definitions you document in the Data Cookbook become your organization's glossary of business terms. They are also the building blocks of specifications, which describe the various reporting deliverables that use these definitions.

Definitions are managed objects that are reviewed and approved with a definition approval workflow. When a definition is created, and while it is being reviewed and revised prior to approval, it has an in-progress status. The exact status—or workflow stage—is determined by the assigned workflow. Once the definition is approved, the version-controlled attributes cannot be edited; to change an approved definition you must create a new version and begin a new approval process. That new version is in-progress until approved.

5.1 Attributes of a Definition

A definition's attributes provide a full description of the term being documented, including the functional and technical components of the definition. The following attributes are controlled by the definition approval process and are defined when a definition is first created and can be changed only by creating a new version of the definition.

- Name
- Functional Definition
- Source
- Classification
- Quality Attributes (see [Quality Attributes](#) for details)
- Technical Definition (see [Technical Definitions](#) for details)
- Attachments
- **Additional Attributes:** if your institution has created custom fields for definitions, these fields are available for you to use.

5.1.1 Quality Attributes

Quality attributes, also referred to as **embedded quality rules**, describe the rules used to identify quality data. You define these rules in terms of a **validation type**, which identifies the quality parameters used to determine whether a data element meets or fails a set of rules. For example, you might have a quality rule for a definition that states the data must be within a certain range of values. Or you might have a definition, such as a social security number, that must have a set length (9 digits) and pattern (xxx-xx-xxxx). Range, length, and pattern are all examples of validation types you can use to document a definition's quality rules.

One type of validation, valid values, requires that you link the definition to a list of codes defined as **reference data**. Reference data (described in the [Reference Data](#) chapter) is simply the list of codes and descriptions that your different data systems use for validating data.



If you cannot adequately define a quality rule using one of the preset validation types, you can enter a complex validation. With a complex validation, you must specify the scope, test, and a research query that define the rule.

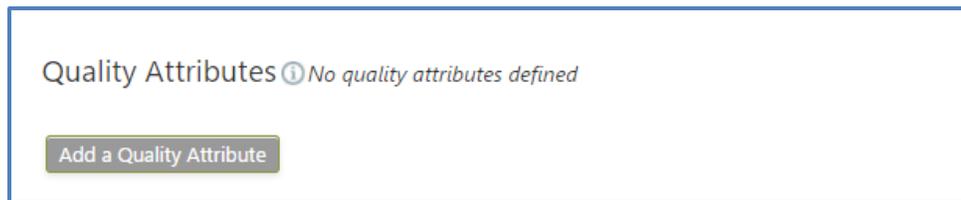
When multiple definitions use the same set of rules to determine data quality, you can define a standalone rule and then relate the rule to each definition. For information about standalone quality rules, see [Quality Rules](#).

Adding Quality Attributes to a Definition

You must be a quality editor or manager to add quality attributes to a definition. If you cannot create a standalone quality rule (if you do not see the option for creating a quality rule from the **Quality** menu or your **Home** page), you do not have the appropriate permissions to quality attributes to a definition.

A definition's quality attribute is added to an in-progress definition. If you are the definition's creator and have not yet submitted the definition for review, then you will be able to add a quality rule. Definition reviewers with editor permissions can add or edit an embedded quality rule during the approval process.

To add a quality rule to an in-progress definition, click **Add Quality Rule** in the Quality Attributes section.



The **New Quality Rule** form is displayed within the definition you are editing. Complete the form, by selecting the validation type and then providing as many of the remaining attributes as possible (see [Quality Rules](#) for information about the attributes of a quality rule).

Once defined, the embedded quality rule is submitted for review and follows an approval workflow separate from the definition approval workflow. When you create the embedded quality rule, the actions available to you (save, submit, approve, or cancel) are based on the quality rule approval workflow assigned to embedded quality rules.

When editing an in-progress definition, you will see the details of any embedded quality rule along with the other attributes of that definition. If you are a quality editor or manager, you can edit an embedded quality rule, when editing the definition. You can also click on the name of the rule (if it has not been approved) and open the rule on a separate page, and make edits without editing the definition.

Quality rules are defined in section 7.1, [Quality Rules](#).

5.1.2 Technical Definitions

A definition's **technical definition** describes such things as where a data element resides, what steps must be taken to calculate it from the raw data, or if a function or procedure is required to generate the output.

To work with a definition's technical definition, you must be a technical editor.

For each technical definition, you must associate each with one of your institution's **data systems**. Data Systems are the Data Cookbook's representation of your institution's information systems, such as transactional administrative systems; recruitment or application management systems; or a reporting infrastructure.

An optional attribute, **Time Context**, determines if the technical definition has any time sensitivity. Options are:

- Academic Term Related
- As of a Given Date/Time
- As of Current Data/Time
- Financial Aid Year Related
- Fiscal Year Related
- Not Time Sensitive

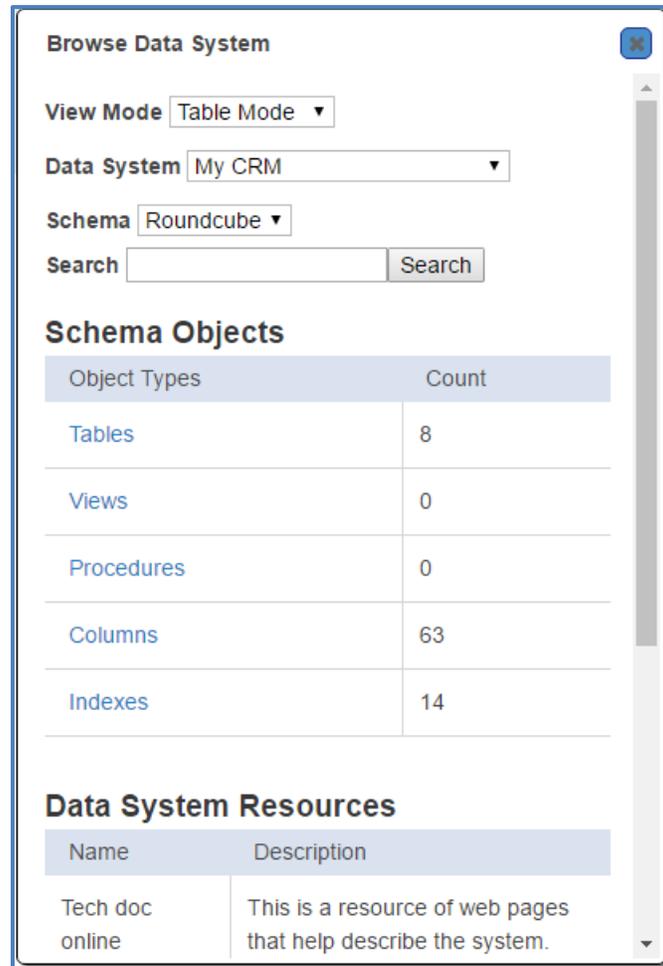
5.1.3 Data Schema Objects

If a data schema has been provided for a data system, you can include specific objects directly from that schema in a technical definition.

When editing a technical definition, click **Browse Data System**. The **Browse Data System** pop-up window lists the schema objects for the data system selected for the technical



definition. If you have not already selected a data system, when you click **Browse Data System**, you can choose a system from a listing of your organization's data systems.



Browse through the available objects or use the **Search** within the Browse window to find a specific object.

Once you identify the specific data schema object you want to include in your definition, you can either select the item (check the box next to the items you want to add) or you can drag-and-drop the item directly into the technical definition text box.

Alternatively, you can drag and drop the object by moving your cursor over the bar along the side of the name of the item you want to add. When the cursor changes to a hand, right-click and drag the element into the **Technical Information** text box.

Once you save the definition, the data schema objects appear as links to the Data Cookbook data system. To remove a data schema object from a technical definition, edit the definition select the link, and delete it!



Primary Objects

When a definition has a direct, one-to-one relationship with a data system object (more specifically, a column within a data system schema or data model), a data system editor can establish that relationship in the Data Cookbook by setting the definition as the data system object's **primary definition**, or the definition that describes the data system object. Within the technical definition, the data system object is shown as the **primary object** in the technical definition associated with the corresponding data system.

Figure 23 illustrates the technical definition for the definition *Gender* after it is identified as the primary definition in the My Other Student System for the column SARPERS_GENDER.

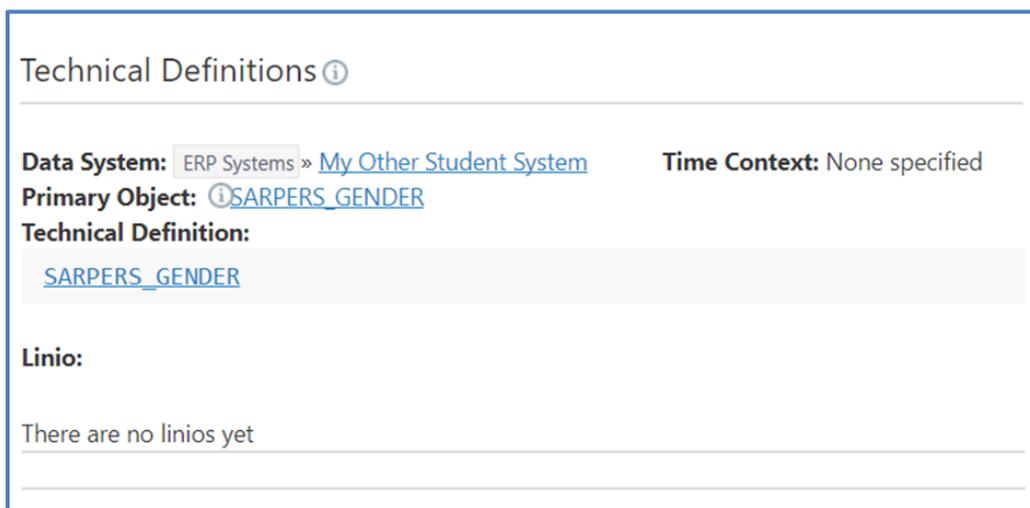


Figure 23 Technical Definition with a Primary Object

Mapping the Definition's Source

Data mapping allows you to graphically illustrate how data elements relate to one another. You might use data mappings when defining how data moves from an enterprise system to a data warehouse: the data from the enterprise system is *mapped* to files and fields in the data warehouse. You can also use data mappings to describe how data presented in a report is gathered from one or more data system. In each of these examples, the data mapping consists of a source object and a target object to define the **lineage**, or where the data comes from (the source system), where it is going (the target system or report), and what happens along the way (data transformations).

We call the first part of a lineage a **linio**, which describes where the data comes from and, if applicable, how it is transformed to create a single data point. In the Data Cookbook, linios are part of a definition's technical definition. The linio is not concerned with a target system; which is applicable only when documenting a mapping between two systems, which is a specification.

Figure 24 illustrates a linio created for a Data Cookbook definition, *Current Name*. The functional definition of this term is "The person's current full legal name." The technical definition further describes the term to indicate that the full name is comprised of the person's first, middle, and last name and the linio illustrates how this item is formed in the selected data system.

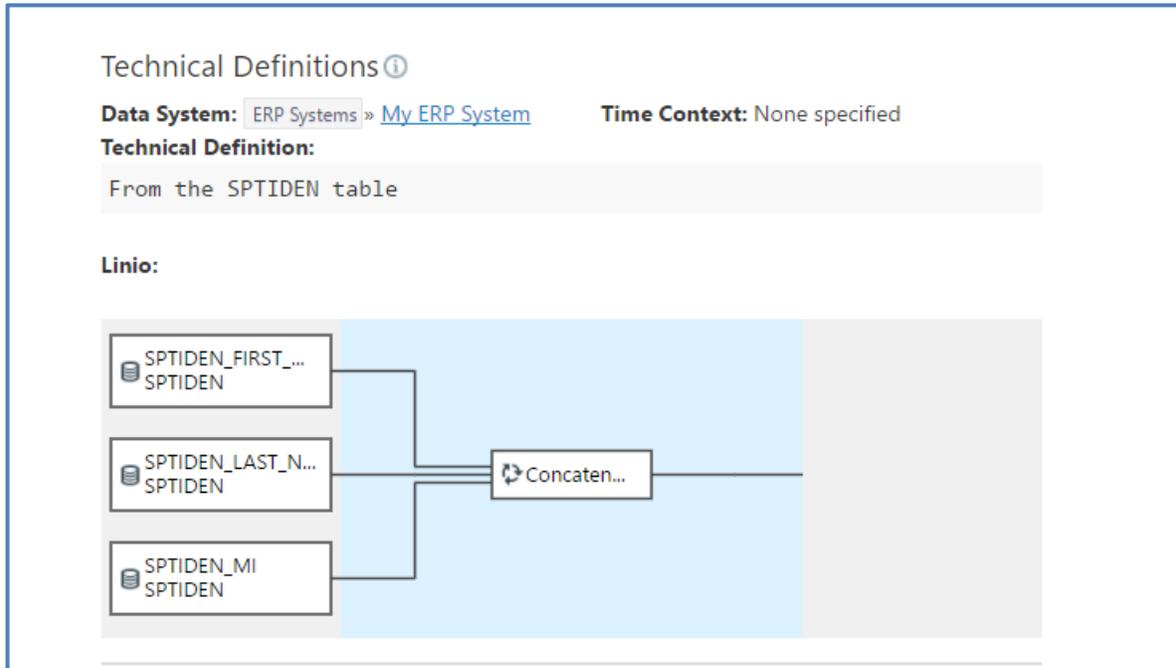


Figure 24 Example of a Technical Definition with a Linio

When you use a definition that has a linio in a specification, the linio displays on the **Mapping** tab as a fully formed lineage, with the target object linked to the linio defined for the definition. For details, see [Mapping](#).

To create a linio, begin by adding a technical definition. Once you have the basic technical definition in place, complete the following steps to add the linio:

- 1 Add a source object
- 2 Add a processing step
- 3 Link additional source objects to the first via the processing step

These steps are detailed below.

Step 1: Add the Source Object

After you have the definition's technical definition, a blank, undefined linio is available, as illustrated in Figure 25.

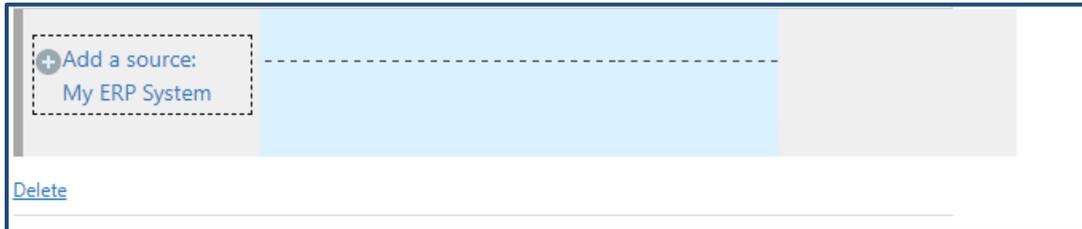


Figure 25 Undefined Linio in a Technical Definition

To add a linio, click **Add a Source**.

The source system objects can be selected by

- choosing the source system's data schema in the **Source Data System Object** field
- entering a field or table/column name in the **Label** field

For many definitions, this is all that is required. If, however, you want to document any processing that occurs, such as the concatenation example illustrated in Figure 24, or to describe a calculation such as how GPA is computed, continue with the next step.

Step 2: Add a Processing Step

To define how the source object is transformed or processed, you will add a processing step to the linio. For example, the technical definition of the term "GPA" might include the calculation for determining how to compute the GPA. Use the Type to identify the processing involved for this calculation.

The processing steps you can choose are:

- Concatenation
- Filter
- Function
- Numeric Conversion
- Other
- Splitting
- Substitution
- Translation
- Truncation

These types are informational and do not provide any actual computation, define any functions, or trigger other actions (such as providing additional attributes) within the Data Cookbook.

Step 3: Add Other Source Objects

If your technical definition requires, you can link multiple source objects together, after adding a processing step. The example in Figure 24 illustrates how three elements—SPTIDEN_FIRST_NAME, SPTIDEN_LAST_NAME, and SPTIDEN_MIDDLE_NAME—are concatenated together to form the definition *Current Name*. Each element is listed as an individual source object once the processing step is defined.

5.1.4 Attachments

Definition editors can attach files (text file, a PDF, even a graphic or picture) to a definition to provide information not covered in the standard Cookbook fields. These files are added from the sidebar to a specific version of the definition; therefore, editors must add them while the definition is in progress or create a new version of the definition if the attachment is needed.

Example uses of attachments to a definition include a citizenship policy associated with the term *Citizenship* or a list of all academic departments to supplement the term *Academic Departments*.

5.2 Avoiding Duplicate Definitions

Definition names must be unique in your Data Cookbook account. To ensure that you do not waste time creating a new definition whose name duplicates one already in your Data Cookbook account, the Data Cookbook searches existing definitions based on what you type the name on the **New Definition** form. You can then review any possible matches and decided whether to continue or cancel the new definition.

Be aware that definition viewers, editors, and managers will be able to see all information contained in any attachments placed on a definition. Do not attach documents with sensitive data or examples.

Let's look at what happened when IData University's Finn Aid started filling out the **New Definition** form for the term "financial aid." As he began to type in the **Name** field, the Data Cookbook located existing definitions that have "financial" or "aid" in their name or in a part of their functional definition. Figure 26 shows some of the options the Data Cookbook found based on this search.

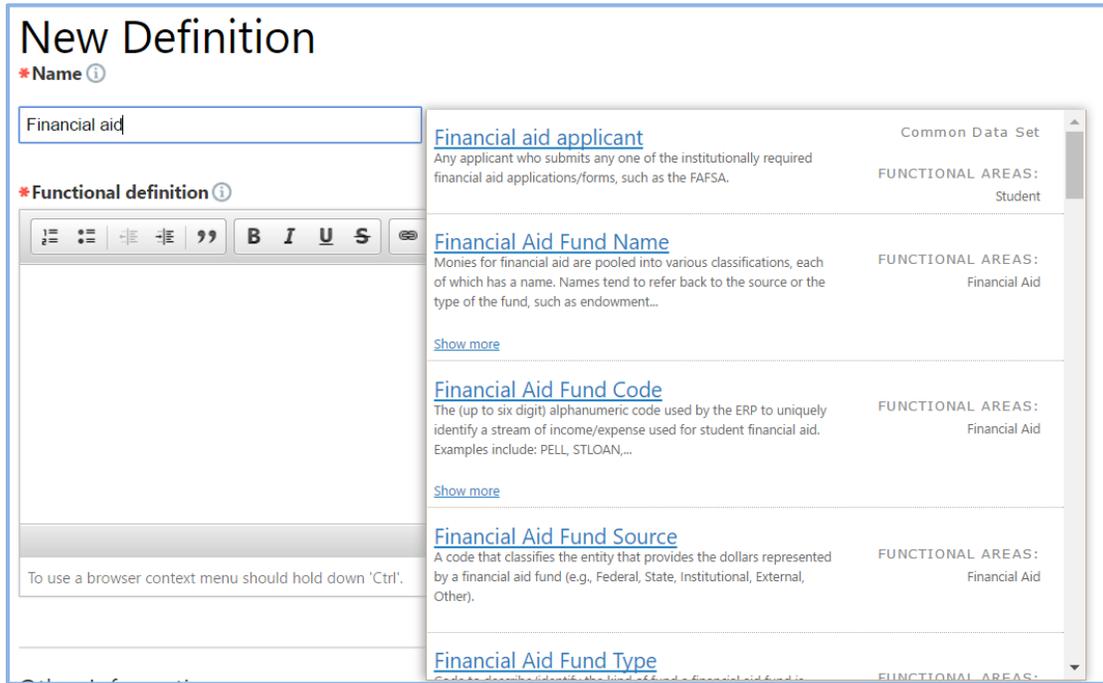


Figure 26 Creating a Definition

At this point, Finn can review the choices (notice that there are more options than those definitions displayed), expand a functional definition (by clicking **Show more**), or access any of the definitions (by clicking the definition's name).

If he finds the definition he needs, he can cancel the definition he started. If he does not find the definition he needs, he can continue with the new definition.

5.3 Link Definitions

Some definitions are naturally related to each other. The Data Cookbook allows you to reflect this by linking the definitions to one another. When definitions are linked, or related, you will see this relationship in the sidebar of each definition and, if applicable, in the text of the functional definition, as illustrated in Figure 27.

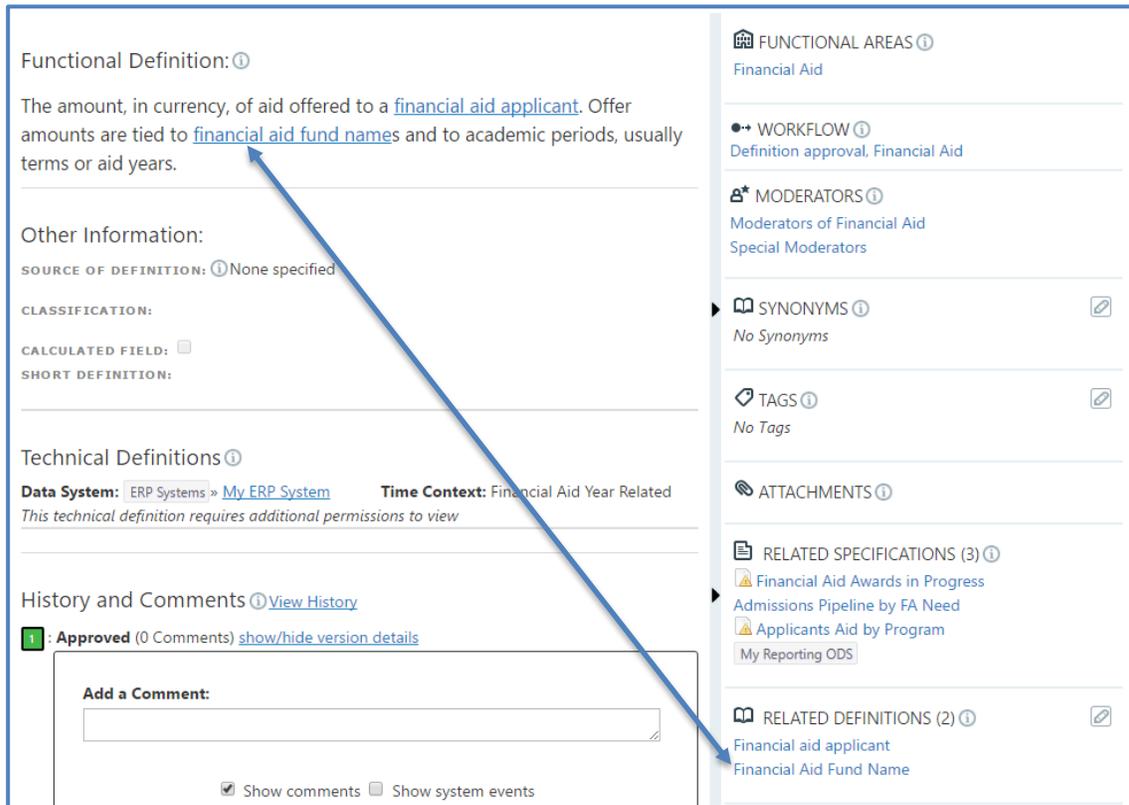


Figure 27 Definition with Related Definitions

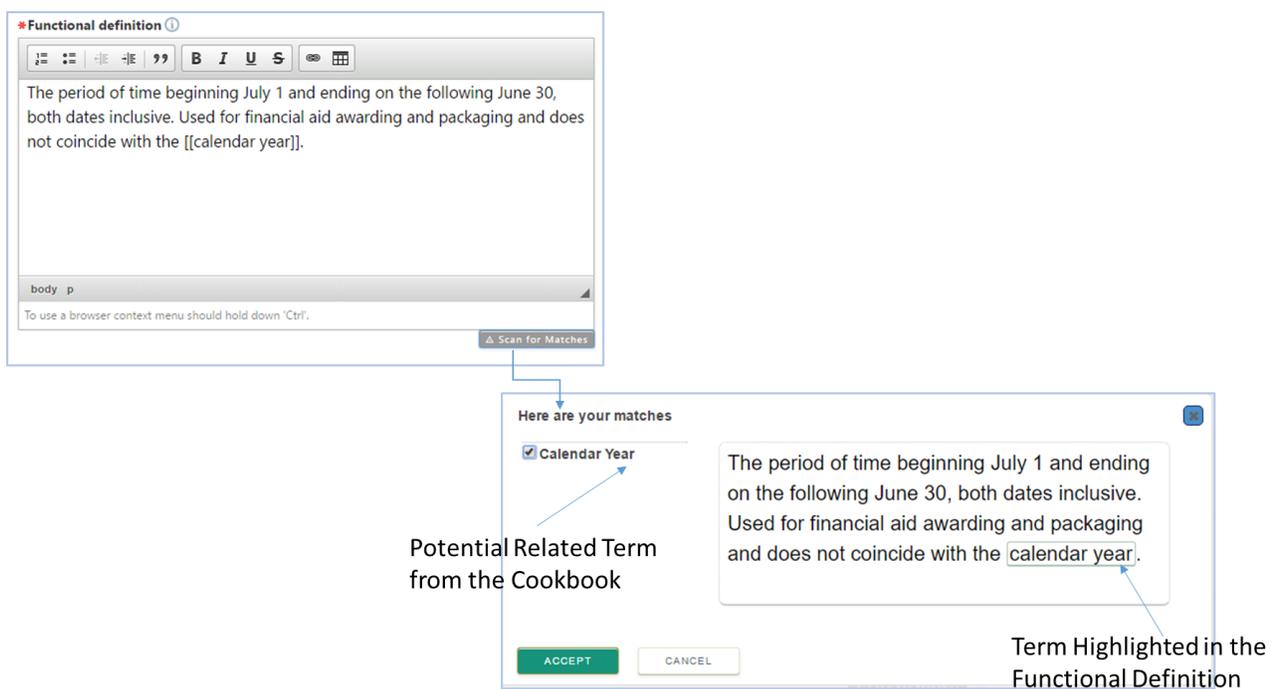
Linking Definitions from the Functional Definition

You can create a link between the words or phrases in a functional definition and any existing definitions, or potential definitions by identifying the related words as you type or by having the Data Cookbook scan your account for any potential matches.

As you type the functional definition, place double brackets `[[]]` around any term that appears in the functional definition. The Data Cookbook will link the definition you are creating to that term, if a definition exists in the Data Cookbook, or create a **Missing Definition** that can be defined later. Missing definitions are terms that you, and other Data Cookbook users, have identified as requiring a definition in your account but for which an actual Definition has not been created. For more information about missing definitions, see [View Missing Definitions](#).

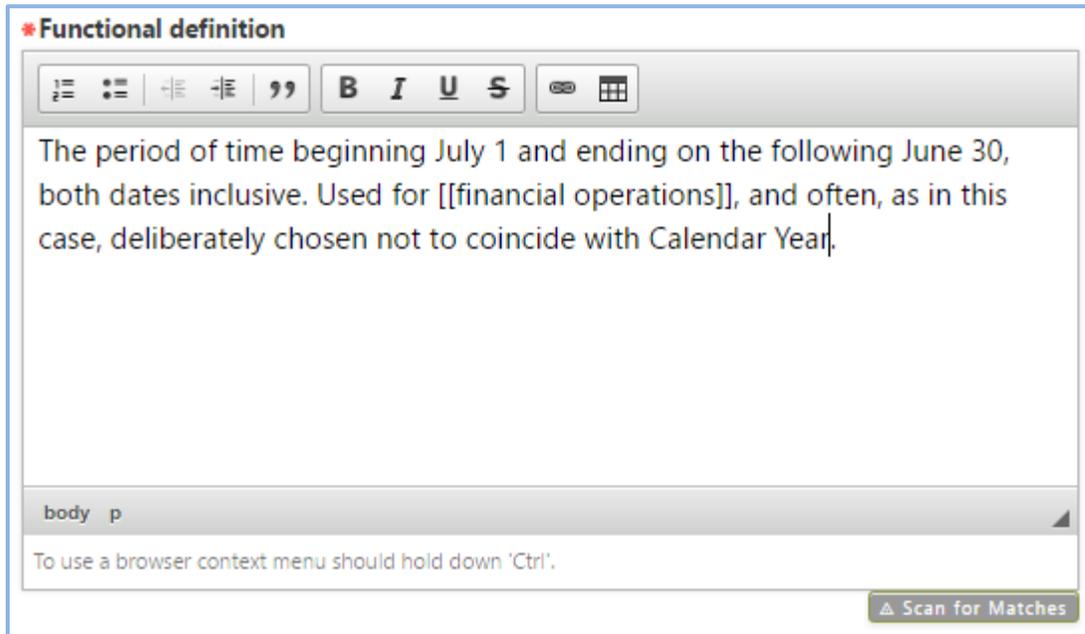
The other way to relate words or phrase from the functional definition to other items in the Data Cookbook is to use the **Scan for Matches** option at any point while you are entering the functional definition. The Data Cookbook looks for a link between any word or phrase in your functional definition and existing definitions in the Data Cookbook. If any are found, you are provided with the option to make the link.

The illustrated below shows a functional definition that Stew Worker, another IData University Data Cookbook user, entered. When he finished, he clicked **Scan for Matches** to find any existing definitions to link with the functional definition he entered. The Data Cookbook found that *Calendar Year* is already in the Data Cookbook and suggests making the link. To link the two definitions, Stew clicked **Accept** from the **Here are your Matches** dialog box.



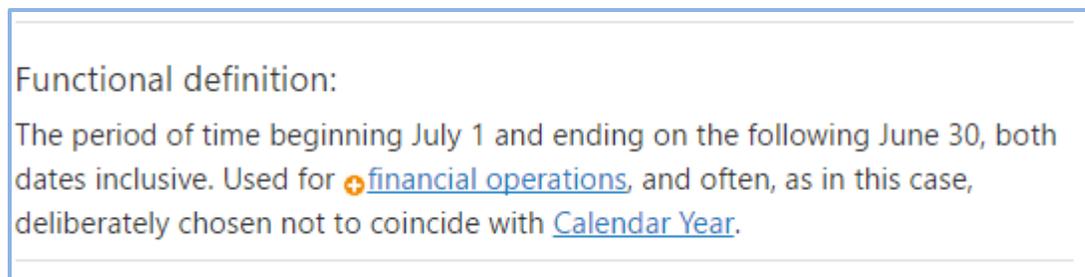
If the **Scan for Matches** option does not find any matches, but you know that some of the words or phrases in your functional definition should be in the Data Cookbook, place double brackets—[[]]—around the appropriate text. The Data Cookbook will (1) look for

the word/phrase to make a match if possible and (2) if a match is not found, missing definition that you can complete later.



In this illustration, we see the same functional definition, but with the phrase *financial operations* surrounded by double brackets. When the definition is saved, the Data Cookbook creates a **missing definition** for *financial operations* that is linked to this definition.

The illustration below shows the definition as it displays on the definition's detail page. Notice that both *financial operations* and *Calendar Year* are highlighted, indicating the definitions are linked. However, there is a small plus symbol by the link to *financial operations*, indicating that the term has not been defined in the Data Cookbook.



Click each link to access the most current version of the definition: in the case of an undefined definition (such as *financial operations* in the above example), the most current version is the new, undefined version. For information about viewing all the missing definitions in your Data Cookbook account, see [View Missing Definitions](#).

Relating Definitions from a Definition’s Detail Page

Relating definition through the text of the functional definition is an explicit relationship. To create an implicit relationship between two definitions, select term from **Related Definitions** section of the definition sidebar. Relating objects in this manner is described in [Relate Objects](#).

5.4 View Missing Definitions

When you create a link from a functional definition to a definition that hasn’t been created, the Data Cookbook creates a **missing definition**. The missing definition is simply a placeholder within the Data Cookbook for a future definition. To view all undefined definitions, click **Missing Definitions** on the **Definitions** menu.

Missing Definitions				
These words have been linked to from existing definitions but have not yet been defined in the system.				
Definition Name	Source Definition	Creator	Create Date	Delete
application	Admission Status	Karen Gwynn	June 16th, 2017 14:08	Delete
AR Aging Period	Age Date	Marci Money	March 28th, 2016 09:06	Delete
AR bill date	Aging Period	Jill Yun	March 28th, 2016 09:06	Delete
AR due date	Aging Period	Jill Yun	March 28th, 2016 09:06	Delete
AR effective date	Aging Period	Jill Yun	March 28th, 2016 09:06	Delete
certificate	Credit hour	Reggie Stration	March 28th, 2016 09:18	Delete

To complete a definition listed as a missing definition, click the definition’s **Name** to open the definition. That takes you to the **New Definition** page for that definition; complete the form and submit the definition for review.

To remove a definition listed on the Missing Definition page, click **Delete**. The Data Cookbook removes the stub definition as well as link to the source definition.

5.5 Share Definitions

When you make a definition public, only the functional definition, not your technical definition, is shared.

If you do choose to share your definitions with the Data Cookbook community, click **Edit** in the **Community Sharing** section of the sidebar, and check the box next to the communities you want to share with. To stop sharing an object, remove the check next to the community's name. Click **Save** when you are done.

Some institutions are also members of private communities. Those institutions have the option to share definitions publicly, with the private community only, or both places. If your institution is part of a private community, you will see some additional options in the community section.



6 Working with Specifications

In the Data Cookbook, designs and information about reporting deliverables are stored as **specifications**. A specification can describe a variety of deliverables, such as reports, spreadsheets, dashboards or extracts, database views, tables in an operational data store, fact tables in a warehouse, a layer or data block in a reporting environment, and so on.

For brevity, we use “reports” in our discussion of specifications as an all-encompassing term for all type of reporting objects that you might define using a specification.

Specifications are managed objects that are reviewed and approved with a specification approval workflow. When a specification is created, and while it is being reviewed and revised prior to approval, it has an in-progress status. The exact status—or workflow stage—is determined by the assigned workflow. Once the specification is approved, the version-controlled attributes cannot be edited; to change an approved specification you must create a new version and begin a new approval process. That new version is in-progress until approved.

When you’ve finished, you’ll have a completely defined report ready to turn over to your developers for creation. Or, if developers build the report as part of the approval workflow, you will have a completed report that is documented in the Data Cookbook for users to reference.

6.1 Attributes of a Specification

Each specification is comprised of several sections, or tabs, that represent groups of similar attributes. In the “classic” specification available in the Knowledge Edition, the tabs are Overview, Definitions, Selections, Sort Criteria, Technical, Display Details, Attachments, and Sharing tabs. A description of each tab is provided below. In addition to these tabs, we describe the following attributes found when a specification is first created: specification types and those associated with submitting to the specification queue: due date, priority, and comment.

For descriptions of each of the individual attributes found on each tab of the specification, see the online help.

Specification Types

Your Data Cookbook administrator defines **specification types** to categorize the different specifications your organization creates. Examples of specification types include “Dashboards,” “Columnar Report,” “ETL process,” or “Spreadsheet.”

For Knowledge Edition clients, specification types allow you to classify specifications and may be used for determining which workflow to assign or which users to assign to steps within a workflow.

For clients using the Enterprise and Enterprise + Integration Editions, specification types are associated with a specific specification template, and thus determine the attributes available to you when you create a specification. A specification that is based on the Report

template will have different tabs and attributes than a specification that is not based on a template.

The specification type is also an attribute upon which you can filter the list of specifications on the **Specifications** page.

Submit to Specification Queue

Before saving the initial draft of a new specification request, you can provide a requested due date and priority for the specification queue. This information, along with any comments you provide, displays on the **Specification Queue** and is intended to help the specification managers who review and schedule specification requests.

Submit to Specification Queue

Due Date ⓘ 2017-06-07
(yyyy-mm-dd)

Comment ⓘ

Priority ⓘ Medium ▼

If you do not provide this information when you first create the specification, the Due Date, Priority, and Comments can be added from the specification's workflow panel area (click **Show Workflow**). Click the edit icon to edit the Priority and Due Date; click **View note** to see or add a comment for the specification queue.

WORKFLOW STARTED: 1 day ago

[Impact Analysis](#) ⓘ

PRIORITY: N/A

DUE DATE: N/A

[View note](#)

Overview

Attributes on the **Overview** tab allow you to describe general information about the report being defined. This includes providing a **Purpose** (which explains why the report is needed), a **Description** (what is on the report), and **Access Details** (how users will access the report). Other information on the **Overview** tab includes identifying who owns the report (which may be an individual, business office, group, or other entity), and a selection of the tools or technology used to create or generate the report.

Definitions

The **Definitions** tab is where you list the Data Cookbook definitions you want in the report. For each definition used in your specification, you can provide details about how the definition will appear on the report, including how it displays on the report, where it is located (such as, “column header”, “third row”, “centered in the document header,” “upper left,” etc.), and whether the field is aggregated.

The illustration below shows what a definition might look like when placed on a specification.

Name ⓘ	Display Info ⓘ	Field Info ⓘ	Aggregate Info ⓘ
Actual Amount <small>CLASSIFICATION: Sensitive Data</small> <small>DATA SYSTEM: My ERP System</small>  	Display: Yes show revenue categories as rows	Loc: report body Ref:	Aggregate: Yes sum year-to-date, group by revenue category

Selections

Uses the **Selections** tab, to specify the selection criteria for the report. For example, if you want a report that includes only information about entering admitted students, use the Selections tab to define this requirement.

You can define the selection criteria by describing the criteria in the **Description** field (such as, “Select only those students who were admitted to the honors program”) or by choosing specific Data Cookbook definitions (**Attribute**), an **Operator** (such as “is true” or “equal to”), a **Condition** (this is free text), and whether the user is prompted for a value (a **Parameter**). If your selection criteria include more than one set of attributes, use the **Connector** (and/or) to indicate the relationship between the statements.

Sort Criteria

From the **Sort Criteria** tab, you can indicate how you want information sorted on the report. For example, a report of financial aid awards in progress might be sorted by the academic term and then by financial aid fund name.

Technical

From the **Technical** tab, you define the specification’s technical details. This information could be the full text of the query, a techno-functional description of how the data is extracted or transformed in the context of the current specification, or some other kind of heads-up for other Data Cookbook users.

The **Technical** tab also shows the technical definitions for each of the definitions added to the specification, if a data system is selected and there is a technical definition for that data system. If you have specifications that need to query multiple data systems, the **Technical**

tab allows you to choose a different data system for any definition you've added and then display the appropriate technical definition.

Display Details

From the **Display Details** tab, you can provide a sample of the deliverable you want to be built by describing a sample header, body, and footer. You can also give a description of the output (including output type, such as “columnar report” or “text file”) and indicate the delimiter that should be used.

Be aware that specification viewers, editors, and managers will be able to see all information contained in any attachments placed on a specification. Do not attach documents with sensitive data or examples.

Attachments

From the **Attachments** tab, you can attach any files that might be of use when building the report, such as a sketch or mock-up to clarify the display, or a sample of another report with changes highlighted.

6.1.1 Required Attributes

For most Data Cookbook objects, required attributes are indicated on a form with a red asterisk (*) and you cannot save or otherwise complete the form without completing the required information. With a specification, some attributes (**Name**, **Specification Type**, and **Functional Area**) are required in order to save a new specification (and thus indicated with the asterisk) while other attributes—**Purpose** and **Description**—are required before the specification can be approved. When working on a specification that is missing either of these attributes, an alert  in the workflow panel indicates that the specification cannot be approved until these attributes are completed.

6.2 Specification Templates

Specification templates are used in the Enterprise and Enterprise + Integration Editions to provide greater flexibility and options for defining reporting objects through the Data Cookbook. IData provides a basic report template that your Cookbook administrator can associate with your specification types. New specification based on one of these types will have the tabs and attributes based on the associated template.

In this section, we describe the general characteristics of each of the IData-supplied templates. If you want to know which template your account administrator has used, open the **Specification Types** page from the **Organization** menu. Here you will see all your organization's specification types and, in the **Specification Template** column, a link to the template associated with that type. If a specification type is not associated with

More to Come!

The template described here is the first of several that IData intends to release to the Data Cookbook.



a specification template, the classic Knowledge Edition specification format is used (refer to [Attributes of a Specification](#) for a description of that format).

The Enterprise and Enterprise + Integration Editions include a **Report Template**—this template provides all the tabs and attributes necessary for describing most reports. The report template provides many of the tabs and features similar to the classic report available in the Knowledge Edition along with some advanced functionality that allow you to have greater control over your how you specify a reporting object. In the following section, we cover the tabs that are different from those covered in [Attributes of a Specification](#).

6.2.1 Report Template

Figure 28 shows the heading section of a specification that is based on the report template.

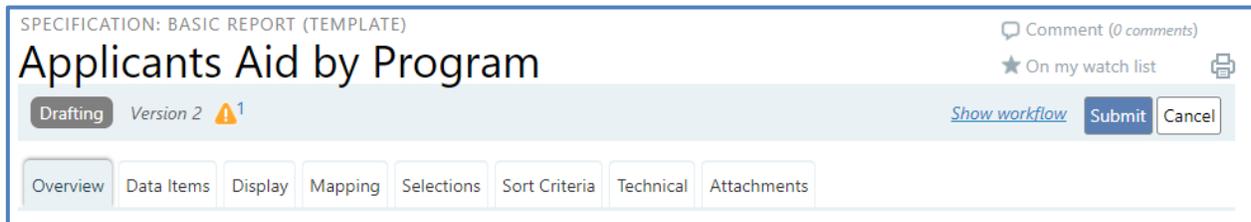


Figure 28 Specification Based on the Report Template

Comparison of the Classic Report and the Report Template

The following are the list of key features and the corresponding tabs on which you define each on the classic report and the report template.

Feature	Classic Report	Report template
Define general and summary information about the report	Overview tab	Overview tab
Manage definitions used in the report	Definitions tab Can also add from the Selections and Sort Criteria tabs and edit or remove from the Technical tab	Data Items, Display, Mapping, Selections, and Sort Criteria tabs
Create a new definition for use in the specification	Definitions tab	Data Items, Mapping, Selections, and Sort Criteria tabs
Change the order in which definitions (or data items) are listed in the specification	Definitions tab	Data Items and Mapping tabs

Feature	Classic Report	Report template
Add simple labels in lieu of definitions to represent data objects required for the report	n/a	Data Items tab, Selections tab, Sort Criteria tab, Mapping tab, Display tab
Specify the selection criteria for the report	Selections tab	Selections tab
Indicate how you want information sorted on the report	Sort Criteria tab	Sort Criteria tab
Define technical details about the specification	Technical tab	Technical tab
Provide a sample of the deliverable you want to be built by describing a sample header, body, and footer. You can also give a description of the output	Display Details tab	Display tab
Pinpoint the exact location where definitions belong on the proposed report with an interactive “pin drop”	n/a	Display tab
Choose how you want to define the layout of the report, selecting the method appropriate for the information you have	n/a	Display tab
Identify the data objects to use for generating the information needed on the report by showing how each definition used in the report relates to a table/column in a specific data system	n/a	Mapping tab
Attach any files that might be of use when building the report	Attachments tab	Attachments tab and the Display tab when using the sample attachment mode
Share some or all of an approved specification’s content with the Data Cookbook Community	Sharing tab	Not currently supported with specifications based on the report template
Print out the specification, in PDF format	yes	Not currently supported with specifications based on the report template

Data Items

A **data item** is either a definition or a label that represents an item from a source data system or a placeholder for a field that is not represented by a Cookbook definition.

You add data items to your specification from the **Data Items**, **Display**, **Mapping**, **Selections**, or **Sort Criteria** tabs. Once you add an item, it is listed on the **Data Items** tab and **Mapping** tab. When you use an item on the **Display** tab or for selection or sorting (**Selections** or **Sort Criteria** tabs, respectively), an icon displays in the appropriate column in the list **All Data Items** table on the **Data Items** tab, as illustrated in Figure 29.

Data Item ⓘ		Source Data System	Display ⓘ	Select ⓘ	Sort ⓘ
Active Academic Program	order ✖	My ERP System			
Admission Status	order ✖	My ERP System			
Aid Offer Amount	order ✖	My ERP System			
Aid Accept Amount	order ✖	My ERP System			

Figure 29 The All Data Items Table showing how Data Items are used in a Specification

Because all data items are listed on the **Mapping** tab, there is not a corresponding column on the **All Data Items** table.

You can filter this view based on how the data items are used, for example displaying only those data items selected for display. You can also rearrange the order in which the data items are listed, by either dragging and dropping the item in the **All Data Items** table or by clicking **Order** and entering a sequence number. For example, if there are 35 items in your specification, and you want the 34th item to be the second item, click **Order** and change 34 to 2. When you change the order of the data items from the **Data Items** tab, the data items are listed in the same order on the **Mapping** tab; likewise, if you reorder the lineages on the **Mapping** tab, the order changes on the **Data Items** tab.

Adding Data Items

On the **Data Items** tab, the choices for adding an item are **Existing Definition** and **New Definition**.

Click **Existing Definition** to:

- select a definition from your Data Cookbook account
- add a label to represent data not defined in the Data Cookbook

Click **New Definition** to create a new definition that is added to the specification as a data item.

Figure 30 shows the **Add an Item** area on the **Data Items** tab. A similar area is available on each of the tabs where you can add data items.

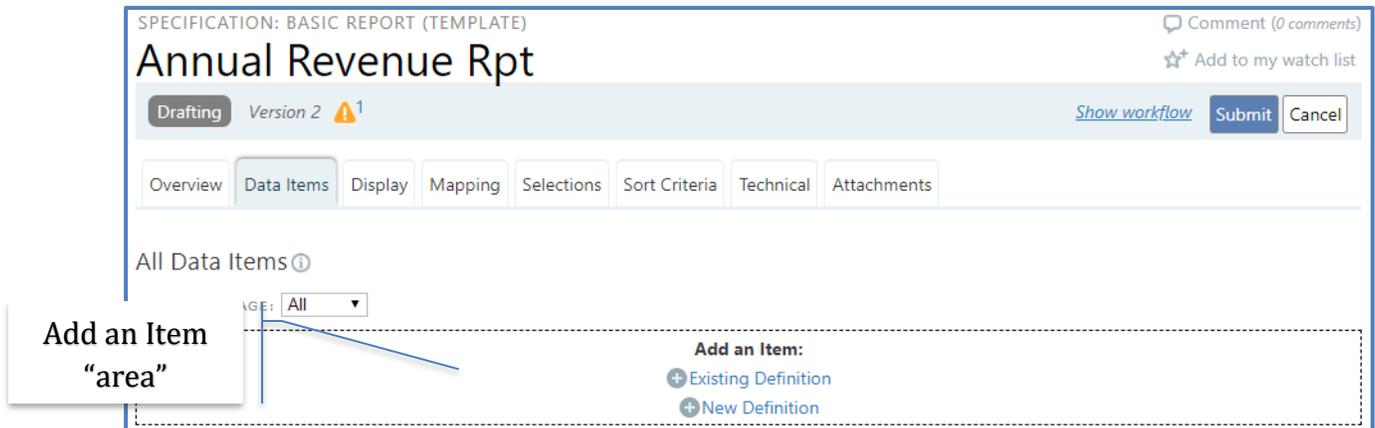


Figure 30 Add an Item to a Specification

Using Multiple Occurrences of a Definition

To use the same definition multiple times in a specification (for example, when pulling data from different source data systems), each occurrence of the definition must have a unique label.

Figure 31 shows how the same definition (*Admitted student*) is used in the same specification by changing the label and the source data system.

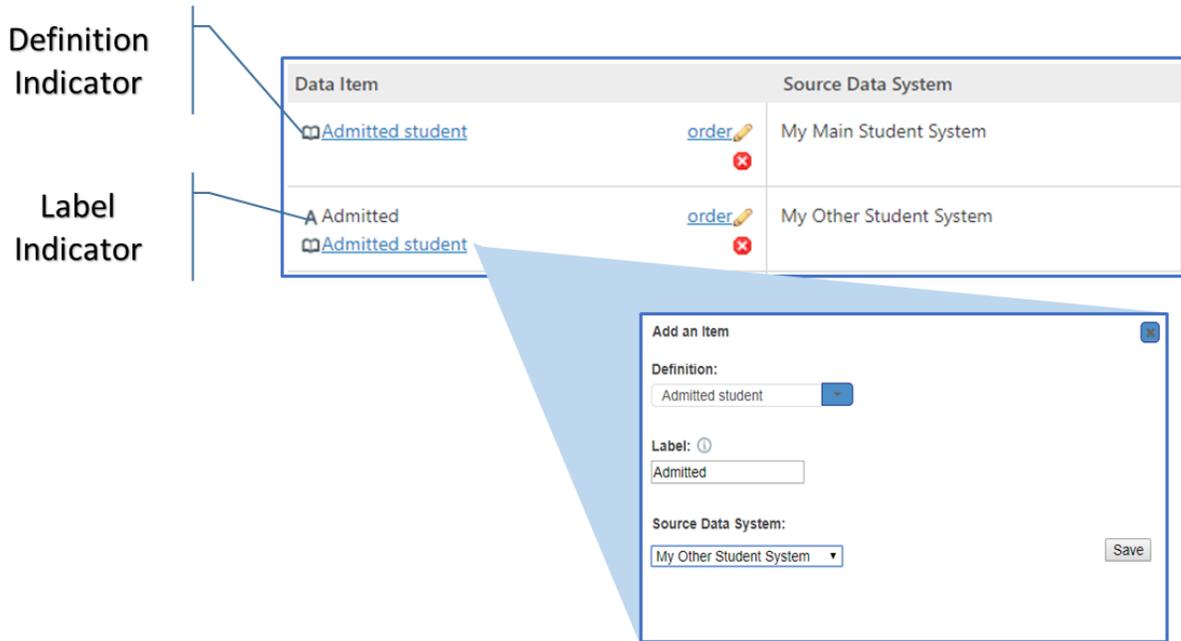


Figure 31 Using a Label to Differentiate between Multiple Occurrences of the same Definition

When we added the second occurrence of the definition, we changed the label from the default *Admitted student* to *Admitted*. This new label displays along with the name of the definition on each tab where the definition is displayed. In this example we assigned each data item with a different data system; however, each occurrence of the definition could come from the same data system, or you could leave the source data system blank, as it is not required when adding a data item.

Display

Use the **Display** tab to describe how you want your report to look.

Display Items

Display items are a subset of the data items added to your specification, representing only the data items that are displayed on the report.

For example, your report's selection criteria might include data that does not display on the report itself. The data item(s) used for that selection criteria will show on the **Data Items** tab and on the **Selections** tab, but you will not add those data items as a display item via the **Display** tab.

Figure 32 shows the options for adding display items on the **Display** tab when the display mode is full text descriptions.

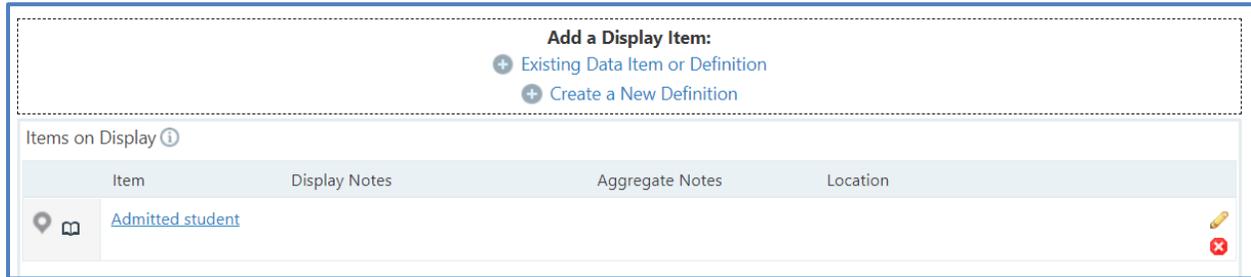


Figure 32 Adding Display Items to a Report Specification

On the **Display** tab, click **Existing Data Item or Definition** to add a display item that is:

- a data item already added to the specification
- a definition from your Data Cookbook account
- a label to represent data not defined in the Data Cookbook

If the definition you need is not in your Data Cookbook account, click **Create a New Definition** and complete the **Create a New Definition** form, then click **Existing Data Item or Definition** and select the new definition from the list of **Data Items**.

Display Modes

On the **Display** tab, use one of the following modes to layout or describe the report:

- **Image mock-up with pin drop**—upload an image to which can “attach” data items, illustrating where each item should appear on the report (see [Image Mock-up with Pin Drop](#))
- **Sample attachment**—attach a file to use as a reference or an example and describe the different elements of the report (header, footer, and layout)
- **Full text descriptions**—describe the different elements of the report (header, footer, and layout)

With each display mode, you have the ability to choose the display items and provide an overall description of the information (**Display Details**).

Image Mock-up with Pin Drop

With the Image Mock-up with Pin Drop (or “Pin Drop”) mode, you can add an image (a graphics file such as a PNG, JPEG, or TIFF) and then add “pins” to specify the location of each data item that you want displayed on the report.

Figure 33 illustrates a specification with an example of what the final report should look like.

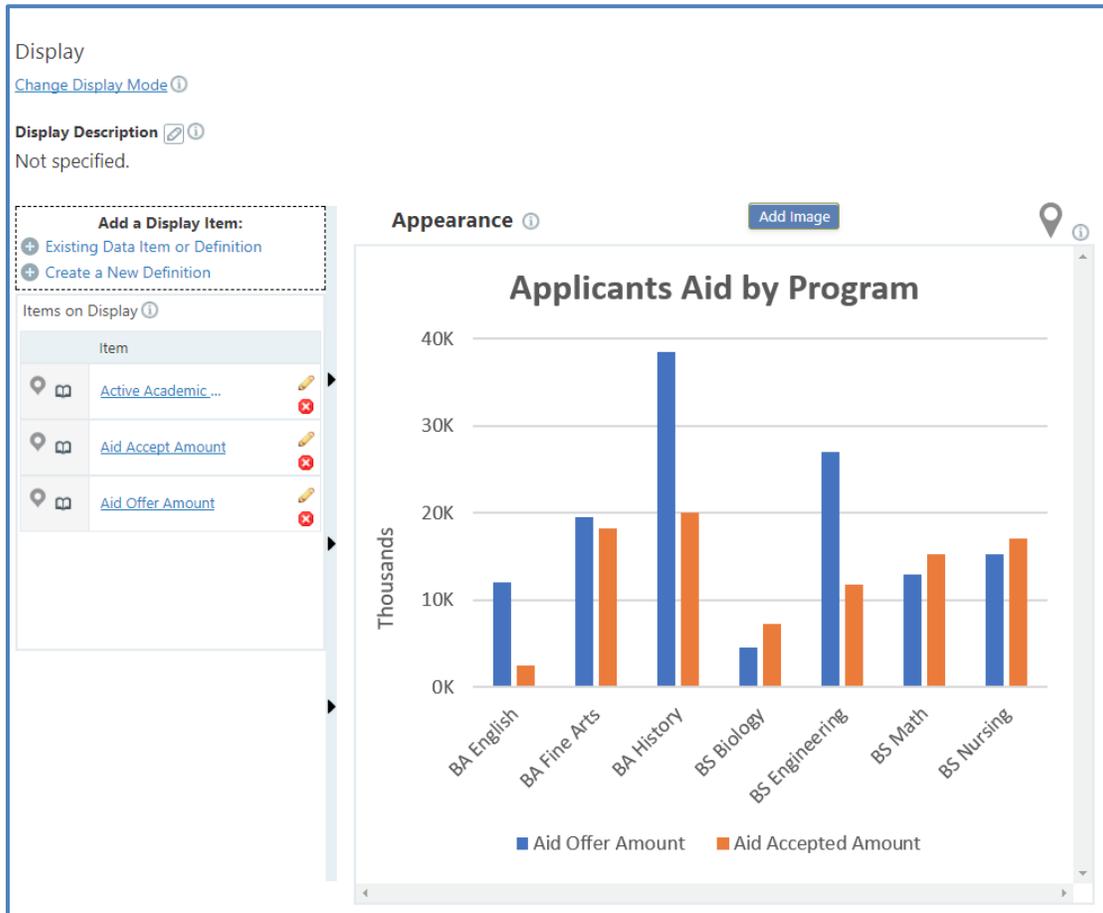


Figure 33 Display Tab Showing an Example of the Report being Specified

Pinpoint the Location of a Data Item

Supplying an example of the report you are defining will help the report writer to understand how the report should look and the desired layout, but it may not always be obvious which data items are used for each element on the report. For example, to be sure that the report writer understands where each of these items appear in the example shown in Figure 33, we can place a “pin” in the location of a data item directly onto the image.

Figure 34 illustrates the display after one of the data items, *Aid Offer Amount*, is “pinned” to the image.

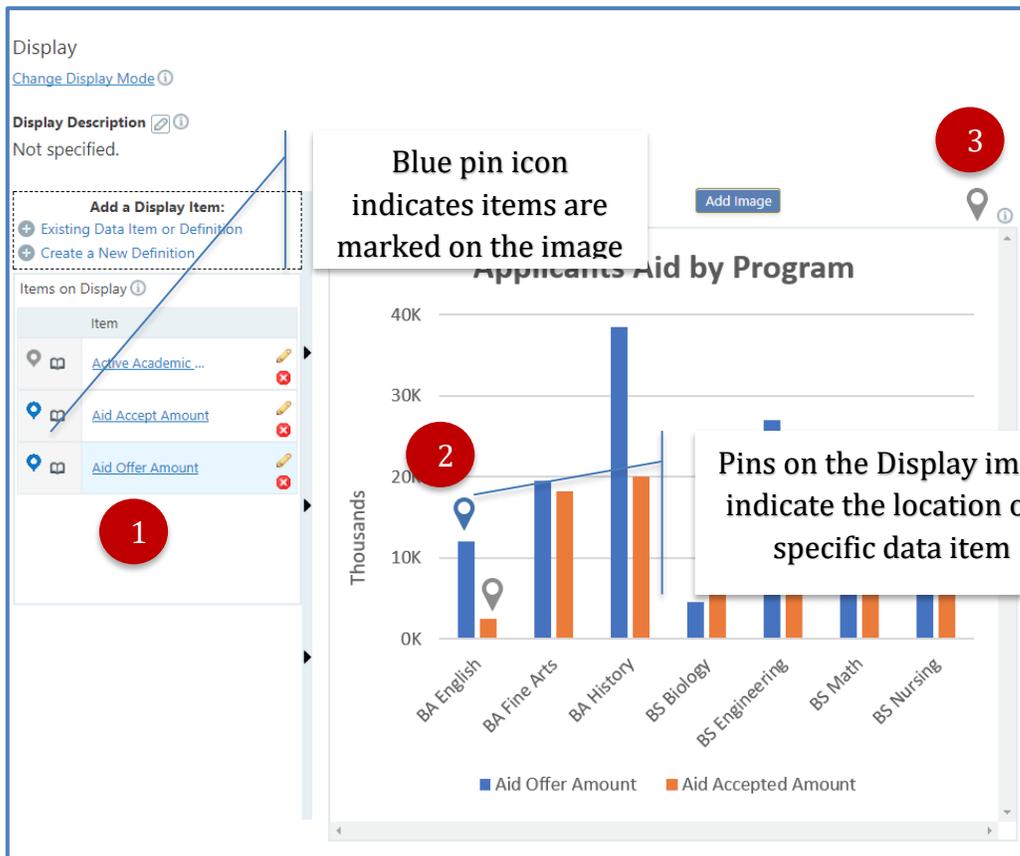


Figure 34 Display Tab with a Data Item “Pinned” to the Display Image

The pin icon  appears in several places on the **Display** tab:

- in the **Items on Display** list (1)
 - a grey icon indicates that the item has not been “pinned” to the image
 - a blue icon (such as with *Aid Offer Amount*) indicates the item has been pinned to the image
- on the display image (2)
 - a grey icon is the default after pinning items to a location on the display image
 - a blue icon (as shown next to the Active Academic Program field in Figure 34) indicates the pin has been selected or clicked on. When selected, the corresponding item in the **Items on Display** is highlighted
- the grey icon to the right of the **Add Image** button (3) is used to activate the pinning feature

Before pinning objects to your image, you must have added them to the **Items on Display** list, as described in [Display Items](#).

Sample Attachment

In the Sample Attachment mode, you provide a file as an attachment and describe the report’s **Header** and **Footer** and give a textual description of how the report should be laid out (**Display Layout**).

When you add an attachment, it is also available from the **Attachments** tab. Should the specification’s display mode change, the attachment remains with the specification until deleted from the **Attachments** tab.

Full Text Description

In Full Text Description mode, you can describe the report’s **Header** and **Footer** and give a textual description of how the report should be laid out. Use the **Attachments** tab to include a mock-up of the report or an example of what the report should look like.

Switching Display Modes

While the specification is in progress, you can change the display mode, by clicking **Change Display Mode** and selecting a new mode. Be aware, however, that changing from one display mode to another may result in the loss of some information that you have already provided (before switching modes, you will see a list of attributes that might be lost and have the option of cancelling should you chose not to switch).

Change	Effect of Change
Pin drop to Attachment	Uploaded image remains as an attachment and the following fields are removed: <ul style="list-style-type: none"> • Pin Locations
Pin drop to Full Text	The following fields are removed: <ul style="list-style-type: none"> • Image • Pin Locations
Attachment to Pin Drop	Uploaded image remains as an attachment and the following fields are removed: <ul style="list-style-type: none"> • Delimiter • Header • Footer • Display Layout
Attachment to Full Text	Uploaded image remains as an attachment
Full Text to Attachment	No impact to change

Change	Effect of Change
Full Text to Pin drop	The following fields are removed: <ul style="list-style-type: none"> • Delimiter • Header • Footer • Display Layout

Strategy for Switching Display Modes

We do not recommend switching the display mode frequently during the course of creating a specification. Instead, choose the mode that fits the information you have as you begin the specification and switch to a different mode to better communicate the report’s display requirements as more information becomes available. For example, the initial report requester may begin describing a report in Full Text mode and as the specification moves through the approval process, a specification editor may switch to Pin Drop or Attachment have to add an example of what the report should look like.

If you are documenting an existing report, use Pin Drop or Attachment mode and provide an example of the actual report. When requesting a change to the report, it may be appropriate to switch to a different mode. For example, if the current version (represented by the attached image) does not reflect the proposed changes, it may be appropriate to switch to Full Text mode to begin with a description of the new report. Alternatively, you could continue in Pin Drop or Attachment mode, but replace the image of the current report with a mock-up of the proposed new report.

Mapping

The **Mapping** tab is where you describe the relationship between the data items you’ve selected for your report and the source for those items—the specific objects (tables and columns) from a data system. This relationship is graphically displayed as a **lineage**: a mapping of a source objects to a data object. Figure 35 illustrates an example of a simple lineage.



Figure 35 Example of a Simple Lineage in a Report Specification

This lineage shows how the definition *Aid Year* is derived from a data system object, STVTERM_FA_PROC_YR, from the data system My ERP System.

Each lineage has a single **target object**, one or more **source objects**, and optional **processing steps**, which defines any actions necessary to transform the source objects to create the target object. The target and source objects can be

- a Data Cookbook definition,
- a label to represent data not defined in the Data Cookbook, or
- a data system object

The lineage illustrated in Figure 36 shows how multiple source objects are concatenated to form the definition, *Mailing Address*.

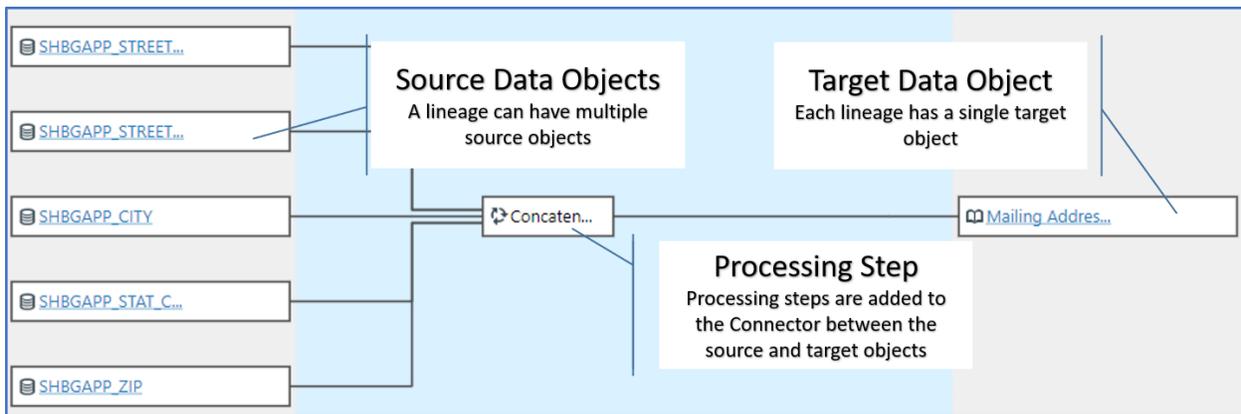


Figure 36 Example of a Lineage using Concatenation

In this example, the source objects are the data system objects that represent an individual's *street address*, *city*, *state*, and *zip code* that, when concatenated together, form an individual's *Mailing Address*, which is a Data Cookbook definition.

Using the Mapping Tab

When you create a specification and add data items from the **Data Items** or **Display** tabs, those objects appear on the **Mapping** tab as target data objects for lineages. You can map those data objects to objects from one or more source data systems, specific Data Cookbook definitions, or use simple labels to represent objects not defined in your Data Cookbook account. The resulting lineages provide a mapping that describes how to retrieve the specific data items you require for your report.

If any of the data items you've selected have technical definitions that include linios, the mappings will appear as soon as you add the data items to your specification, as long as you have chosen a source data system for the given data item and the definition for that data item has a linio for that data system.

In [Mapping the Definition's Source](#), we explain how to add technical definition with a **linio**—the first part of a lineage—which describes where the data comes from and, if applicable, how it is transformed to create a single data point. When you add a definition to

a specification and that definition has a linio associated with your specification's data system, the Data Cookbook creates the lineage that displays on the **Mapping** tab.

For example, Figure 41 illustrates the specification, *Financial Aid Summary*, which has as its source data system My ERP System. When the definition *Current Name* is added to the specification, the Data Cookbook uses the linio from the technical definition to build the lineage on the **Mapping** tab.

The screenshot displays the 'Mapping' tab for the 'Financial Aid Summary' specification. On the left, a sidebar shows the 'Current Name' definition with a linio (1) and its synonyms. The main area shows the 'Mapping' tab with a 'Mapping Description' of 'Not specified.' Below this, the 'SOURCE DATA SYSTEMS' section lists 'My ERP System' with a 'Browse' link. The mapping diagram shows three source data items from 'My ERP System': 'A First Name' (SORNAME_FIRST...), 'A Middle Name' (SPRIDEN_MI), and 'A Last Name' (SPRIDEN_LAST_N...). These items are connected to a 'Concaten...' processing step (2). The output of this step is mapped to the 'Current Name' target (1). A 'Required' quality attribute is also shown. A 'Add a Target Item' box on the right offers options for 'Existing Definition' and 'New Definition'.

Figure 37 The Mapping Tab after adding a Definition with a Linio

Once the lineage is created, you can add processing steps, but otherwise you cannot change the linio. To use a different mapping for your specification, edit the data item and disassociate it from the data system. This will remove the linio. You can then create your own lineage for the data object for the purpose of the current specification. The data item's technical definition does not change.

When a technical definition does not include a linio, the **Mapping** tab shows an “unmapped lineage,” as illustrated in Figure 38.

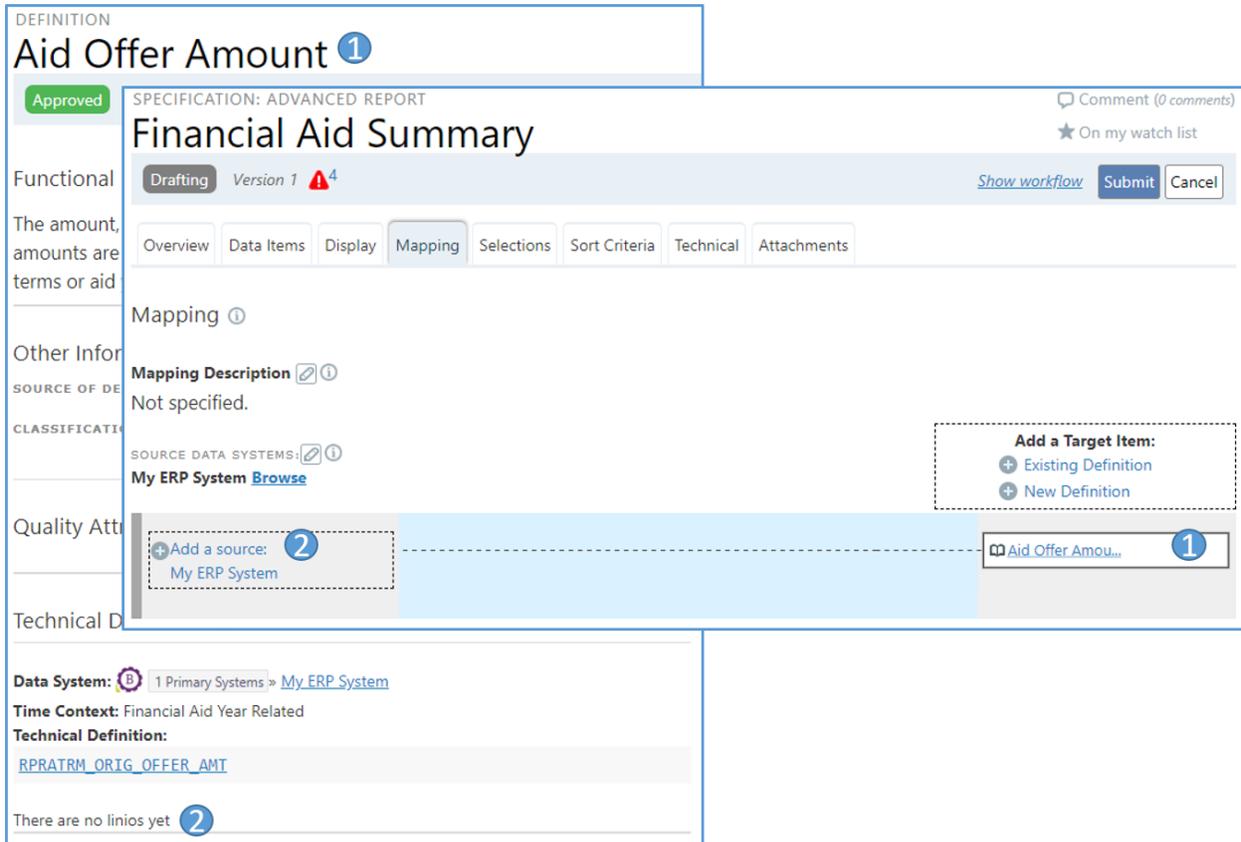


Figure 38 The Mapping Tab after adding a Definition without a Linio

In this example, the source data item, the definition *Aid Offer Amount*, does not have a linio as part of its technical definition, so the definition displays on the **Mapping** tab as the target object unmapped to a source object.

When a data item does not have a linio, click **Add a Source** to map the data item to a data system object or to provide a label that represents an item from a source data system.

How it Works

We have seen that when you choose as the target object a technical definition with a linio, the lineage on the **Mapping** tab may be built from the technical definition’s linio. We have also seen that, if technical definition does not include a linio, a lineage is not built when you add the definition to your specification. The following chart describes the different

situations that might arise when adding data objects and how the results display on the **Mapping** tab.

If your specification has	and you select as a target object	the Mapping tab shows	To create a mapping in the specification
one source data system	a definition that has a technical definition with a linio for the same data system	a fully-formed lineage based on the technical definition's linio	
one source data system	a definition that has a technical definition with a linio for a different data system	the definition without a data mapping	<ul style="list-style-type: none"> • Add the same data system to your specification • Edit the data item • Select the data system <p>The mapping uses the linio</p>
no source data systems	a definition that has a technical definition with a linio for one or more data systems	the definition without a data mapping	<ul style="list-style-type: none"> • Add a source data system • Edit the data item • Select the data system <p>The mapping uses the linio</p>
no source data systems	a definition with no technical definitions for any data system	the definition without a data mapping	<ul style="list-style-type: none"> • Add a source data system • Edit the data item • Add the appropriate source data object <p>The mapping is created for the specification</p>
one source data system	a definition without a technical definition for that data system	the definition without a data mapping	<ul style="list-style-type: none"> • Edit the data item • Add the appropriate source data object <p>The mapping is created for the specification</p>
multiple source data systems	a definition that has a technical definition with a linio for one of the selected data systems	the definition without a data mapping	<ul style="list-style-type: none"> • Edit the data item • Select the appropriate data system <p>The mapping uses the linio</p>

If your specification has	and you select as a target object	the Mapping tab shows	To create a mapping in the specification
multiple source data systems	a definition that has a technical definition without a technical definition for any of the selected data systems	the definition without a data mapping	<ul style="list-style-type: none"> Edit the data item Add the appropriate source data object <p>The mapping is created for the specification</p>

Using the Linio from a Technical Definition

Lineages created based on a data item’s linio cannot be edited, except by adding processing steps. You cannot remove any of the source data objects or original processing steps. Furthermore, if you associate a data item with a different source data system, the lineage could change depending on technical definitions available for that data system, because the technical definition from the data item takes precedence over the lineages on the **Mapping** tab.

For example, a specification editor at IData University created a specification and select the My ERP System as the source data system. She added several data items to the specification, some of which had linios associated with the My ERP System. Figure 39 illustrates the Mapping tab after she completed her data entry.

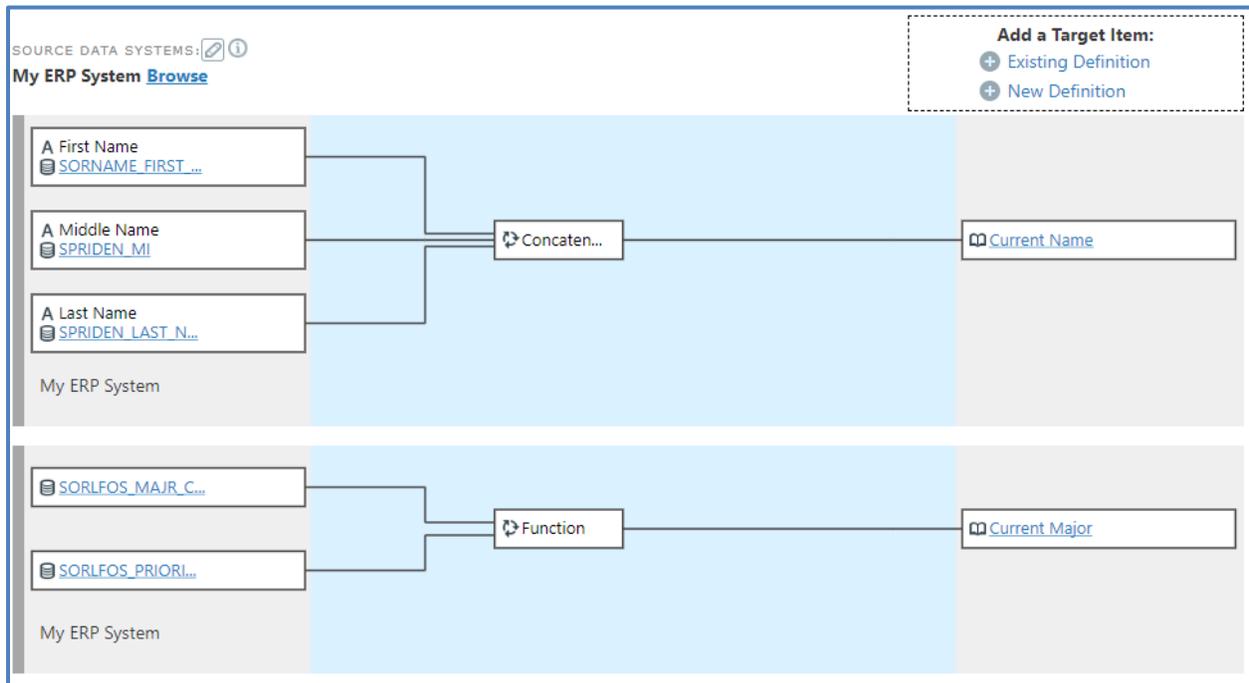


Figure 39 Example Mapping Tab with Initial Lineages from Linios

Next, the specification editor added another data system, My CRM, and associated the data item, *Current Name*, to the new system. Because there is not a linio for *Current Name* for My CRM, the **Mapping** tab now appears as shown in Figure 40.

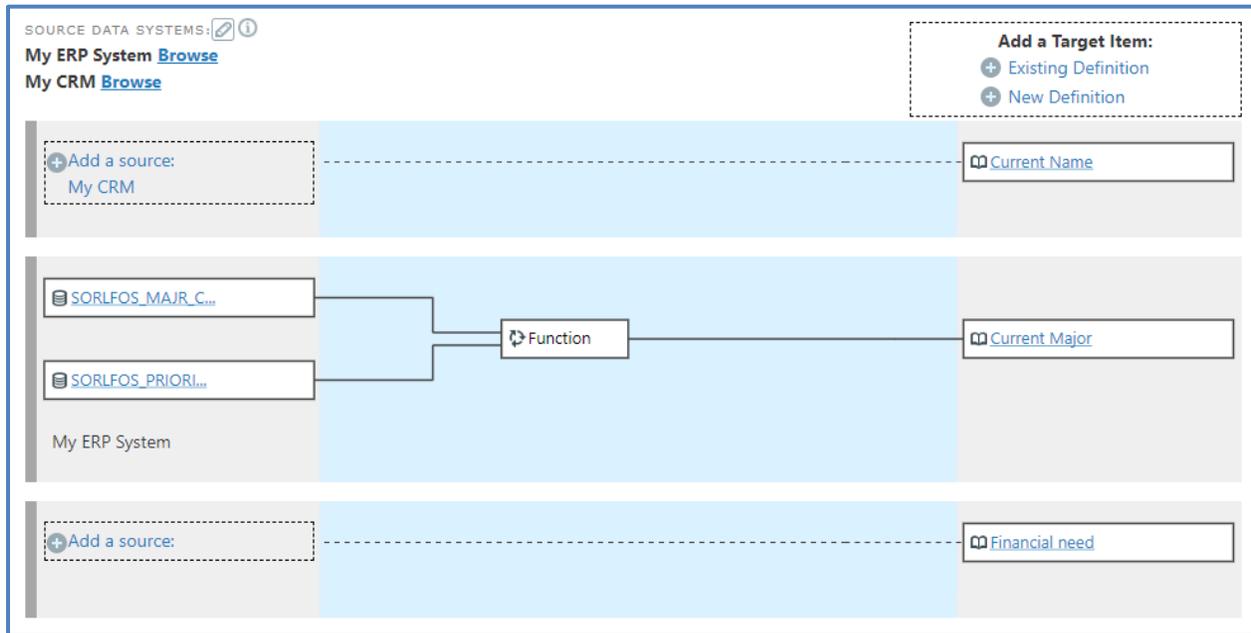


Figure 40 Example Mapping Tab After Changing Source Data System

If there were a linio for the My CRM data system, that linio would have displayed in place of the previous linio.

Interpreting the Symbols used on the Lineage

Figure 41 shows a lineage that has a data system object and a simple label (the source objects) concatenated together to define a Data Cookbook definition (the target object).

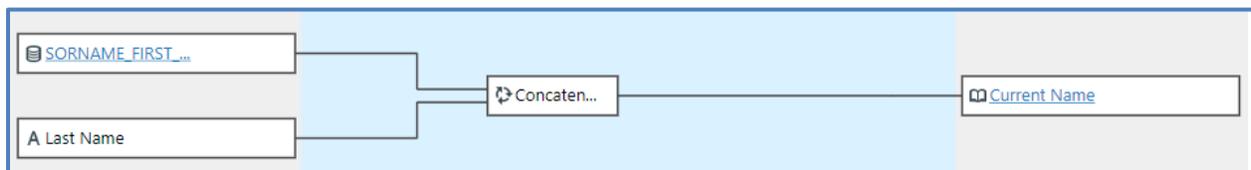


Figure 41 Lineage showing Multiple Data Objects and a Processing Step

The symbols that display in each box in the lineage identify the type of object used.

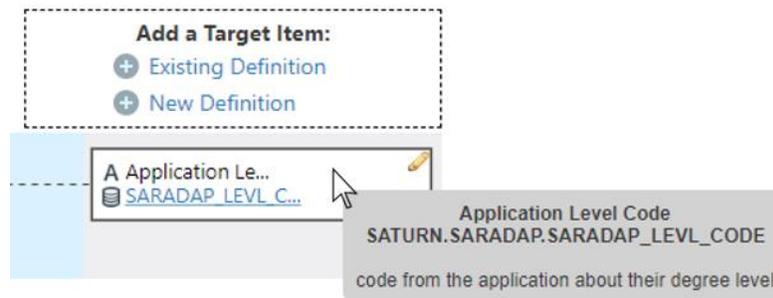
Symbol	Description
	Data system object
	Definition
A	Label

Editing Objects within a Lineage

When you hover over any of the objects in a lineage—the source or target objects or any processing step—different information about that object and icons display.

The name of any source or target object that represents either a data system object or a Data Cookbook definition is a hyperlink to those Data Cookbook objects. Click the name to go to the definition or the column properties page.

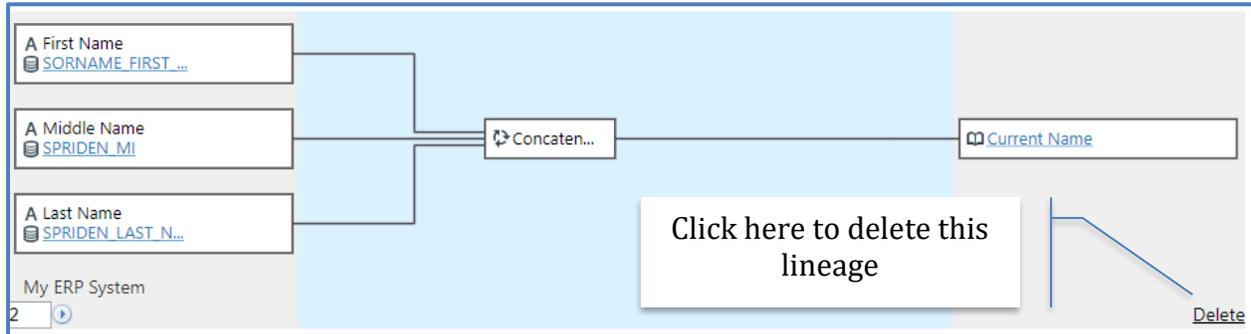
Moving your cursor anywhere over a source or target object or a processing step displays the full object name and any additional details, as illustrated in the example below.



To edit any object, hover and click the edit icon and to delete an object, click the delete icon.

You cannot edit or delete source objects added from a linio. To change these objects, you must.

The **Delete** link in the bottom right corner of each lineage deletes the all items in the lineage and removes the data object from your specification.



Selections and Sort Criteria

The **Selections** and **Sort Criteria** tab for the Report template is very similar to the **Selections** and **Sort Criteria** tabs used in the classic report specification (described on page 73 and 73, respectively). The primary difference is that the **Attribute** used for the selection and the Data Item used for the sort criteria is either a data item already added to the specification or a definition or label added by clicking **Add an item** (for information about adding an item to your specification, see [Adding Data Items](#)).

Technical

The **Technical** tab for the Report template is similar to the Technical tab found on the classic report specification. The primary difference is that the report requestor or writer cannot edit or reorder the list of definitions shown here. The **Data Definitions** section of this tab is informational-only.

6.2.2 ETL Template

The ETL template provides a structure for documenting processes for the extract, transformation, and loading (**ETL**) of data from one system to another. The default tabs found in the ETL template are a similar to the tabs available with this template are:

- Overview
- Mapping
- Selections
- Sort Criteria
- Technical
- Attachments

In this section, we cover the tabs that are different from those described for the report template in [Report Template](#).



Figure 42 illustrates the **Overview** tab from an example ETL specification.

SPECIFICATION: ETL PROCESS Comment (0 comments)

MY CRM to My Student System Integration

★ On my watch list

Drafting Version 1 ⚠️ 1 [Show workflow](#) **Submit** **Cancel**

Overview | Mapping | Selections | Sort Criteria | Technical | Attachments

Edit

Purpose ⓘ
To describe the data transformations required for the integration between My CRM and My Student System.

Description ⓘ
This specification provides guidelines for the extraction, transformation, and loading of data from the My CRM data system to the university's student information system of record, My Student System.

Source Data Systems ⓘ **Tools** ⓘ
1 Primary Systems » [My CRM](#) Not specified.

Target Data System ⓘ
Other Systems » [My Student System](#)

Output Format ⓘ
Not Specified

FUNCTIONAL AREAS ⓘ ✎
Information Technology

RELATED SPECIFICATIONS ⓘ ✎
No Related Specifications

TAGS ⓘ ✎
No Tags

QUALITY ISSUES (0) ⓘ ✎
No Quality Issues

COLLECTIONS ⓘ ✎
No collections

MILESTONES: ⓘ ✎
No milestones

[Copy this version](#)

Figure 42 Overview tab of an Example ETL Specification

Comparison of the Report and ETL Templates

The following are the list of key features and the corresponding tabs on which you define each on the classic report and the report template.

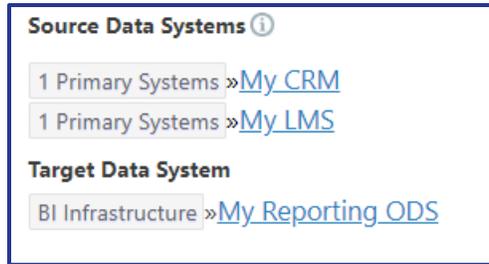
Feature	Report Template	ETL Template
Define general and summary information	Overview tab	Overview tab
Add definitions to the report/process.	Data Items, Display, Mapping, Selections, and Sort Criteria tabs	Mapping tab
Create a new definition.	Data Items, Mapping, Selections, and Sort Criteria tabs	Mapping tab
Change the order in which definitions (or data items) are listed.	Data Items and Mapping tabs	Mapping tabs

Feature	Report Template	ETL Template
Add simple labels in lieu of definitions to represent data objects required.	Data Items tab, Selections tab, Sort Criteria tab, Mapping tab, Display tab	Mapping tabs
Specify the selection criteria.	Selections tab	Selections tab
Indicate how you want information sorted.	Sort Criteria tab	Sort Criteria tab
Define technical details.	Technical tab	Technical tab
Provide a sample of the deliverable you want to be built by describing a sample header, body, and footer.	Display tab	n/a
Give a description of the output.	Display tab	Overview tab
Pinpoint the exact location where definitions belong on the proposed report with an interactive “pin drop.”	Display tab	n/a
Choose how you want to define the layout of the report, selecting the method appropriate for the information you have.	Display tab	n/a
Show how data objects (definitions, data model objects, or simple labels) relate to a table/column in a specific data system.	Mapping tab	Mapping tab
Attach any files.	Attachments tab and the Display tab when using the sample attachment mode	Attachments tab

Source and Target Data Systems

With a report specification, you select one or more source data systems from which the data objects for the report are selected. With an ETL specification, you are describing how data from one source data systems map to data objects in a target data system. You can

select these data system on either the **Overview** tab (as shown below) or on the **Mapping** tab (as shown in Figure 43).



With an ETL specification, the target data system is the data system being updated as a result of the ETL processes defined by the specification. For example, when an ETL specification that describes how a reporting system is populated from several enterprise systems would include each ERP as the source data systems and the reporting system as the target data system. In a specification describing a system integration between a customer relationship management (CRM) and a student information system (SIS), the source data system is the CRM and the target data system is the SIS.

Mapping

In [Mapping](#), we describe how to use the **Mapping** tab in a report specification to define the relationship between the data items you've selected for your report and the source for those items—the specific objects (tables and columns) from a data system.

In an ETL specification, you use the **Mapping** tab to represent how the data from one or more source systems maps to objects (tables and columns) in the target system. Figure 43 illustrates an example of a mapping from an ETL specification.

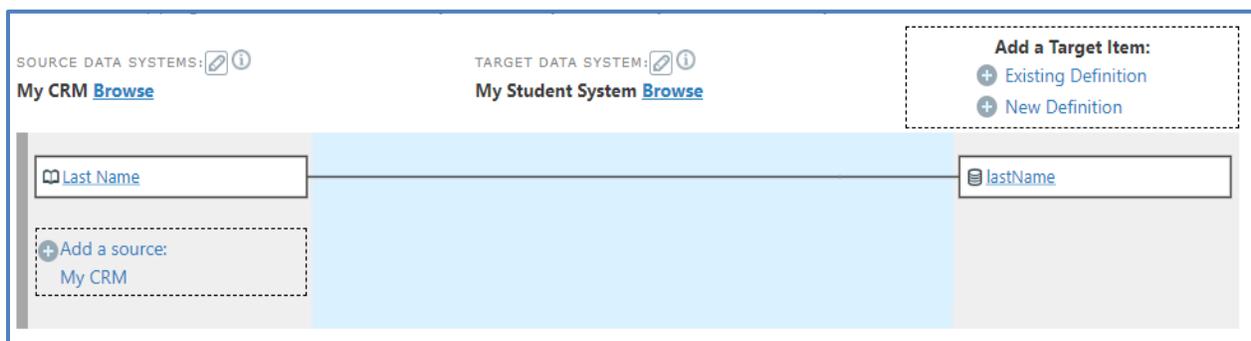


Figure 43 Data Mapping from an ETL Process

To create this the mapping between the source and target data objects—or *lineage*—in an ETL specification, complete the following basic steps:

1. Identify the source and target data systems, either on the **Overview** tab or the **Mapping** tab.
2. Add a target item. (Click **Existing Definition** to add either an existing definition, an object from the target data system, or a simple label. Click **New Definition** to add a definition to the Data Cookbook.)
3. Add a source data object. (Once you have added the target item, click **Add a source** and either select a definition, select an object from a data system, or use a simple label.)

Selections and Sort Criteria

For an ETL specification, the **Selections** and **Sort Criteria** tab consist of a description field for explaining how data are selected for a process and how the rows or columns of the process are sorted. If provided, these descriptions display on the **Overview** tab as well.

When describing your sort or selection criteria, you can browse the selected source data systems and drag and drop any object into the description. **Figure 44** illustrates the **Selection Description** text box and the options available for browsing in the **Browse Data System** window. The data systems listed are those specified for this specification.

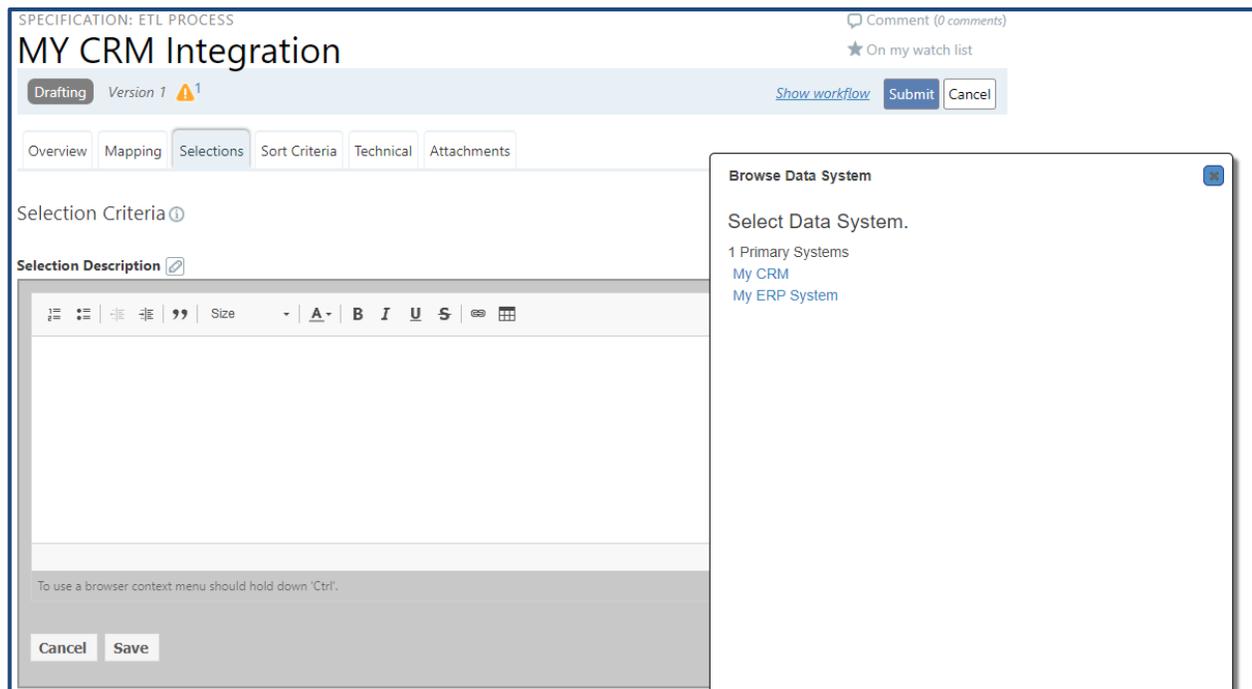


Figure 44 Selecting Data Items for the Selection Description

Technical Tab

Use the **Technical** tab to provide any technical information not included on the **Mapping** tab. On this tab, specification editors or requestors can add or remove source data systems;

add or change the target data system; and add or remove tools used. However, the principle use of the **Technical** tab is to provide a description, in the **Technical Details** text area, about the ETL process. For example, this description might be the full text of a query used to extract data needed for the report or a techno-functional description of how the data is transformed or otherwise used when the report is generated.

Attachments Tab

Used to add documents, files, examples, any items that might augment the descriptions from the other tab. Any files attached to a specification are visible to all Data Cookbook users and should not contain sensitive data.

6.3 Custom Templates

Your Data Cookbook account administrator can create custom versions of an IData-supplied templates and make those templates available to you by assigning them to a specification type. Specifications based on custom templates may have

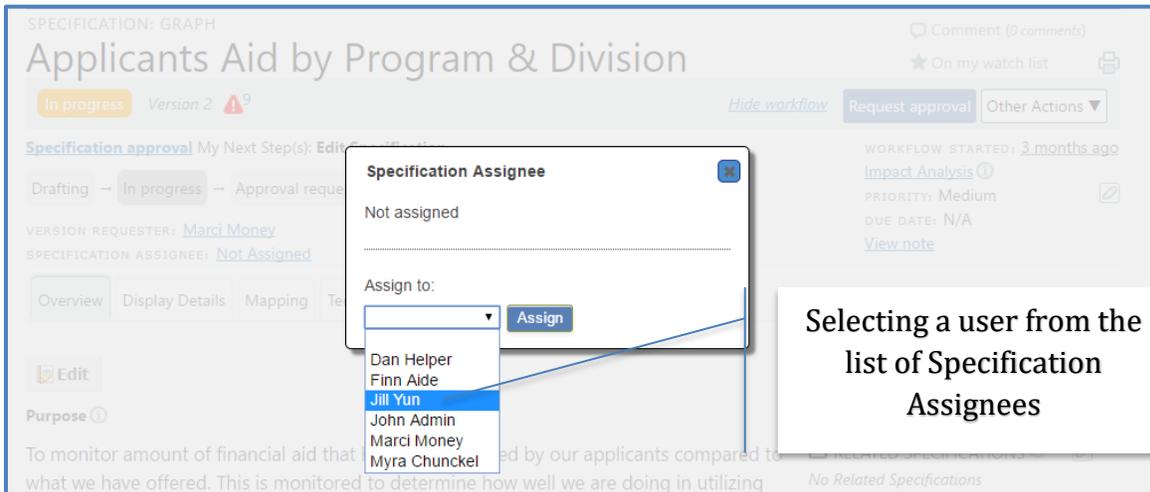
- Additional, custom, fields added to one or more tabs
- Non-required fields removed (hidden) from one or more tabs
- Some tabs removed (hidden) and not available for use

6.4 Assign Users to Work on a Specification

One of the steps in the default specification approval workflow requires assigning a user to the “In Progress” step at the time the specification is advanced to the “In Progress” stage. Unlike other workflow assignments, where a step is assigned to a group of individuals and any or all users in that group may work on the object during that step, this particular step uses a **named role** assignment, which requires that a user from a designated user group select a single user from another group for the express purpose of working on the specification.

In the default specification approval workflow, the task of making the assignment is given to members of the Specification Managers users group. When a specification is advanced to the “In Progress” stage, the Specification Managers receive notifications that a specification requires their action. Any one of these managers can open the specification and complete the step by assigning a member of one of the designated user groups.

To assign a specification to a user through a named role, the specification manager clicks **View Workflow** to edit the **Specification Assignee** field. They then choose from a list of predefined users who are available to work on specifications.



The specification assignee receives notification that they have been assigned to the specification and are provided with the editing options assigned by the workflow (in the default workflow, this role can edit and invite collaborators and is given the options to approve the specification or send it back to drafting).

6.5 Share Specifications

You can share parts of a specification to the Data Cookbook community, providing a resource for community members to see how you are working with your information.

Specification editors can share all or part of an approved specification. From the **Sharing** tab, click **Edit** and then select the sections you want to share and the communities with

which you want to share those sections. Figure 45 illustrates some of the options available for sharing a specification.

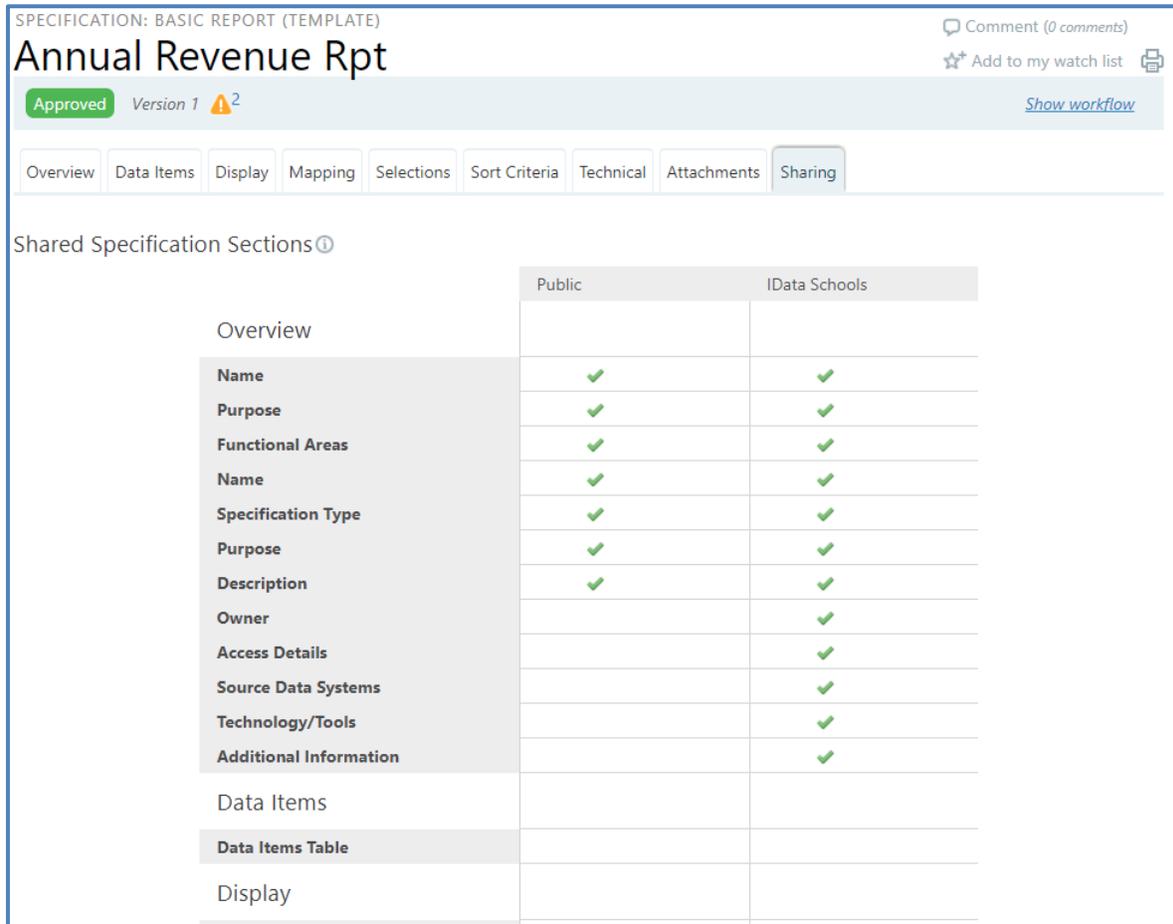


Figure 45 Sharing a Specification

Each specification tab is listed, along with each sharable attribute on that tab, on the left side of this grid and each community with which the specification might be shared (in this example, the Public and the IData Schools private community), are presented as separated columns. Choose which attributes from which tabs (including sharing all or none) you want to share and click **Save**.

Sharing with the Public vs Private Communities

If you have one or more private communities, choosing to share content with the Public, also shares that content with those communities. You can mark the sections you want to share as illustrated in Figure 45, where there is overlap, or you could share the sections to the Public and the private communities will see those sections as well.

You can quickly see which specifications have been shared by the corresponding Community icon displayed by the specification's name on the **Specifications** page.

Specifications  **Search:** 

Filter by:

-- Functional Area -- -- Version -- -- Data System -- -- Specification Type -- -- Tag --

Displaying **all 5** specifications

 **Public Annual Revenue Rpt** Version 1: **Approved**
Created *about 2 months ago*
Modified *about 2 months ago*
Requester: [Sally Admin](#)

PURPOSE: To provide the annual revenue figures for board approval. This is to be done quarterly and a paper copy distributed to all board members. [Admitted student](#)

DESCRIPTION: At the top of the report, indicate the time period for the report.

PROJECTS
DATA SYSTEM
SPECIFICATION TYPE
[Columnar Report](#)
TAGS

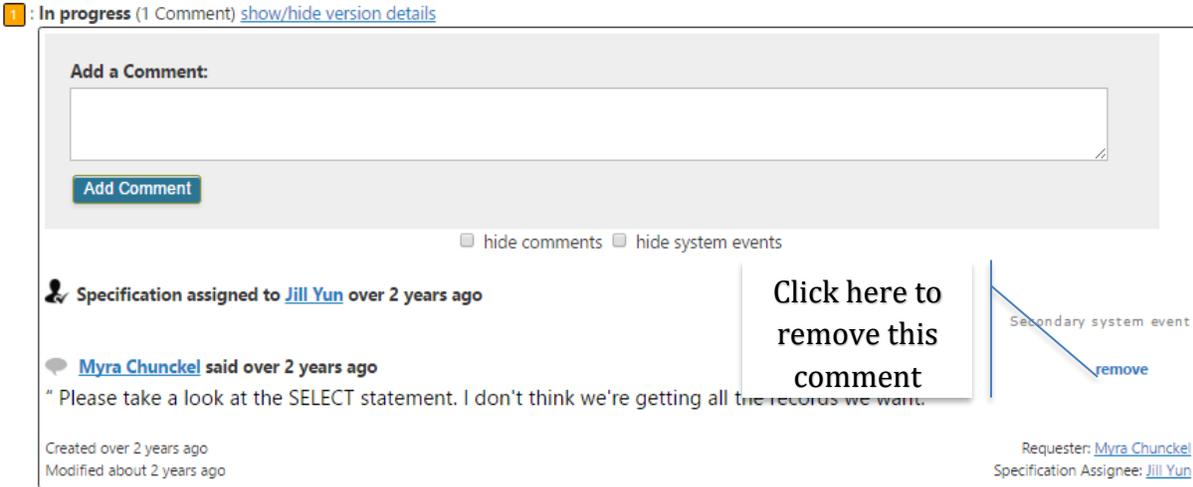
To remove the specification from the Community, edit the specification and unclick all the options for sharing. Once you click **Save**, the specification will be removed from the Community.

6.6 Delete Specifications and Specification Comments

Occasionally you may want to remove a specification from the Data Cookbook altogether. This privilege is reserved for your Data Cookbook account administrators and specification managers.

Deleting a specification deletes all versions of a specification, as well as any comments on any of those versions.

Specification managers can also delete individual comments from a specification version. To delete a comment, click the **remove** option that displays next to the comment.



6.7 Collections

Collections are Data Cookbook objects that allow you to group related specifications and manage this group through the Data Cookbook functionality of workflows and impact analyses.

Options for creating and browsing collections, including the **Collections Queue**, are found under the **Specifications** menu and the permissions for working with collections are managed by the specification permissions. Thus, specification editors and managers can create collections and are typically assigned to steps in the approval process. Specification viewers can see all collections listed on the **Collections** page.

6.7.1 Attributes of a Collection

A collection's attributes provide a full description of the collection, including a purpose and description and optional functional details. These attributes, controlled by the collection approval process, are defined when you first create a collection and once the collection is approved, can be changed only by creating a new version of the collection.

The attributes of each collection are organized in the three tabs: Overview, Functionality, and Technical Details. Each of these are described below.

Overview Tab

When a specification editor creates a new collection, the attributes on the Overview tab are completed before the other attributes are made available.

Functionality Tab

The **Functional Details** section of this tab is where the specification editor can provide a full functional description of the collection. Within the description, you can include links, via *wikilinks*—or internal links to specific definitions, specification, and data systems.

Technical Details Tab

Use the **Technical Details** section to capture any technical information for this collection beyond the technical specifications associated with the related definitions. This information can be used to record queries used for this collection or simply notes on the technical implementation of this collection.

6.7.2 Related and Referenced Objects

From a collection's side bar, a specification editor can

- Add **functional areas**
- Relate **specifications**
- Reference **definitions** or **data systems**
- List **tools** used, such as a specific reporting tool or application
- Add **tags** for classification purposes
- Attach **files** for additional details and as examples
- Set **milestones** for completing the collection (available for Enterprise Edition clients only. For information about milestones, see [Specification Milestones](#))

Objects, such as specifications, definitions, and data systems, that are listed in the sidebar, can be included in any of the descriptive fields (**Purpose** and **Description** on the Overview tab and **Functional Details** on the Functionality tab) by dragging and dropping the links from the sidebar into the textbox (when editing the collection).

After dragging a related object into the text box, the narrative contains an active link to the object. The relationship remains in the sidebar as well. If you remove the link from the narrative field, the relationship is not deleted.

An example of a collection, with links in the Description, is shown in Figure 46.

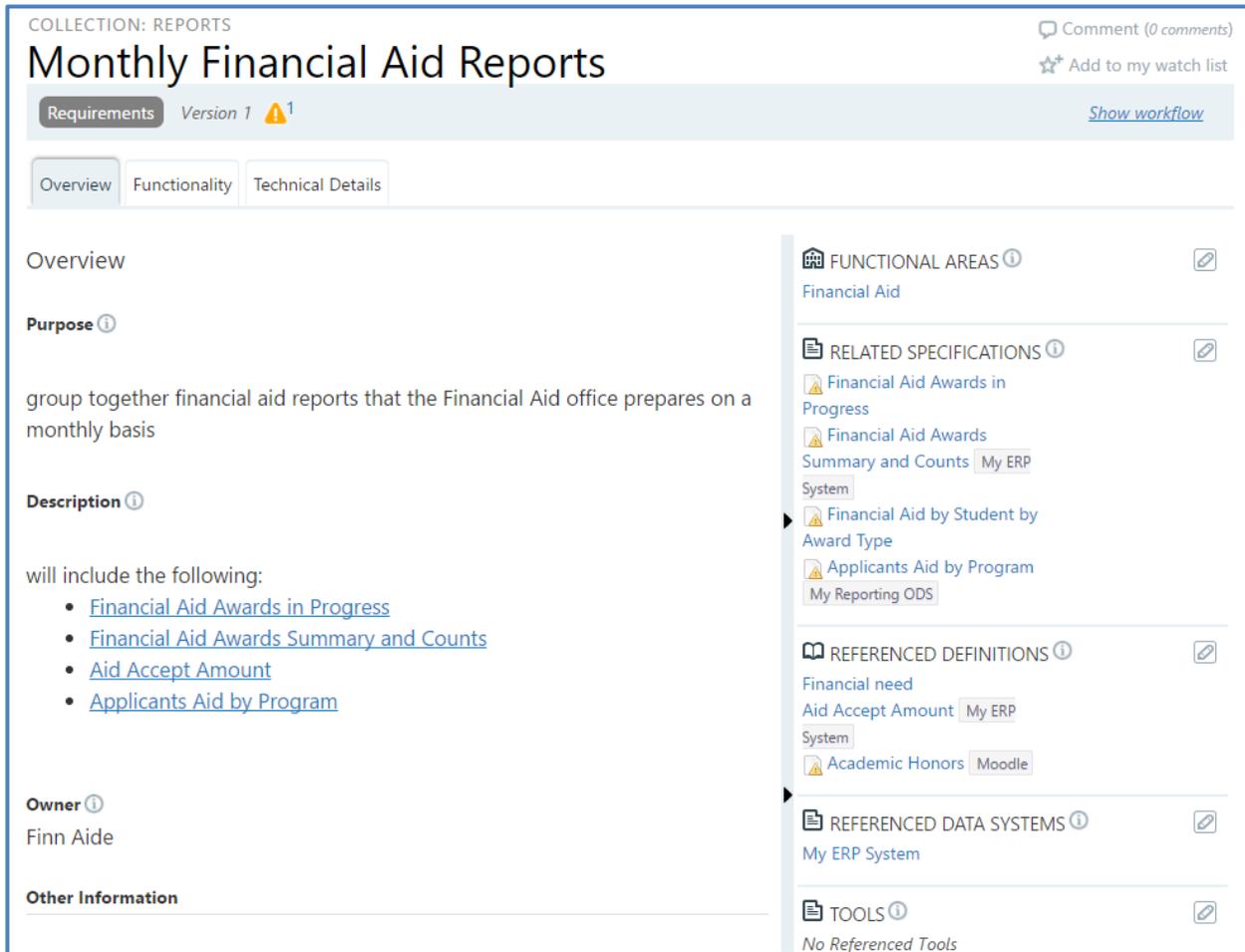


Figure 46 Example of a Specification Collection

You can also create a direct link to any object from within these fields by using the wikilink syntax of surrounding the name of the Data Cookbook object with double brackets. Within a collection, because you can create a link to different types of object, you must preface the link with one of the following indicators:

Use	to link to
def:	a definition
spec:	a specification
data:	a data system

For example, to add a link to a definition, enter `[[def:<definition name>]]` where <definition name> is the name of the definition as it appears in your Data Cookbook account and there is no space between the colon and the name of the definition.

The link is case insensitive (you can use upper or lower case when entering the name), but you must use the proper spelling, spacing, and any abbreviations. Thus, to link to the definition *AR Amount*, either `[[deair Amount]]` or `[[def:ar amount]]` will work. However, `[[def:account receivable amount]]` will not.

6.8 Specification Milestones



As a specification requestor, editor, or manager, you can add **milestones** to a specification as way of keeping track of specific tasks or setting deadlines that are needed to complete the specification. These tasks are not linked the assigned specification approval workflow and do not need to be completed to approve the specification.

Each milestone has a name (required), description, and a due date or a duration. If a duration is provided (number of days), then the due date is calculated based on the day the milestone is added. You cannot enter both a due date and a duration; if you want to set the due date, leave the duration field empty. Figure 47 illustrates a set of milestones entered for a specification.

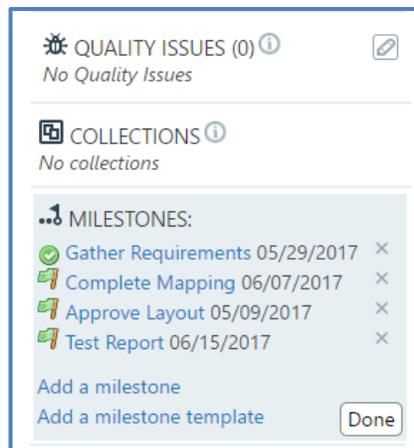


Figure 47 Specification Milestones

The flag next to each milestone (🚩) lets you know that the milestone needs to be completed. Click the flag to mark the milestone complete (or open the milestone and check the Complete field). A checkmark (✅) indicates a completed milestone.

When a new version of a specification is created, the milestones are part of the specification, with new due dates calculated based on the creation date of the new version.



7 Working with Data Quality

The Data Cookbook's Data Quality module allows you to define business rules (such as "each graduating senior must have a declared major") as well strict quality rules ("gender cannot be null") to test and confirm data quality. Quality issues are a means of reporting problems with data either before or after rules are formulated. By bringing to light problems, concerns, and questions, quality issues can lead to rules being codified; to corrections or clarifications in definitions; or changes in business processes.

In this chapter, we describe the following tools for documenting and reporting on data quality: quality rules, quality assessments, quality issues, and reference data.

7.1 Quality Rules

A **quality rule** is a Data Cookbook object that describes how your organization assesses the quality of your data. These rules, which can be embedded attributes of a specific definition or defined as a standalone object, clarify the acceptable values, limits, or ranges for a data element and provide a means for tracking and managing data quality.

In this chapter, we focus on describing standalone quality rules. However, most of the information provided here applies to quality attributes defined for a definition. For information about definitions quality attributes, see [Quality Attributes](#).

A quality rule is a managed object used to define whether an element is used as intended. "Gender cannot be null" and "all graduating seniors must have a declared major" are just two examples of rules that can be written to describe data quality.

Within the Data Cookbook, each quality rule has functional attributes and technical attributes. The functional attributes provide a description of the rule and define how the rule is validated based on a specific **validation type** (such as by a stated range of acceptable data). The functional attributes are independent of the data systems where this rule might be applicable.

The technical attributes are specific to the different data systems and contain information about how to test for data quality through queries that help identify potential data issues. If a quality rule applies to data that is found on multiple data systems, then a set of **Technical Information** are defined for each data system.

After a quality issue is approved (remember, quality rules are managed objects subject to a workflow-based approval process), data quality editors can record the results of tests performed to ensure that the data covered by the rule meet the stated quality standards. These results, reported in terms of the number of rows of data tested and the number of rows that failed the test, along with any notes about the results, form a **quality assessment**. The assessment provides an indication of the quality of the data represented by the rule. For information about how to record and interpret assessments, see [Quality Rule Assessment](#).

Figure 48 illustrates a standalone quality rule defined for the IData University.

QUALITY RULE
Comment (0 comments)

Graduating Seniors Must Have a Major

Approved Version 2 [New version](#)
[Show workflow](#)

Description:

Students are supposed to declare a major by their junior year, but we don't always enforce this rule. However, when a student reaches their senior year (90+ credits and an expected graduation date during the current academic year) we run a check to see if anyone has failed to declare a major.

Note that this rule just checks to see if a major has been declared, not whether a student is on track to complete his or her degree requirements inside the major or overall.

RULE SEVERITY: [High](#)

VALIDATION:
Type: [Required](#)
Allow Nulls: [No](#)
Allow Blank Strings: [No](#)

Technical Information

Data System: [ERP Systems](#) > [My Main Student System](#)
Column: ACAD_PROGRAM.MAJR_CDE
Scope query:

```
select * from
-- various tables
where acad_program.majr_cde is null
```

Reporting columns:

```
MAJOR, EXPECTED_GRAD_DTE, ACAD_LEVEL
```

Threshold: 99 %
Frequency: manual
Update in progress version: No
Last run: n/a
Enabled for integration: No
Assessments: [Document an Assessment](#)

FUNCTIONAL AREAS [✎](#)

- ▶ [Student](#)

RELATED DEFINITIONS (0) [✎](#)

- ▶ [No Related Definitions](#)

QUALITY ISSUES (0) [✎](#)

- ▶ [No Quality Issues](#)

Figure 48 Example Quality Rule

The functional attributes of this rule provide a description of the rule and indicate that the rule is validated by a validation type "Required". Each quality rule has a validation type, which identifies the type of quality check performed against the data. The validation type identifies how the rule is constructed and, depending on the type, may include a set of acceptable parameters.

The options for validation types are:

Validation Type	Description
Data Type	Validate as integer, long, decimal, string, Boolean, date, or date/time
Invalid Characters	List all the characters that are not allowed for this field
Length	Define a minimum and maximum acceptable length for a field
Like Expression	<p>Validate by using the SQL “LIKE” operator in the WHERE clause to search for specific patterns. Allows wildcards. Use the percent (%) wildcard to represent zero, one, or multiple characters; use the underscore (_) wildcard to represent a single character.</p> <p>Check whether the matching records indicate that the quality rule passed or failed.</p> <p>Note: if you need to check for the presence/absence of either wildcard character, use the Regular Expression or Complex validation type; you cannot use the ESCAPE option with the Like Expression.</p>
Range	Define a minimum and maximum range of values for the field
Regular Expression	Use a regular expression to specify a pattern for the values in the selected table/column
Required	Indicates that this table/column must not be null. If Allow Blank Strings is checked, then empty strings will be considered passing, otherwise, both null and empty strings will be considered failing.
Valid Value	Describe a list of reference data, such as those provided in a drop down or a picklist. You can either select a previously defined referenced data list or create one “on-the-fly” while defining the quality rule. A reference data list created here is reviewed and approved independent of the quality rule (by a different workflow)
Complex Validation	<p>Used for any validation that cannot be described by one of the standard options. After selecting the data system and the table/column for the rule, you will define the following queries:</p> <ul style="list-style-type: none"> • Scope query: the rows to be tested (e.g., SELECT PERSON) • Test query: the scope plus the rule; written so that records that fail the text are found (e.g., SELECT PERSON WHERE GENDER IS NULL) • Research query: the test query plus all columns you want returned to assist with locating the failed records (SELECT ADD_DATE, ADD_BY FROM PERSON WHERE GENDER IS NULL)

7.1.1 Technical Information

The technical information section of a quality rule is where a technical editor identifies the data and the table/column where the data used to validate this rule is stored.

Figure 49 shows a quality rule's technical information with the table and column defined.

Technical Information

Data System:

DRAG AND DROP COLUMN FROM SCHEMA BROWSER HERE OR ENTER MANUALLY:

TABLE/VIEW:

COLUMN:

Figure 49 Data System Columns in a Quality Rule

The remaining technical attributes are based upon whether the validation type signifies a simple or complex rule (a simple rule is any validation type other than Complex Validation).

Technical Information for Simple Rules

When defining a simple quality rule, you can provide the following technical information to help with the assessment of the rule:

- **Scope Query:** identifies the rows that should be tested for this rule (such as all students with gender equal null). If all rows should be tested, then a scope query is not required.
- **Reporting Columns:** list of all columns returned by the query that you want to report.

Threshold: expressed in terms of a percent or record count, the threshold indicates the point at which errors in this rule are not acceptable. For example, a threshold of 35% indicates that if less than 35% of all records tested fail the quality rule, the data is okay. An error rate of above 35% indicates an issue with the quality of the data. For more information about how the Data Cookbooks assesses data quality based on this threshold, see [Quality Rule Assessment](#).

Technical Information for Complex Rules

When you define a complex rule, you provide a **Scope Query**, **Test Query**, and a **Research Query**, each of which should be entered as query statements written in the query language understood by the associated data system.

Figure 50 illustrates a quality rule that uses a complex validation to test the rule "application birth date must be less than application date".

Technical Information

Data System: All ERP Systems » [My ERP System](#)

Column: applicants.birth_date

Test query:

```
select applicant_id from applicants
where birth_date < appl_date and adm_status > 'applied'
```

Scope query:

```
select applicant_id from applicants
where adm_status > 'applied'
```

Research query:

```
select applicant_id, appl_name, appl_program, appl_birth_date, appl_date from
applicants
where birth_date < appl_date and adm_status > 'applied'
```

Threshold: 0 %

Frequency:

Update in progress version: No

Last run: n/a

Enabled for integration: No

Assessments: [Document an Assessment](#)

Figure 50 Example of a Quality Rule using Complex Validation

In this example, the **Scope Query** (which returns all the rows tested) selects all applicants. The **Test Query** (which should return the rows that fail the rule), finds all applicants with a birth date less than their application date *and* with an application status of applied. Finally, the **Research Query** provides the fully-formed query that specifies which records to select and columns to return (applicant ID, name, program, birth date, and application date). The research query helps data quality managers and researchers to locate data that fails the quality rule.

7.1.2 Enabling Quality Rules for Integration

Users with the Enterprise + Integration Edition can configure the IDataHub to test quality rules against data from a data system. As part of the technical information established for a quality rule, determine how often you want the IDataHub to test the rule (**Frequency**) and whether you want the rule testing while there are any outstanding quality issues for the rule (**Pause when a quality issue is in progress?**). Once you set the **Enable for**



Integration flag, the quality rule will be executed through the Data Cookbook Integration in the IDataHub. The IDataHub runs each quality rule against the appropriate data system as frequently as you determine and returns the results, in the form of an assessment, to the Data Cookbook.

Refer to the *Data Cookbook Connector Integration Guide* for complete details on scheduling and running the Data Cookbook integration.

7.2 Quality Rule Assessment

Once you have established a quality rule, including setting validation parameters for specific data systems and providing queries for testing data, you can use the Data Cookbook to record the results of these tests. This information, recorded as an **assessment** of a quality rule, represents a point in time measurement of the quality of the data in a data system. Each assessment reports the number of data points (rows) tested and the number of rows that failed the test. The Data Cookbook uses this information to calculate an overall data quality assessment of the data system. The Data Cookbook presents this assessment

graphically in both the quality rule header and in the Technical Information section, as illustrated in Figure 51.

QUALITY RULE

Graduating Seniors Must Have a Major

Data Quality Assessment: **My Main Student System:** MEDIUM

Approved Version 2 [New version](#)

Description:

Students are supposed to declare a major by their junior year, but we don't always enforce this rule. However, when a student reaches their senior year (90+ credits and an expected graduation date during the current academic year) we run a check to see if anyone has failed to declare a major.

Note that this rule just checks to see if a major has been declared. A student is on track to complete his or her degree requirements if they have declared a major or overall.

RULE SEVERITY: [High](#)

VALIDATION:

Type:

Allow Nulls:

Allow Blank Strings:

Technical Information

Data System: [ERP Systems](#) > [My Main Student System](#)

Data Quality Assessment: MEDIUM

Column: ACAD_PROGRAM.MAJR_CDE

Data Quality Assessment Indicators

Figure 51 Data Quality Assessment Indicators

The threshold for the rule shown in Figure 51 is 35 percent, indicating that a quality assessment of anything less than 35 percent is not acceptable. When 100 rows of data were tested, 25 failed, resulting in a quality assessment of 25 percent. This assessment falls within the "at risk" range and therefore the Data Cookbook displays the quality assessment. When a quality rule does not have a stated threshold, the Data Cookbook computes the quality assessments using a presumed threshold of 100 percent.

The following is how the Data Cookbook makes these assessments when comparing the results of your tests with the stated threshold:

An evaluation of	results in a quality assessment of
0% (no failures, regardless of threshold)	HIGH ■
greater than 0% but less than the threshold	MEDIUM ■
greater than the threshold	LOW ■

7.2.1 Quality Assessments for Quality Attributes

Assessments of a definition's quality attributes are entered in much the same way as with standalone rules. To record an assessment of a quality attribute, a quality editor can drill down to the embedded rule and click **Document an Assessment** to record the information about the number of rows tested and the number of rows failed.

Once recorded, the Data Cookbook analyses the quality assessment data and the quality indicator displays in the definition's header and in the Quality Attribute section of the definition.

Figure 52 illustrates an example of a definition that has quality assessments associated with different data systems and, in the case of the Moodle data system, multiple quality rules defined for that data system.

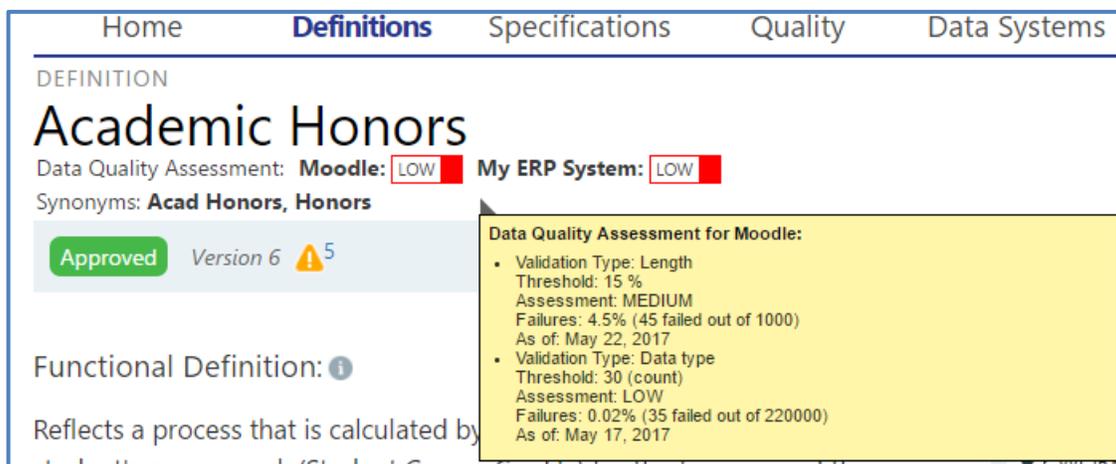


Figure 52 Definition with Assessments Recorded for Multiple Data Quality Rules

The quality assessment given to this data system is based on the lowest assessment of all current assessments provided.

7.2.2 Recording a Quality Assessment

To record a quality rule assessment, the quality rule must be approved and have technical information for at least one data system.

Each quality rule assessment consists of the data system (defaulted in from the quality rule), a date, the number of rows that failed the test and the number of rows that were

tested. You can also provide any notes you wish about the assessment. Figure 53 illustrates how this information is entered for the quality rule.

New Assessment

Quality Rule: [Graduating Seniors Must Have a Major](#)

Data System*

Assessment Date*

Rows Failed*

Rows Tested*

Notes

B I U S

body p

To use a browser context menu should hold down 'Ctrl'.

or [Cancel](#)

Figure 53 Entering a Quality Rule Assessment

7.2.3 Assessing Data Quality Through the Integration Suite

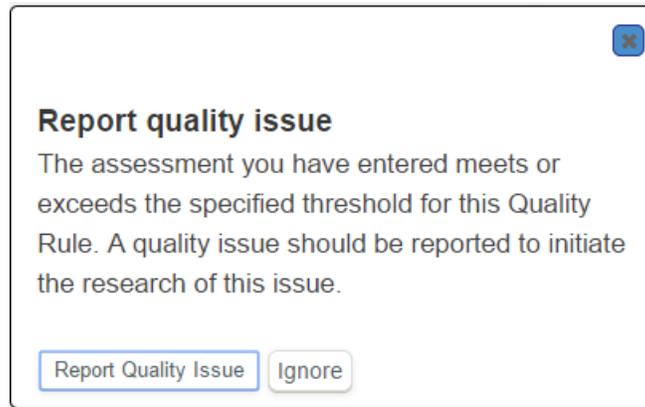
With the Data Cookbook's Enterprise + Integration edition, quality assessments are automatically added when the quality rule is evaluated and the results exceed the stated threshold.



7.2.4 Reporting a Quality Issue for a Quality Assessment Rated "Low"

When a quality assessment meets or exceeds the rule's stated threshold, the quality assessment is "low", indicating the quality of the data is in question. When this happens, the

Data Cookbook immediately provides you with opportunity to report a quality issue, as illustrated below.



To report the issue, click **Report Quality Issue** and complete the **Report Quality Issue** form. The issue is then associated with the quality rule and will be resolved based on the assigned Quality Issue Resolution workflow.

Click **Ignore** if you do not want to report an issue based on the current assessment.

7.2.5 Viewing Quality Assessments

The most current assessment entered for a quality rule is summarized in the Technical Information section of the rule. Previous assessments are available by clicking **Show/Hide assessment history**.

Assessments:

Date/User	Assessment	Notes	Reported Issues
May 17, 2017 Dan Helper	98.0% 980 failed out of 1000		Threshold exceeded for Graduating Seniors Must Have a Major

[Show/Hide assessment history](#)

Date/User	Assessment	Notes	Reported Issues
May 17, 2017 Dan Helper	12.3% 123 failed out of 1000		
May 9, 2017 Dan Helper	15.0% 150 failed out of 1000		
May 1, 2017 Dan Helper	22.1% 221 failed out of 1000		

[Document an Assessment](#)

7.3 Quality Issues

Quality issues are a communication tool for reporting issues and concerns about the quality of any Data Cookbook object. Once created, quality issues are managed through an assigned workflow that controls the review, resolution, and completion of the issue. The exact process for working with quality issues will vary depending upon the workflow assigned. In this chapter, we describe the process of reviewing and responding to quality issues based on the settings of the default Quality Issue Resolution workflow.

7.3.1 Monitor Your Quality Issues

If you are assigned quality issues at any point during the quality issue resolution process, you will receive an email notification that the issue is available for you. Follow the link in the email or in the Data Cookbook, open the **Quality Issue Resolution Queue** to see the issues assigned to you. The default view is all quality issues available for you to act upon. You can filter this view to select specific quality issues based on any of the attributes of a quality issue.

To see the details of any specific issue, click the **Name** or **ID** from the listing. Once you open the issue, you will see the description that the creator wrote along with links to any related quality rules, specifications, or quality rules.

The specific options you have for working with and advancing a quality issue depends on the workflow and your assigned role. For information about workflows, roles, and managing objects during the approval process, see [Approve Objects](#).

The **Quality Issues Queue** allows you to:

- See all reported quality issues, including those that have been resolved
- Act upon any quality issues that are currently assigned to you, either as the creator or as a reviewer.

This queue operates in the same manner as other queues, with filters that let you to see the quality issues that you can act upon and then choose a specific action.

7.3.2 Respond to Quality Issues

If you are a member of a user group that manages quality issues, you will receive an e-mail when a quality issue is submitted.

Pending quality issues will also show as to-do items on your **Home** page.

Quality managers can take many steps when they work on a quality issue. They can record:

- the **cause** of the issue by entering notes about what caused of the issue
- a **resolution** by entering notes that describe the planned actions for resolving issue
- the **data cleanup** efforts needed to correct the data effected by the issue
- **research data** to augment the description of either the issue or its resolution

7.3.3 Research Data

Research Data is additional documentation recorded about a quality issue.

Each set of research data includes a summary (which serves as a brief heading for each set of data entered) and is associated with a data system and one or more functional areas. Once a file is uploaded, research data viewers can view the research data from the quality issue.

You can attach a text file (.txt format) or a comma separated file (.csv format) as supporting information. Once attached, the

Permissions for Research Data

You must have permissions as a research data editor to add research data *in addition to the permissions necessary to edit quality rules*. Research data permissions are based on data systems and functional areas, so if you are a quality manager of one data system/functional area, you must have research data permissions for the same data system/functional area to add research data to a quality issue.

information from the file is displayed when a research data viewer clicks **View Research Data** (see Figure 54).

QUALITY ISSUE

41: Errors with SSN

Drafting

Edit

Description:

incorrect or missing SSN reported for some records

Add Research Data

Research Data was added by [Dan Helper](#) on May 15, 2017

Summary: test data retrieved from My CRM

Functional Areas:
[Institution-Wide](#)

Data System: Auxiliary Systems » [My CRM](#)

Attachment:

CONTACTID	Last Name	Encrypted	Student ID
9880000000000000000	Banks	987-65-4321	
9500000000000000000	Bigglesworth		
9860000000000000000	Ning	458-23-5384	

Figure 54 Research Data on a Quality Issue

The example in Figure 54 shows how the Data Cookbook presents data from a CSV file to a research data viewer or editor. Information from a text file displays as unformatted text.

7.4 Reference Data

Reference data are the lists of codes that define the valid values for data elements within your different systems. Examples of reference data include gender, ethnicity, phone type, grades, academic program, majors, and general ledger codes.

Figure 55 illustrates how IData University has defined a Grade Scheme reference data set.

REFERENCE DATA
Comment (0 comments)

Grade Scheme

Drafting
Version 1 ⚠️¹
Show workflow
Submit
Cancel

Edit

Description: ⓘ

grade schemes used for all schools at the university

⚙️ Related Quality Rules (0) ⓘ
No Related Quality Rules

📖 Related Definitions (0) ⓘ
No Related Quality Rules

Lists: ⓘ

Grade Scheme - Master List

Code	Description	Inactive Flag	Inactive Date
A	90-100	<input type="checkbox"/>	
B	80-89	<input type="checkbox"/>	
C	70-79	<input type="checkbox"/>	
D	65-69	<input type="checkbox"/>	
F	Below 65	<input type="checkbox"/>	

History and Comments

1 : Drafting [show/hide version details](#)

Add a Comment:

No comments and system events on this version.

Figure 55 Example Reference Data

Master Lists and Roll Up Lists

When you create a set of reference data, the first list you add is, by default, designated as the master list. For reference data that contain multiple lists, the master list might represent the common list of values that the other lists map to. Figure 56 shows how codes in a child list, Undergraduate Grades (My CRM), maps to the codes to in a master list, Undergraduate Grades – Master List.

Undergraduate Grades - Master List				
Code	Description	Inactive Flag	Inactive Date	
A	90-100	<input type="checkbox"/>		
B	80-89	<input type="checkbox"/>		
C	70-79	<input type="checkbox"/>		
D	65-69	<input type="checkbox"/>		
F	Below 65	<input type="checkbox"/>		

Undergraduate Grades (My CRM)				
Code	Description	Master Code	Inactive Flag	Inactive Date
A+	97-100	A	<input type="checkbox"/>	
A	93-96	A	<input type="checkbox"/>	
A-	90-92	A	<input type="checkbox"/>	
B+	87-89	B	<input type="checkbox"/>	
B	83-86	B	<input type="checkbox"/>	
B-	80-82	B	<input type="checkbox"/>	

Figure 56 Example of Mapping Reference Data to a Master List

The codes in used by the My CRM data system are related to the master list through the **master list mapping**. When a similar mapping is needed between lists, but the lists are not part of the same reference data set, you can define a **roll up list**. A roll up list functions the

same as a master list mapping by providing a way to map codes from one list to another. However, with a roll up list you can:

- Link codes from two different reference data sets
- Map to codes that are not in another list by defining the mapping manually

Figure 57 illustrates a list with a roll up.

Activities - Master List				
Code	Description	Clubs	Inactive Flag	Inactive Date
ARC_CLB	Architecture Club	Academic Clubs	<input type="checkbox"/>	
AST_CLB	Astronomy Club	Academic Clubs	<input type="checkbox"/>	
ACA_CLB	Academic Decathlon	Academic Competitive Teams	<input type="checkbox"/>	
ACA_CLB	Academic Triathlon	Academic Competitive Teams	<input type="checkbox"/>	
ANI_CLB	Animation	Art	<input type="checkbox"/>	
ANI_CLB	Anime/Manga Club	Art	<input type="checkbox"/>	
BB/SB	Baseball and softball	Sports	<input type="checkbox"/>	
FB	Football	Sports	<input type="checkbox"/>	

Figure 57 Example Reference Data Using a Roll Up List

In this example, "Clubs" was created as a roll up to link together certain activities by type. The values in this column were entered manually, as another list does not exist to which a mapping can be made.

The following summarizes the different ways to use master list mappings and roll ups.

to	then	Comments
map codes between a master list and a child <i>within the same reference data set</i>	use the Master code column	<ul style="list-style-type: none"> when you change the master list <i>designation</i>—by unchecking the Master field and designating a different list as the Master list—you are notified that the mappings will be removed when you change the master list <i>codes</i>, the links are removed on each child list
map codes between two different reference data sets	create a roll up list. Select the desired list from all reference data lists and then establish the mapping.	an impact analysis will highlight how changes to the source list will affect the other
define a list of values to map to without using another list	create a roll up list by providing a name of the roll up list and not selecting an existing list. Manually enter the codes in the Value fields.	

Inactive Data

As your list of values change over time, new versions of the reference data will reflect these changes through the addition and deletion of codes. When you eliminate, or stop using a code, but do not remove that code from your data systems, use the inactive flag to note that the code is no longer used. This informs users that the code remains in the data system, but that they should not use it.

If you remove values from your data systems, you may choose to update the reference data and remove the values from the Data Cookbook as well. If you are synchronizing your reference data through the IDataHub, then all updates made in each data system are automatically reflected in the Data Cookbook each time the synchronization occurs.



7.4.1 Technical Information

For lists associated with a data system, you can provide technical information that identifies the table and column where the reference data is stored in that system, for example, the name of a validation code table.

Figure 58 illustrates the technical information defined for IData University's *States* reference data set.

Technical Information:	
SCHEMA:	
TABLE:	STATES
CODE:	S_CODE
DESCRIPTION:	DESCRIPTION
INACTIVE FLAG:	INACTIVE_FLAG
INACTIVE DATE:	INACTIVE_DATE
Last run:	6/1/2018, 12:09:42 PM
Enabled for integration:	Yes
Frequency:	monthly

Figure 58 Technical information Defined for a Reference Data Set

When data schemas are available, you can quickly locate the technical information by browsing the data schema objects (click **Browse Data System**) and then dragging and dropping the column names the Technical Information section. With this method, you only need to provide the columns for the **Code**, **Description**, and **Inactive Flag**. The **Table** and **Code** are filled in based on the columns selected.

If the data schema is not loaded, you can manually enter this information (by entering it directly into each field). If the reference is complex or unavailable, you can write a query

Technical Information:	Browse Data System
<input type="radio"/> Table/Column <input checked="" type="radio"/> Query	
QUERY TO RETRIEVE VALUES: <div style="border: 1px solid gray; height: 100px; width: 100%;"></div>	

(change from **Table/Column** to **Query** mode) to describe how to retrieve the reference data from the data system. As with the table/column reference, the query

can be used with the Enterprise + Integration Edition to synchronize the reference data to the connected data systems.

7.4.2 Enabling Reference Data Lists for Integration

Users with the Enterprise + Integration Edition can use the integration through the IDataHub to create and maintain the reference data directly from the connected data systems. For each reference data list that has been enabled for integration, the IDataHub uses the **Technical Information** (the **Table**, **Code** and **Description** columns) to create queries that are sent to the data system. The resulting values are returned to the Data Cookbook and the reference data list is populated with the codes and descriptions from the data system.



Enabling a reference data list for integration does not enable all the reference data lists in a set. For example, if you have a reference data set with three reference data lists, and you choose to enable only one of the lists for integration, the IDataHub will not update the codes and descriptions for the other two lists.

To include a reference data list in the Data Cookbook integration, you define the list as described in [Reference Data](#). For each list that you want synchronized through the integration, you must have defined

- the **Table**, **Code**, and **Description** and optionally the **Inactive Flag** and **Inactive Date**
- check the Enabled for Integration flag
- choose a **Frequency**

After the integration runs and the reference data list is updated, the **Last Run** field shows when the integration ran last (see Figure 58).

Refer to the *Data Cookbook Connector Integration Guide* for complete details on scheduling and running the Data Cookbook integration.

7.4.3 Relating Reference Data to Definitions and Quality Rules

Once you have defined the reference data set, you can use the data as a quality attribute for a definition or as the validation for a quality rule. Once these objects are linked, the impact analysis feature identifies when changes to one object, such as a definition, might necessitate a change in the related object, such as the reference data.

To use reference data in a quality attribute of a definition or a quality rule, you must use the validation type "Valid Value" and then select the reference data from the **Reference Data** attribute.



8 Working with Data Systems

Your organization probably has a lot of places where data is stored: transactional administrative systems, such as Colleague or PeopleSoft; recruitment or application management systems, such as Radius, TargetX, or Salesforce; and a reporting infrastructure, such as an ODBC data warehouse.

Data Systems are the Data Cookbook's representation of these organizational systems. If you are a data system editor, you can add data systems as part of an object's technical information. You can also edit the attributes of the data system object. If you are a data system editor and a definition or specification editor, you can add information about a data system to a definition or specification when creating or editing those objects.

If you are a data system viewer, you will see information about data systems, either from the **Data Systems** menu or when a data system is associated with an object, such as a definition or specification. You cannot, however, add information about a data system to an object that you create or edit.

In this chapter, we describe the attributes of a data system and explain how to edit and view this information. We also describe how to browse and search the information that may be stored with each data system.

Data Systems in the Knowledge Edition

The functionality described in this chapter is specific to the Enterprise and Enterprise + Integration implementation of data systems.

For information about how to define data systems in the Knowledge Edition, see the *Data Cookbook Administrator's Guide*.

8.1 Adding a Data System



Data system editors, as well as Data Cookbook administrators, can add data systems to a Data Cookbook account.

To add a data system, select **Create a Data System** from the **Data Systems** menu. Complete as much information as you can about the data system.

Once you have defined the data system, you can attach documents (see [Data System Resources](#)) or load a data model (see [Data Models](#)). Data system editors can also manually add data system objects (such as tables and columns). These data system objects are available to technical editors when creating other Data Cookbook objects.

8.2 Deleting a Data System

Data system managers and Data Cookbook administrators can delete a data system, unless the data system is used in or more of the following:

Object	Data system used in
Definitions	technical definition or a quality attribute
Specifications	source or target data system
Collections	related data systems
Quality rules	technical information
Reference data	technical information

Furthermore, the data system cannot have one or more data models added or any resources attached.

To delete a data system, open the data system, and click **Delete**. This option is crossed out if the data system cannot be deleted.

For clients with the Enterprise + Integration edition, if you delete a data system from the Data Cookbook, the next time the IDataHub refreshes the Data Cookbook data, the data system is removed from the list of data systems available for integration.



8.3 Documenting Data Systems

The standard and custom attributes for each data system provide basic documentation for each system you define in the Data Cookbook by identifying owner and access details in searchable Data Cookbook fields. To help you use the Data Cookbook to provide more in-depth information about a data system, there are two ways to include additional documentation: attaching files and adding data models. Each of these options are described in this section.

You must be a data system editor to add files and data schemas to a data system.

8.3.1 Data System Resources

You can add files, such as a word processing or PDF, that describes the details of the data system or data model as a **resource** to the data system or to a specific object. Once uploaded, the files are available to all users who view or manage the data system.

The resources linked to the data system are listed in the sidebar on the Data System page. To see data system object resources, drill down on the data model to the data system objects.

Be aware that data system viewers, editors, and managers will be able to see all information contained in any attachments placed on a data system. Do not attach documents with sensitive data or examples.



When you load a new version of a data model, any resources attached to the data model, including resources attached to specific objects, are moved to the new version of the model, unless the data object was removed from the

8.3.2 Data Models

In addition to attaching documents, which are not searchable or part of the Data Cookbook, you can add a **data model** to a data system. The type of model you add, such as a data schema, depends upon the data system type. In this section, the discussion of data models focuses upon data schema, as that is the initial model type permitted within the Data Cookbook.

When you add a data schema, the Data Cookbook builds **objects** for the tables, views, columns, stored procedures, and indices that become available to technical editors and managers for defining technical definitions and the technical details associated with a specification.

The Data Cookbook accepts data schemas generated by SchemaCrawler⁵—which prepares JSON files for certain JDBC compliant databases, such as MySQL, SQL Server, Oracle, or PostgreSQL—or comma separated value (CSV) files that contain the data schema information.

If either the SchemaCrawler-generated JSON file or the CSV file contains multiple schemas within the same file, you can choose which schemas you want to upload.

Note about Schema Names

A data system can have multiple data schema, but each schema must have a unique name.

If you need to update a previously loaded data schema, *do not* use the Add a Schema; instead, navigate to the data schema's page and select **Upload new schema version**.

Uploading a CSV File

If you do not have the ability to use SchemaCrawler, use a single CSV file to import the data model. Within this file, each row represents the different objects within the model, such as a table or procedure. The file you upload must include all the columns *in the order presented* in the following chart; however, you only need to complete the columns indicated as required.

Column Heading	Used with	Required/Optional	Description
Schema	All objects	Required	Provide the schema's name. Required on all rows to serve as an identifier linking each row (or record) with schema. Allows you to include multiple schemas in a single file.

⁵ See the Data Cookbook Administrator's Guide for information about installing and using SchemaCrawler.



Column Heading	Used with	Required/Optional	Description
Object Type	All objects	Required	Enter one of the following to identify the specific object being described: <ul style="list-style-type: none"> • Table • Views • Procedure • Column • Index You will enter details about one object per row (record).
Object Name	All objects	Required	Provide the name of the object. Use the object's name as it is in the data system, such as LAST.NAME or APPLICANT_DATA.
Parent Object Type	All objects	Required	The parent object type is the higher-level association for the item. For example, when defining a table, the parent object type is Schema; when defining a column, the parent object type is Table.
Parent Object Name	All objects	Required	Provide the name of the parent object. This name must match the name given in the Object Name column.
Row Count	Tables	Optional	The number of rows in the table.
Size of Data	Tables	Optional	The amount of disk space the table takes
Comment	All objects	Optional	A description or comments about the object that might be useful to a Data Cookbook user.
Data Type	Columns	Required	The type of data in the column, such as INTEGER, VARCHAR, ROWID, etc.
Length	Columns	Optional	The column's length
Primary Key	Columns	Optional	TRUE indicates the column is the table's primary key; otherwise, leave blank.
Precision	Columns	Optional	The maximum number of digits allowed in this column
Scale	Columns	Optional	The maximum number of decimal places
Nulls Allowed	Columns	Required	TRUE indicates nulls are allowed in this column; otherwise, enter FALSE.
Column	Index		The column used to build the index.
Code	Views Procedure	Optional	The code that defines the view or procedure.
Unique	Index	Required	True or False

Column Heading	Used with	Required/Optional	Description
Foreign Key	Columns	Optional	If the column is a foreign key to another table/column in the same data model, enter the name of the foreign key complete the following two additional columns: Reference Table and Reference Column .
Reference Table	Columns	Required when defining a foreign key	Identifies the table within the data model which the key references.
Reference Column	Columns	Required when defining a foreign key	Identifies the column within the Reference Table which the key references.

Uploading a Data Model

Complete the following to upload a data model from either a JSON or a CSV file:

- 1 Edit the **Data** Model sidebar item on the Data System page.

DATA SYSTEM
My CRM
Group: 1 Primary Systems
Application: Not specified

Edit Back to List Delete

Details:
DATA MODEL TYPE: RDBMS
DATA SYSTEM USAGE: Database
DATA SYSTEM VERSION: Not specified.
TECHNOLOGY TYPE: Not specified.
TECHNOLOGY VERSION: Not specified.
ENABLE FOR INTEGRATION: No

Usage
2 Specifications
2 Collections
1 Quality Rule

Data Model
Browse Data Model

Resources

- 2 Click **Add a Model**

Usage
2 Specifications
2 Collections
1 Quality Rule

Data Model
Browse Data Model

Add a Model Done

Resources

3 Complete the **New Schema** form.

The screenshot shows a web form titled "New Schema". It contains three main sections: "Select documentation tool" with a dropdown menu currently showing "Schema Crawler (json)"; "Select a File to Upload" with a "Choose File" button and the filename "sspn_schema.json" displayed next to it; and "Select a Database" with a dropdown menu showing "sspn" selected and "sspn_v2" as another option. At the bottom left of the form is a blue button labeled "Upload schema".

4 Click **Upload Schema** to load the selected schema

If you've selected multiple files, or if your file does not load immediately, check the progress of the upload on the **Background Jobs** page (from the **Home** menu). This page shows the processing queue for all background jobs submitted to your Data Cookbook account, in the order they were submitted. If another user submits files at the same time that you submit your schema files, the files are all placed in the same processing queue and are processed in the order they are received.

Associating Data System Resources to a Data Schema Object

If you have resources, such as documents or image files, uploaded for a data system, these resources are available to any data system viewer or editor to see when they are browsing the data system and the associated data schema. If any of these resources are specific to certain aspects of the data schema, such as a specific table or column within a table, you can provide links to the resource directly in the data schema object.

When new versions of the data schema are uploaded, the resources remain linked to any data system objects.

Add Notes to a Data Schema Object

To enhance the usefulness of the attached data schema, data system editors can add notes to any data schema object: any table, column, view, procedure, or index in the associated data schema. Once added, these notes are visible to all data system viewers, editors, and managers.

To add notes, begin with any data system and, if it doesn't already have a data schema attached, complete the steps for uploading a data schema.

Drill down to the object you want to annotate and edit the **Note** attribute.

When a new version of this data schema is updated, these notes are not overwritten; instead, the notes are carried forward to the new version.

Manually Define Data Model Objects

If you are unable to upload your data system's data model into the Data Cookbook, you can still take advantage of the data model object functionality by manually defining the data model objects. You can define data base tables, columns, views, procedures, and indices for any data system.

To add a data model object, click **Browse Data Model** from the Data System's page (or from the sidebar) to access the data system's **Data Model** page. From there, click **Add new data model object**. If you have one or more data schemas already defined, select the specific data schema to which you are adding the object. Otherwise, the Data Cookbook builds a schema, naming the schema based on the data system, as you enter the first data model object.

Complete the options in the **Add Data Model Objects** form by selecting an object type (table, column, view, procedure, or index) and giving the object a name and an optional comment. Depending on the type of object you create, you can edit the item and provide additional information. The following chart lists the options available by data model type.

Object Type	Initial Attributes	Subsequent Attributes
Table	Name Comment	Row Count Size of Data Created (date created) Comment (when a data object is imported, the comments come from the source data system) Note (additional notes that are native to the Data Cookbook)

Object Type	Initial Attributes	Subsequent Attributes
Column	Name Comment Parent Object (select from previously defined tables or views)	Data Type Length PK/FK (primary key or foreign key) Precision (maximum number of digits allowed) Scale (maximum number of decimal places) Nulls Allowed Comment (when a data object is imported, the comments come from the source data system) Note (additional notes that are native to the Data Cookbook)
View	Name Comment	Code Comment (when a data object is imported, the comments come from the source data system) Notes (additional notes that are native to the Data Cookbook)
Procedure	Name Comment	Code Comment (when a data object is imported, the comments come from the source data system) Note (additional notes that are native to the Data Cookbook)
Index	Name Parent Object Comment	Note (additional notes that are native to the Data Cookbook)

Updating Data Models

As your data system’s data models change, keep the information in your Data Cookbook account up-to-date by uploading a new version of the model.

To upload a new data schema version, go to the **Data Schema** page (click on the data schema name from the **Data System** page) and click **Upload new schema version**, as illustrated in Figure 59.

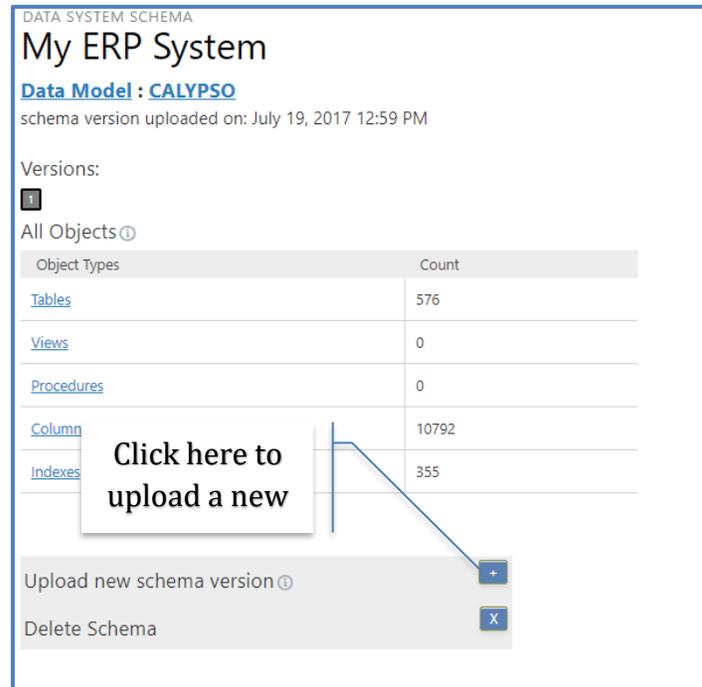


Figure 59 Uploading a New Schema Version

Uploading a new schema version is similar to uploading the original version, expect that during the upload process, the Data Cookbook checks for changes in all data objects and, if there are no changes, the current version is not replaced.

When changes are detected between the new version and the previous version, the Data Cookbook loads the new version, copying any notes and attachments from the current version, and catalogs the changes. You can see the changes by clicking the link under the **Change History** section.

This change history provides a version comparison listing all data objects added, dropped, or changed between two versions of a data model.

If a user group has been selected to receive notification about changes to the data system's data objects, the email is sent if there are difference between the new and previous version of the data model.



Remember to check the Background Job page if the load process does not complete in a reasonable amount of time

Delete Data Models

Data system editors and Data Cookbook administrators can delete data models that are not used by one or more Data Cookbook objects. If you try to delete a data schema that is used by one or more objects, you will see a list of objects where the data schema is used, along with a link to each object. If you want to delete the data model, you must remove these links, which may include deleting objects.

To delete a data model, edit the Data Model list in the sidebar on the main **Data System** page or go to the **Data Schema** page and choose **Delete Schema** (both options are illustrated in Figure 60).

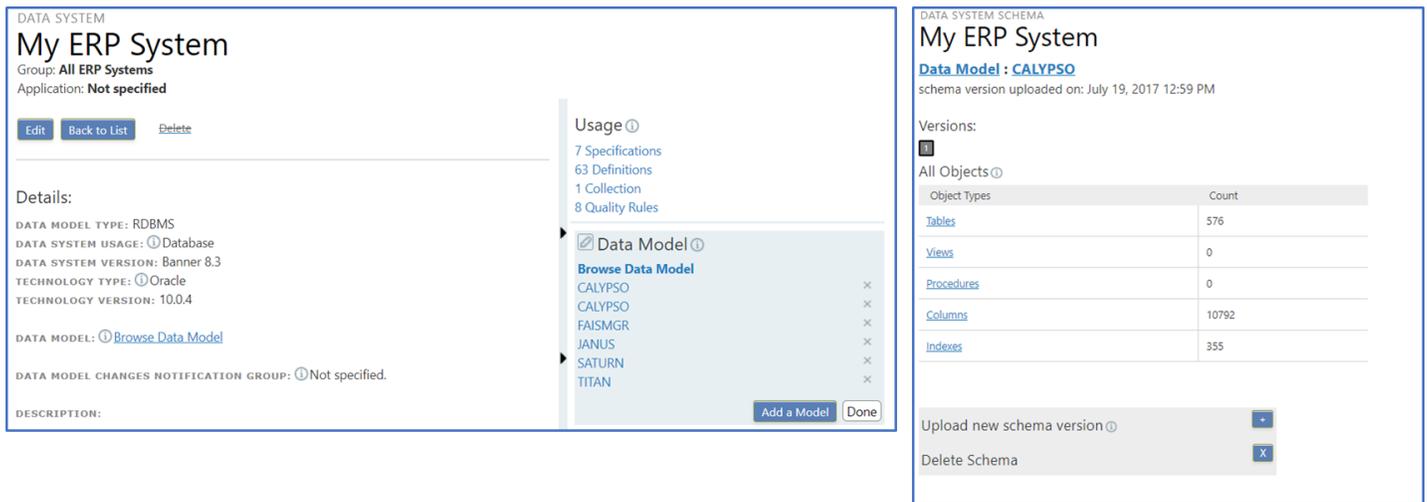


Figure 60 Deleting a Data Model

8.3.3 Primary Objects

As you build your data model objects—either by uploading a data model or by manually adding individual data system objects—you can define a one-to-one relationship between the model’s columns and your Data Cookbook definitions by defining an object’s **primary definition**. The primary definition is the term within the Data Cookbook that describes how your organization uses a specific piece of data. Not all definitions will have a one-to-one relationship with a data system object and not all data system objects will have a relationship with a Data Cookbook definition. But for those data system objects that require full-featured documentation (workflow approval, connectivity with other objects, and change management through versioning and impact analysis), a primary definition provides that link.

Once a primary definition is established for a data system object, technical viewers and editors will see the data system object as a **primary object** in the definition’s technical definition and on any specification mapping that uses that definition/data system.



Figure 61 shows IData University’s My ERP System data system with *Citizenship* as the primary definition for the SPBPERS_CITZ_CODE column.

The screenshot displays the 'My ERP System' data model interface. On the left, the 'Column: STVCITZ_CODE' is shown with its properties. On the right, the 'DEFINITION' page for 'Citizenship' is open, showing its functional definition and technical details. The 'Primary Definition' and 'Primary Object' are highlighted in yellow.

My ERP System
Data Model : SATURN : All Columns
schema version uploaded on: July 07, 2017 03:5

Column : **STVCITZ_CODE**
Column properties

Primary Definition
Citizenship

DEFINITION
Citizenship
Approved Version 2 New version

Functional Definition: ①
Whether or not a person is a United States citizen, and if not, how they should be categorized, e.g., resident alien, nonresident alien, noncitizen, other.

Other Information:
SOURCE OF DEFINITION: ① None specified
CLASSIFICATION: ①

Quality Attributes ① No quality attributes defined

Technical Definitions ①

Data System: ERP Systems » My ERP System Time Context: None specified
Primary Object: SPBPERS_CITZ_CODE
Technical Definition:
Citizenship code SPBPERS.SPBPERS_CITZ_CODE in My ERP System

Figure 61 Example of a Primary Definition and a Primary Object

Figure 61 also shows the *Citizenship* definition page, where the primary object in the technical definition for the My ERP System data system is SPBPERS_CITZ_CODE.

If you add a primary definition to a data system object (such as adding *Citizenship* to SPBPERS_CITZ_CODE in My ERP System) and the definition (*Citizenship*) does not already have a technical definition for the current data system (My ERP System), the Data Cookbook creates the primary object in the definition and when a technical editor creates a new technical definition for the data system, the appropriate information from the data system model is filled in.

As a data system editor, you can also create a new definition as the primary definition. From the Data System page, drill down to the **Column** view, click **Create a Definition** from

the **All Columns** table, and complete the **Create a New Definition** form. The form is partially filled-in based on information from the data system object:

Field	Default Values
Name	<p>the column name as plain text with spaces rather than delimiters, such a period or underscore. Follow your naming conventions for definitions.</p> <p>For example, if you create a definition from the column SABSUPL_ACTIVITY_DATE the Data Cookbook will default the Name as <i>Sabsupl activity date</i>, which you may want to change to <i>Activity Date</i>.</p>
Primary Object	<p>the data system object (column name) from which you are creating the definition.</p> <p>In the example stated above, the Primary Object is SABSUPL_ACTIVITY_DATE.</p>
Data System	the current data system
Technical Definition	wikilink to the data system object and the linio that shows the data object as the source object.

At a minimum, you must provide the functional definition and functional area to submit the definition and then save or submit for review. The definition is then routed through the assigned definition approval workflow and **Create a definition** on the **All Columns** table is replaced with the name of the definition and link to the definition's page.

8.3.4 Data Schema Object Relationships

While browsing a data schema's objects, click the table relationship  icon to see the relationship between the selected table and other tables within the same schema. For example, Figure 62, shows a the dynamically generated ERD diagram that displays after a user clicks the icon for the SBAUDF table from data schema for IData University's My Other Student Information System.

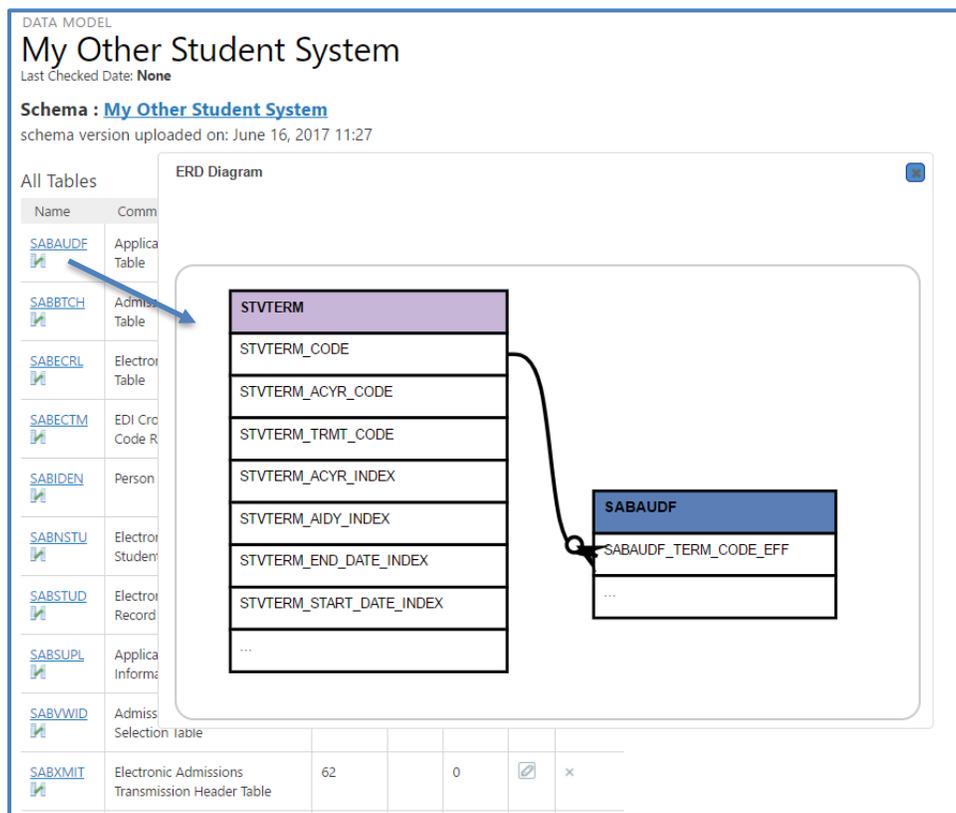


Figure 62 ERD Diagram for a Table from a Data Schema

8.4 Enable a Data System for Integration

Users with the Enterprise + Integration edition, can use the integration through the IDataHub to data models loaded and updated in the Data Cookbook based on the schedule set in the IDataHub. To use this feature, check **Enable for Integration** and set a **Frequency** (Monthly, Weekly, Daily, Custom, or Manual) that corresponds with a schedule in the IDataHub for scanning the data system and updating this data system with revised data models.

After you enable the integration feature for data system, you define exactly what schemas and tables are scanned within the IDataHub.



Enabling a data system for integration only impacts whether the IDataHub scans the data system and loads the data models into the Data Cookbook. If you do not enable this feature for a data system, quality rules and reference data associated with that data system can still be synchronized through the integration (for information about enabling these objects for integration, see *Enabling Quality Rules for Integration* and *Enabling Reference Data Lists for Integration*, respectively).

Details about how to select the specific data models selected for loading into the Data Cookbook and scheduling the updates, are provided in the *Data Cookbook Connector Integration Guide*.

8.5 Data Applications

Data applications are codes that represent the different applications that you have at your organization. Typical entries would be your SIS, ERP, or CRM application in use in your organization, such as Banner, PeopleSoft, or Salesforce. These applications may have multiple databases (data systems), APIs (protocols), and other ways that you interact with the application, such as flat file exports, which are all documented in as Data Systems.

To create the data application code, select **Data Applications** from the **Data Systems** menu, then click **Add a New Data Application**. Along with a name and description, you can optionally provide a logo for the data system, which will display on the various **Data System** pages and in various places where data systems are identified (such as technical definitions and quality rules).

Once you have created the data application, you can add the application as an attribute to one or more data systems.



9 Working in your Data Cookbook Test Instance

If your account administrator has enabled a test instance of your Data Cookbook account, you have access to a “sandbox,” or test environment, where you can try to new features or learn to use features new to you in an area that is separate from the production, or “live,” Data Cookbook account.

Each organization’s test instance is created by IData as copy of your current Data Cookbook account. The data in the test instance is refreshed the first day of each month, providing you with the most current set of definitions, specifications, and other Data Cookbook objects with which to test and learn about Data Cookbook features.

When you are in your account’s test instance, you will see a banner that lets you know you are in the test instance, as shown in Figure 63.

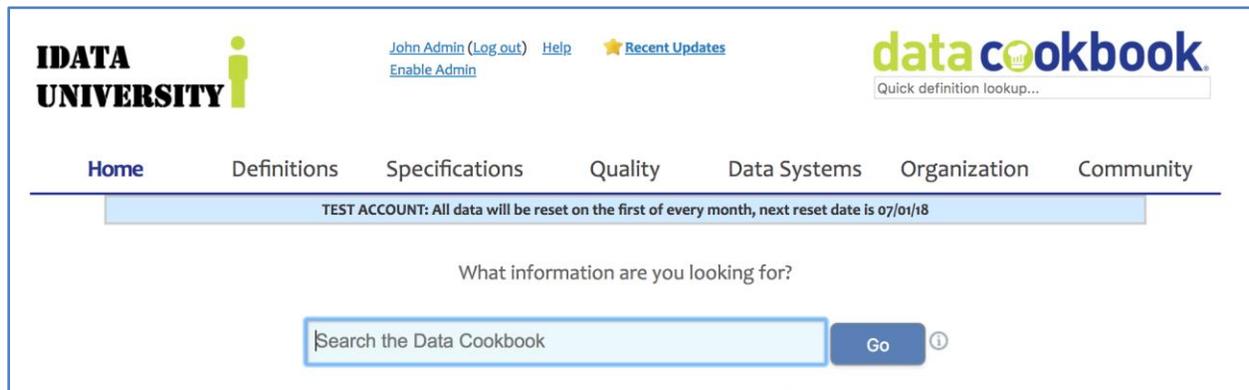


Figure 63 Home Page in the Test Instance

9.1 Getting Started in the Test Instant

Your account administrator will let you know if the test instance has been enabled and how-to login. If your organization uses external authentication to log into the Data Cookbook, you will need to set up your Data Cookbook password prior to logging into the test instant.

9.1.1 Setting your Data Cookbook Password

Complete the following steps to set your password in your Data Cookbook account prior to the first day of the month:

- 1 Edit your **User Profile**.
- 2 Enter your new password in the **Change your Password** section of the **User Profile**.

Use this password to log into the test instance, once it becomes available.

9.1.2 Requesting a Password Reset

If you do not set your password in the production instant prior to the test instance being set, request a password reset *for the test instance*:

- 1 Point your browser to the URL for your test instance.
- 2 Click **RESET PASSWORD** from the Data Cookbook login page.
- 3 Complete the **Reset Password** form.
- 4 Follow the instructions for resetting your password from the email sent from the Data Cookbook.

After resetting your password in the test instance, don't forget to set your password in the production instance; otherwise, you will have to reset the password the next month when the data is refreshed.

9.2 Using your Organization's Test Instance

Once you have your login credentials for the test instance, you use this instance the same as you have been using the Data Cookbook: you can add definitions and specifications and, if you have the Enterprise or Enterprise + Integration Editions, you can add data quality objects. Your user groups and permissions are the same in both instances, so you will have access to the same features in the test instance as in production.

In the test instance

- any objects you add, or any changes you make to objects, are overwritten when the instance is refreshed each month.
- any objects you add, or any changes you make, are not seen in the production instance of the Data Cookbook.
- you can practice sharing definitions or specifications with a community, but they are not actually shared as the connection between the test instance and all Data Cookbook communities is blocked.

By default, all email notifications for all users are turned off in the test instance. If you want to receive notification about any object, you must edit your user profile and setup your notification frequency for the test instance (see [Email Notifications](#)). These settings will be overwritten when the instance is refreshed each month.

10 Working with Information Requests

Information requests are an optional communication tool that allow users of your Data Cookbook account to ask questions about any item in your account. Once created, information requests are sent to members of a specific user group to review, respond to, assign for further action, or close. The exact process for working with information requests will vary depending upon the workflow. In this chapter, we describe the process of reviewing and responding to information requests based on the setting of the default information request resolution workflow.

10.1 Monitor your Information Requests

You can always see a list of outstanding requests you have made from the **Home** page. The first three will show. Click **See All** to view any additional requests.

The screenshot shows the 'Home' page of the Data Cookbook. At the top, there is a navigation bar with links for Home, Definitions, Specifications, Quality, Data Systems, Organization, and Community. Below the navigation bar is a search bar with the placeholder text 'What information are you looking for?' and a 'GO' button. The main content area is divided into two columns. The left column is titled 'Tasks' and contains a section for 'Information Requests' with '2 items'. The first item is 'Request #1: Open', requested by Marci Money over 2 years ago, with the text 'there must be a report we have already with tuition revenue'. The last comment is by Jimmy Dean about 1 month ago, stating 'I am also waiting on that report'. The right column contains a list of actions: 'Report Quality Issue', 'Create a Definition', 'Create a Specification', and 'Create a Specification Mix'. A red box highlights a section titled 'My Information Requests' which contains a link to 'there must be a report we have already with tui...' and a 'See All >' link.

Click **See All** to see all Information requests. You can also navigate to this page by selecting **Information Requests** from the **Home** menu.

From this view, you can see any open information requests or filter the view by a specific workflow, requestor, assignee, or those that have specifications.

10.2 Respond to Information Requests

If you are a member of a user group that manages information requests, you will receive an e-mail when an information request is submitted and are responsible for helping the requester find information, or for assigning the request to another Data Cookbook user.

Pending Information Requests will also show as to-do items on your **Home** page.

Information request managers can take many steps when they work on an information request. They can:

- Request input from the requester.
- Assign the request to another user.
- Answer questions themselves.
- Create a specification if one is necessary.
- Relate quality rules and specifications to the request.

11 Importing Definitions or Specifications

You may already have some definitions or report specifications written in another tool, a spreadsheet, or even as part of a data dictionary for one of your data systems. If you can get these objects into comma-separated values (csv) format, the Data Cookbook has a feature to read this file and add its contents to your institution's definitions or specifications.

You must have Editor or Manager-level permissions to use this feature.

Complete the following steps to import definitions from a file.

- 1 Create the file.

A blank template and guidelines for creating the CSV file are provided on the **Import Definitions from CSV** page, once you select **Import Definitions** from the **Definitions** menu.

- 2 Save the file in a location accessible by the Data Cookbook.
- 3 Select **Import Definitions** from the **Definitions** menu.
- 4 Click **Choose File** and open the import file.

In some browsers, the button is labeled **Browse**.

- 5 Click **Preview** to see how the quality rules will be imported into the Data Cookbook.

If there are errors, the Data Cookbook will not let you continue. Follow the instructions on the screen to correct the source file and reload it.

- 6 Click **Accept and Import** to load the file into your Data Cookbook account.

Note

After successfully previewing your import file, the **Background Jobs** page displays. You can stay on this page until the import completes or navigate to another page and continue working in the Data Cookbook. To view the status of any import, click **Background Jobs** on the **Home** menu.

All definitions loaded from a file are treated by the Data Cookbook as if they were entered directed from the **Create a Definition** option. Thus, they are assigned a workflow and placed in the first stage of that Workflow. The approval process for the definition then continues as with all other definitions.

To import specifications from a file, complete the steps outlined above, using the **Import Specifications** from the **Specifications** menu. From here you will find a blank CSV template and a sample CSV template, along with instructions for building your CSV.

12 Managing Your Data Cookbook User Profile

Your personal information and user settings are maintained on your **User Profile** page, accessed by clicking your name (located in the upper portion of the page, near the center of the screen).

The screenshot shows the 'User Profile' page for 'Sue Peruser'. The navigation bar at the top includes 'Home', 'Definitions', and 'What is...'. A search box is present with the text 'Search the Data Cookbook'. The profile details are as follows:

- Name:** Sue Peruser
- Title:**
- E-mail:** speruser@idatainc.com
- Phone Number:**
- Time Zone:** Eastern Time (US & Canada) (inherited from your institution)

Below the profile details is a section for 'EMAIL FREQUENCY' with the following table:

Action	Frequency	Next processing time
Definitions awaiting action from you	Every Half Hour	10:01 AM 08 Oct 2018
Updates to Definitions you are watching	Daily	9:31 AM 09 Oct 2018
Updates to Definitions you are responsible for	Every 1 Hour	2:18 PM 30 Mar 2018
Specification items awaiting action from you	Daily	9:31 AM 09 Oct 2018
Updates to Specifications you are watching	Daily	9:31 AM 09 Oct 2018
Updates to Information Requests	Daily	9:31 AM 09 Oct 2018
Data Quality items awaiting action from you	Every 1 Hour	10:30 AM 08 Oct 2018
Updates to Data Quality items you are watching	Daily	9:30 AM 09 Oct 2018
New posts in watched forums or topics	Daily	9:31 AM 09 Oct 2018

Figure 64 Accessing Your User Profile

From your User Profile, you can maintain the following:

- Name
- Email address
- Time zone

- Password (if you log in from the Data Cookbook **Home** page)
- Email notification preferences
- Job title
- Contact information

To edit the information and settings, click **Edit Profile / Change Password**.

12.1 Notifications and Settings

You can change the following settings and notifications for your own user profile:

- Email Notifications
- Hiding the tutorial feature

12.1.1 Email Notifications

As a Data Cookbook user, you probably work with objects in various stages, have an interest in what happens with a specific definition or specification, and you might be involved with discussions on one or more Data Cookbook forums. The Data Cookbook helps you keep track of this activity by monitoring changes to Data Cookbook objects and generating notifications when

- you need to act on an object (such as when an object is actioned to a workflow stage to which you are assigned)
- new posts are made in forums or topics you are watching
- changes occur to information requests you have made or to which you are assigned
- one of the following are approved, rejected or commented upon:
 - definitions, specifications, or data quality items you are watching
 - definitions you are responsible for

A **notification** is the message informing you that any of the above actions have occurred. You can track these notifications by reviewing your **Tasks** and the sidebar notifications on your **Home** page (see [Your Home Page](#)); by viewing the system events listed in an object's **History and Comments** (see [History and Comments](#)); and by receiving periodic emails that summarize the notifications about specific objects important to your role as a Data Cookbook user. In this chapter, we describe how the Data Cookbook generates these notifications and how you can manage the delivery of emails that summarize this activity through settings in your **User Profile**.

Figure 65 Example Email Notification: Definitions Awaiting Action shows an example of an email sent to a Data Cookbook user.

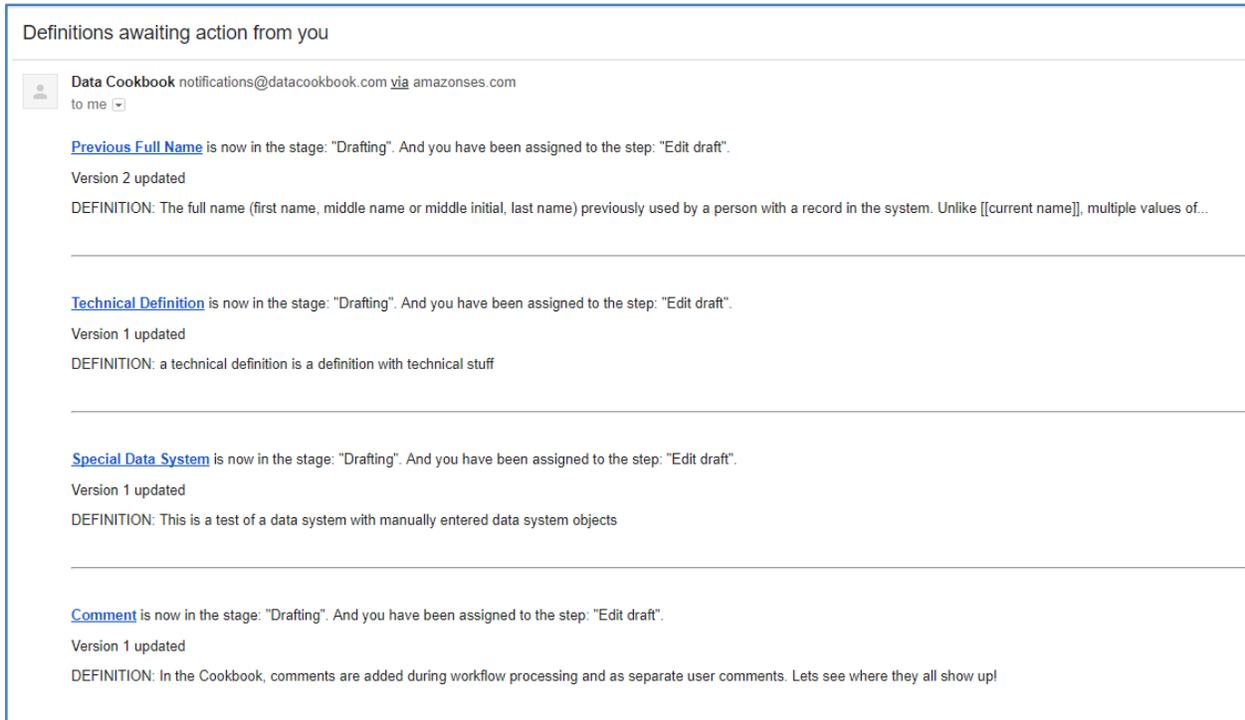


Figure 65 Example Email Notification: Definitions Awaiting Action

This email was sent as a result of two things: definitions advancing to a step in which this user was assigned a role and this user having set the frequency *for this type of notification* to something other than *Never*.

Before we look at how to manage emails by setting the frequency upon which you receive them, let's look at how the Data Cookbook generates these emails based on activity within the Data Cookbook.

How Email Notifications Work

The categories of emails are based on the type of Data Cookbook activity that generates notifications. These **notification types** are:

- Definitions awaiting action by you
- Updates to definitions you are watching
- Updates to definitions you are responsible for
- Specification items⁶ awaiting action from you

⁶ Specification items are specifications or collections.

- Updates to specification items⁶ you are watching
- Updates to information requests⁷
- Data quality items⁸ awaiting action from you (Enterprise only)
- Updates to data quality items⁸ you are watching (Enterprise only)
- New posts in watched forums or topics (from the Data Cookbook Community)

You choose, through settings in your **User Profile**, how frequently you receive an email summary of these notifications. For example, you may be “watching” several definitions, indicating that you are interested in any activity that happens with those definitions. You can receive an email each day letting you know *if any activity occurred with one or more of these definitions*. If there has been activity, the Data Cookbook sends the email; if none of the definitions you are watching had activity⁹, you do not receive an email. If activity occurs after the next time an email is scheduled, you will not receive an email until that time.

For example, suppose that the next processing time for definitions you are watching is Thursday at 10:45 AM. At this time, the Data Cookbook looks for any updates to definitions you are watching that posted since 10:45 AM on Wednesday. When none are found, the next processing time becomes 10:45 AM on Friday. Sometime after noon on Thursday, another user adds a comment to one of these definitions. You will see a notification in the **My Feed** section of your **Home** page about this comment; however, you will not receive an email letting you know about this comment until sometime after 10:45 AM on Friday.

Timing Can Be Everything

Notifications are generated based on activity in the Data Cookbook, as that activity occurs. When the Data Cookbook searches for this activity to summarize in an email, it does not determine whether or not events have transpired that potentially impact whether one of these activities is no longer relevant. Consider the following example.

Sally creates a new specification and submits it for approval at 11:43 AM. The Data Cookbook generates a notification that appears on **Home** page for each user assigned to the workflow step, including Albert and Jack. They can also see this specification on their **Specification Queue**.

Albert has set the notification for specifications awaiting action to every 4 hours and the notification is next scheduled for 2:15 PM. In the meantime, Jack sees this specification, reviews it, and clicks a workflow button which actions the specification to another workflow stage. Albert is not assigned to this next stage.

At 2:15 PM, when notifications about specifications assigned to Albert are gathered, the notification from 11:43 AM is located and added to the email that is delivered to his inbox shortly after 2:15. As noted, Jack has already reviewed this specification and it is now in a workflow stage where Albert does not have an assigned role. When Albert follows the link

⁷ Updates to information requests you have made or when a task for an information request has been assigned to you.

⁸ Data quality items are quality rules, quality issues, and reference data.

⁹ Remember that an update to an object you are watching refers to the object being approved, rejected, or commented upon.

from the email to this specification, he sees that the workflow stage is different than what is indicated in the email and that he does not, in fact, have an assignment at this time.

This situation occurred because the Data Cookbook is simply gathering all notifications posted during the time period between when it last looked for these notifications and the current time (in this case, the four-hour time frame between 10:15 AM and 2:15 PM). It did not evaluate the current status of each object (in this case, the specification) to determine whether the notification is applicable (in this case, if the specification is still in the same stage and if Albert has a role in the current workflow stage).

When reviewing your own email frequency settings, the timing of when the notifications are generated and then sent via an email is just one of many factors to consider. We review other factors in the next section.

Setting the Frequency of your Email Notifications

Figure 66 Example User Profile Email Settings illustrates the email frequency settings from a user's **User Profile**.

EMAIL FREQUENCY ?	
Definitions awaiting action from you ?	Every 1 Hour
Next processing time: ?	12:58 PM 21 Jul 2017
Updates to Definitions you are watching ?	Daily
Next processing time: ?	4:10 PM 21 Jul 2017
Updates to Definitions you are responsible for ?	Every 1 Hour
Next processing time: ?	12:58 PM 21 Jul 2017
Specification items awaiting action from you ?	Every 1 Hour
Next processing time: ?	12:58 PM 21 Jul 2017
Updates to Specifications you are watching ?	Daily
Next processing time: ?	4:10 PM 21 Jul 2017
Updates to Information Requests ?	Immediate
Next processing time: ?	12:29 PM 21 Jul 2017
Data Quality items awaiting action from you ?	Every 1 Hour
Next processing time: ?	12:58 PM 21 Jul 2017
Updates to Data Quality items you are watching ?	Daily
Next processing time: ?	4:10 PM 21 Jul 2017
New posts in watched forums or topics ?	Daily
Next processing time: ?	4:10 PM 21 Jul 2017

Figure 66 Example User Profile Email Settings

The **Email Frequency** section of your profile lists each of the notification types and the next scheduled processing time for each. This processing time is initially calculated when your Data Cookbook user is created based upon system defaults and is reset if you change the frequency setting.

For each type of notification, you choose how often you want to receive an email letting you know about Data Cookbook activity. The standard email notification frequencies are:

- Never
- Weekly
- Daily

- Every 8 Hours
- Every 4 Hours
- Every Hour
- Every Half Hour
- Immediate

If you do not see all these options when setting your email notification frequencies, then your Data Cookbook administrator has restricted your account to those displayed in your **User Profile**.

To change the default settings, simply edit your profile and choose a different frequency. The Data Cookbook recalculates the **Next processing time** for that notification type as soon as you save your changes.

Email Notifications and Frequency Settings

- The email frequency determines how often the Data Cookbook looks for these notifications. If no new notifications are found, you will not receive an email.

Setting a notification frequency to *Every 1 Hour* does not mean that you will receive an email every hour; it only means that the Data Cookbook will look for updates to that notification type every hour.

- When multiple objects are found for a given notification type, a single email is generated, such as the one illustrated in Figure 65 Example Email Notification: Definitions Awaiting Action.

If you set the notification type **Definitions awaiting actions from you** to *Every Half Hour*, every 30 minutes the Data Cookbook will look for definitions actioned to a stage to which you are assigned. If five definitions are found, you will receive one email which lists all five definitions, not five separate emails. See the next item for an important caveat!

- The caveat to the above rule is the *Immediate* setting: these notifications are not bundled, even for the same notification type.

If you set **Definitions awaiting actions from you** to *Immediate* and within quick succession, five definitions are advanced to stages assigned to you, you will receive five separate emails.

This also means that when a definition is imported into your Data Cookbook account and a new definition approval workflow is initiated, you could receive multiple individual emails immediately following the import if you are assigned to the first step in the definition approval workflow. For example, if someone imports 50 definitions to your account and you are assigned to the first step in the workflow of each definition, you will receive 50 emails based on the *Immediate* email notification setting.

Items to Consider When Setting Your Email Frequency Preferences

Along with understanding the relationship between email notifications and frequency settings, the following are some additional items to consider when setting your email frequencies for the different email notification types.

- You can change the frequency setting for any notification type at any time and the change takes effect immediately.
For example, if, at 10:35 AM on Tuesday, you change the frequency of a notification type from *Every 4 Hours* to *Daily*, the next processing time becomes Wednesday at 10:35 AM.
- Emails are generated based on notifications that have been posted, regardless of whether actions by others impact the relevance of that notification (see the example described above).

The following are factors you might consider when reviewing your email notification preferences. Although listed individually, we suggest you consider all factors together to maximize the benefit of receiving email notifications from the Data Cookbook.

- the type of notification
You may not need to receive emails about objects you are watching more than once a week, whereas you may wish to know several times a day about those that require you to act.
- how often you access the Data Cookbook and your personal preference for using the **Home** page task list verses email notifications
Users who log into the Data Cookbook and review their **Tasks** list and the different object queues several times may not need as many emails as those users who only log in when they are notified of specific activity.
- the criticality of your role in the approval processes for these objects
For example, data stewards, moderators, and managers may use the *Immediate*, *Every Half Hour*, or *Every Hour* settings to keep up-to-date on definitions they are responsible for.
- the stage your institution is at in implementing Data Cookbook.
For example, during training, some users select the *Never* frequency to avoid the excessive messages generated during this intensive learning phase.

When considering whether to change the default settings, think of the above items together for each notification type, and for your work in the Data Cookbook in general. Remember that you can always change the frequency with which you receive these emails and, if allowed in your account, turn off notifications altogether.

12.1.2 Interactive Tutorials

The default setting for the Data Cookbook interactive tutorial is to have the link to these tutorials available on every page of the application. You can, however, choose to hide this

link. If you choose to hide this link, IData will turn it back on whenever we release new tutorials, providing you with the opportunity to see what has been added. Return to your user profile to turn off the link until the next update.

For additional information about this feature, see [Help and Tutorials](#).

12.2 User Groups and User Permissions

The user groups you are assigned affects the kind of work you can do in the Data Cookbook.

You can view the User Groups and User Permissions from your User profile. Figure 67 illustrates a portion of a user’s profile showing their assigned User Groups and permissions for working with Information Requests and Specifications as well as the Technical Information Permissions assigned to that User’s Group.

	Institution-Wide	Advancement	Alumni Affairs	Demographic	Enrollment
Auxiliary Systems					
-- My CRM	editor	editor	viewer	editor	editor
-- My LMS	editor	editor	viewer	editor	editor
-- My Retention System	editor	editor	viewer	editor	editor
BI Infrastructure					
-- My Reporting ODS	editor	editor	viewer	editor	editor
-- My Warehouse	editor	editor	viewer	editor	editor
ERP Systems					
-- My ERP System	editor	editor	viewer	editor	editor
-- My Main Student System	editor	editor	viewer	editor	editor
-- My Other Student System	editor	editor	viewer	editor	editor

Figure 67 Example User Permissions

Other sections on your User’s Permissions section of your Profile will show your permissions settings for definitions, quality rules, data systems and research data.

12.2.1 Permissions Summary

In addition to viewing permissions as assigned to each user or user group, you can see how permissions are assigned across Data Cookbook objects from the **Permissions** view available from the **Organization** menu.

Click on any item to see the details. For example, Figure 68 illustrates IData University’s settings for Definitions Permissions

The screenshot shows the 'Permissions' page in the IData system. The left sidebar contains a list of permission categories, with 'Definition Permissions' selected and highlighted by a blue arrow. The main content area shows a table of permissions for 'Definition Permissions', organized by functional area (Institution-Wide, Student, Human Resources) and permission level (viewer, editor, manager).

	viewer	editor	manager
Institution-Wide	(All Groups)	General Editors Report Writers Collection Workers Quality Rules Workers Definition Creators Special Moderators	Special Moderators
Student	(All Groups)	Report Writers General Editors Collection Workers Quality Rules Workers Definition Creators Moderators of Student and Student Life Special Moderators	Moderators of Student and Student Life Special Moderators
Human Resources	(All Groups)	Editors of Human Resources Special Moderators Report Writers	Moderators of Human Resources

Figure 68 Viewing Permissions by Information Type

The Definition Permissions lists all user groups that have viewer-, editor-, and manager-level permissions for definitions by functional area. In the example shown in Figure 68, the user groups General Editors, Report Writers, and Special Moderators have editor-level permissions for definitions associated with the institution-wide functional area and Special Moderators have manager-level permissions for the same definitions. All groups have viewer-level permission definitions associated with any functional area.

Each entry in the Permissions view is a link to the User Group page.

13 Collaborating with the Data Cookbook Community

The Data Cookbook provides users with the opportunity to participate in a community that shares definitions, specifications, and files. Also, users can communicate with each other through the Data Cookbook forums.

Home Definitions Specifications Organization Community

Finally, an Online Community Focused on Data Management for Higher Education Institutions

The foundation of good decision-making begins with *human judgment* and *intuition*, while being supported through accurate data. A community allows folks to learn from each other, network with peers with similar issues, and improve their judgment. The desire for this community, the Data Cookbook Community, is to connect organizations and higher education institutions to help lighten reporting burden and provide clarity with information such as data definitions. The public availability of this information helps higher education institutions deal with the increasing complexity of data governance, reporting, and data definitions.

[Browse the Community Definitions](#)

[Browse the Data Specifications](#)

[Browse the Community Organizations](#)

- *One source to consult for all external data governance and reporting needs (including definitions). This centralized repository eases up communication demands and streamline reporting processes*
- *Align an institution's content with other institutions to compare similar terms and definitions, providing greater clarity in a broader environment of increasing reporting demands*
- *Network with peers who are actively solving (or have solved) the same or similar problems facing your institution. Learn from others. Gather information from others to gain efficiency*
- *Save time by re-using specifications and definitions of others*

Recent Community Blog Entries

- [New Public Communities: VFA and the Data Cookbook](#)
- [New Public Communities: CCNE and the Data Cookbook](#)

Tweets by @DataCookbook

Data Cookbook @DataCookbook
American Public University System provided great input at our Data Cookbook User Group meeting yesterday about the Enterprise Edition. Thx.

Figure 69 The Data Cookbook Community Home Page

13.1 Organizations

From the **Community** page, click **Browse the Community Organizations** or choose **Organizations** from the **Community** menu, to access a list of organizations taking part in the Data Cookbook community. Each organization that chooses to participate in the Data Cookbook Community chooses the data it shares, including definitions, specifications, or other files of interests.

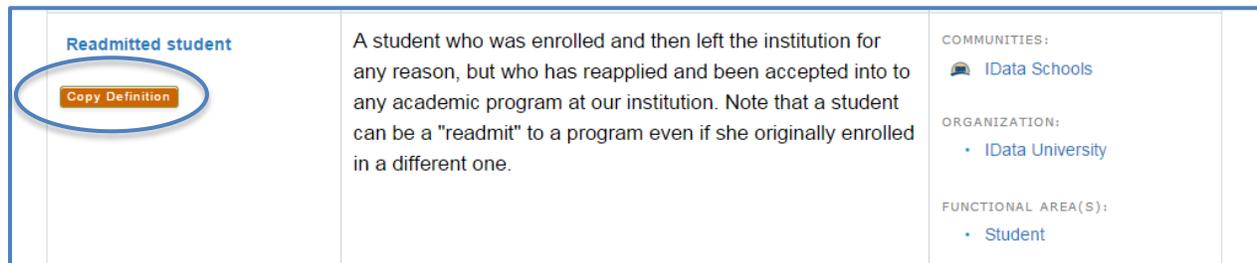
13.2 Definitions

From the **Community** page, click **Browse the Community Definitions**, or choose **Definitions** from the **Community** menu, to access a full, searchable list of definitions made public by organizations participating in the Data Cookbook Community.

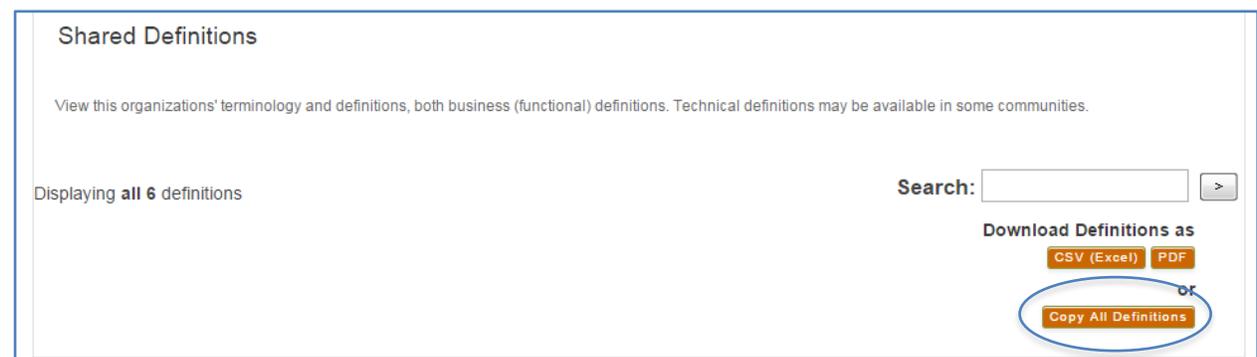
You can browse, search, and copy any public definition in this list. Click **Copy Definition** if you find a definition you'd like to include in your Data Cookbook account. The definition is added to the Copy Queue, but not copied to your account. Click **Copy Queue** on the **Community** menu and complete the rest of the steps to bring the definition into your organization.

13.2.1 Copy Definitions from the Community

There are two ways to copy definition from the Community: individually, or in bulk from an organization.



The screenshot shows a definition card for "Readmitted student". The title "Readmitted student" is at the top left. Below it is a button labeled "Copy Definition" which is circled in blue. The main text of the definition reads: "A student who was enrolled and then left the institution for any reason, but who has reapplied and been accepted into to any academic program at our institution. Note that a student can be a "readmit" to a program even if she originally enrolled in a different one." On the right side, there are three sections: "COMMUNITIES:" with a link to "IData Schools", "ORGANIZATION:" with a link to "IData University", and "FUNCTIONAL AREA(S):" with a link to "Student".



The screenshot shows the "Shared Definitions" page. At the top, it says "Shared Definitions" and "View this organizations' terminology and definitions, both business (functional) definitions. Technical definitions may be available in some communities." Below that, it says "Displaying all 6 definitions". On the right side, there is a search bar with a search icon. Below the search bar, there are two buttons: "Download Definitions as" followed by "CSV (Excel)" and "PDF". Below these, there is an "or" and a button labeled "Copy All Definitions" which is circled in blue.

13.3 Specifications

From the **Community** page, click **Browse the Data Specifications**, or choose **Specifications** from the **Community** menu, to access a full, searchable list of specifications made public by organizations participating in the Data Cookbook Community.

13.4 Forums

Select **Forums** from the **Community** menu to access the Data Cookbook forums. IData moderates these forums. Please report any misuse or inappropriate material.

The Data Cookbook forums are not open to the public. They can only be seen and contributed to by Data Cookbook clients.

13.5 Copy Queue

There are two ways to copy definitions from the Community:

1. Click **CSV (Excel)**, to download all definitions as a CSV file.
2. Click **Copy Definition** next to each definition to copy that specific definition. When you click **Copy**, the button changes to **In Copy Queue**. Click **In Copy Queue**, to go to the **Copy Queue** page.

Before you can copy a definition to your organization, you must assign it a functional area. The functional area you select will be applied to all definitions you have chosen to copy. If a definition you have chosen to copy has the same name as a definition currently in your organization, you will be asked to enter a different name. Alternately, you can choose to apply a prefix or suffix to the definitions you import, either to each one or only in the case of a conflict. Use the radio buttons in the interface to make these adjustments.

To remove any definition from the queue, click **X**.

The Copy Queue is intended to be a starting point for a definition. You can change any field related to a definition. If you do not automatically approve a definition on copy, that definition will be in the pending state and you can continue to make changes from the standard definition browse page of your organization (it will be removed from the copy queue).

If you have chosen to copy a large number of definitions, you will likely get a compressed view of the Copy Queue.

You are still required to assign a functional area; however, you will not be able to edit individual definition fields. You can remove a definition from the list by clicking on its name. The definition name will be stricken out, and it will not be copied.

Once you click **Create Copies**, you will be returned to a previous page in the Data Cookbook, while the import process runs in the background. To check on the progress of the import, select **Background Jobs** from your **Home** page.

13.6 Private Communities

Your institution may be a member of a private community. Private communities function like the public community except that they offer additional options for sharing and communicating. For additional information, see the *Data Cookbook Private Community User Guide*.

Appendix

A Where Does the Data Cookbook Find My Search Terms?

When you enter a word or phrase in one of the search boxes in the Data Cookbook, the Data Cookbook locates the applicable objects with that word or phrase in one of several places, or attributes, of the object. The following chart lists, by object type, the attributes that the Data Cookbook searches for when you use each of these search options.

Object	Attributes Searched (in Search Order)	When Using Search from
Definitions	Name Synonyms Version Names Functional Definition Versions ¹⁰ : Technical Definitions Quality Attribute Names Functional Definitions Comments Quality Attribute Description Quality Attribute Validation Type Quality Attribute Reference Data Codes Quality Attribute Reference Data Descriptions Tags Versions: Quality Attribute Technical Information, Table Names Quality Attribute Technical Information, Column Names Related Quality Rule Names Definition Source Version States Related Quality Rules: Descriptions Technical information, Table Names Technical information, Column Names	<ul style="list-style-type: none"> • the Definitions page • Quick definition lookup (in the Data Cookbook header) • Data Cookbook search (from your Home page)

¹⁰ *Version* indicates previous versions of an object, such as a definition or specification. For example, if searching from the Definition Browse page for a word or phrase, it may not be apparent from the Search Results page why the terms were found if the search words appear in previous version of the definition. You will need to open the definition and look at the different versions to find the search results.

Object	Attributes Searched (in Search Order)	When Using Search from
Specifications	Name Related Collections Names Description Version Names Additional Details Purpose Output Description Related Collections: Description Purpose Comments	<ul style="list-style-type: none"> • the Specifications page • Data Cookbook search (from your Home page)
Specification Collections	Name Specifications Name Description Purpose Comments Specifications: Purpose Description Additional Details	the Collections page
Quality Rules 	Name Description Related Definitions: Names Test Queries Scope Queries	the Quality Rules page
Reference Data 	Name Description Version Name Version Description	the Reference Data page
Data Systems 	Name Type Notes Parent System	<ul style="list-style-type: none"> • the Data Systems page • Data Cookbook search (from your Home page)
Data System Objects—Tables 	Name Comment	<ul style="list-style-type: none"> • the Data Model view page • the Browse Data System pop-up window
Data System Objects—Views 	Name Comment	<ul style="list-style-type: none"> • the Data Model view page • the Browse Data System pop-up window

Object	Attributes Searched (in Search Order)	When Using Search from
Data System Objects— Procedures 	Name Comment	<ul style="list-style-type: none"> • the Data Model view page • the Browse Data System pop-up window
Data System Objects—Columns 	Name Parent Name Comment	<ul style="list-style-type: none"> • the Data Model view page • the Browse Data System pop-up window
Data System Objects—Indexes 	Name Parent Name Comment	<ul style="list-style-type: none"> • the Data Model view page • the Browse Data System pop-up window