Administrator's Guide
Axiom Financial Planning
Version 2020.1

KaufmanHall
AXIOM

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Welcome to Axiom Financial Planning

Axiom Financial Planning contains all the necessary tools to model the finances of any facility-based operation (For example, hospitals, long-term care facilities, rehab, or psychiatric facilities), and generate comprehensive projections and what-if scenarios to support multi-year financial planning. Using the software, you can evaluate proposed capital investments, establish short- and long-term profitability targets, and/or quantify the impacts of operational or market strategies.

While Axiom Financial Planning is flexible and powerful enough to support any approach to financial management, the real value of the software comes from Kaufman Hall's library of healthcare-specific templates, reports, and utilities. Based on our 25+ years of experience as trusted advisors to healthcare institutions, these tools can help your organization establish and maintain the solid financial foundation necessary to fulfill its mission.

Axiom Financial Planning is supported by a team of specialists who together have helped hundreds of healthcare organizations apply our solutions to meet their strategic and financial goals. During implementation, a Kaufman Hall Implementation Consultant will help you configure the application to match your organization's structure and preferences. If you encounter any difficulties or unanticipated situations while using the software, contact Kaufman Hall Support.

What is covered in this document

This manual is written for users assigned the Financial Planning Administrator role. This is an individual at your organization tasked with configuring, maintaining, and controlling other users' access to Axiom Financial Planning-related features and data. As an Axiom Financial Planning Administrator, you have access to features and menus that are unavailable to regular end users such as department managers, non-finance executives, and other stakeholders. In some cases, the same screen or workbook might display slightly differently in your interface than it would for an end user. As an Axiom Financial Planning Administrator, you also have access to all of the cost management reports, including:

- Financial Statements
- Consolidating by Node
- Financial Analysis reports
- Sensitivity Analysis reports

This manual is written for users assigned the Financial Planning User role. As a Axiom Financial Planning User, you have access to the following reports:

- Financial Statements
- Consolidating by Node
- Financial Analysis reports
- Sensitivity Analysis reports

You do not have access to dimensions , drivers, or the integration utility unless specifically granted access by your administrator.

What's new

Welcome to Version 2020.1 of Axiom Financial Planning!

Enhancements in this release include:

New utility shares capital project data with Axiom Financial Planning

The Transfer Capital Projects to Financial Planning utility has been redesigned and updated to provide a web-based wizard experience so that you can quickly and easily transfer the specific data needed to include and manage in your financial planning files.

Enhancements to the Code Dimension Update utility

A new mapping column and additional Revenue items have been added to the Code Dimension Update utility. The Transfer to Financial Planning utility uses the Code Dimension table in transferring data between products. Enhancements to the Code Dimension utility provide additional information and mapping options when integrating data.

New utility shares capital project data with Axiom Financial Planning

Axiom Financial Planning administrators now have a better way to map and transfer data from Axiom Capital Planning to Axiom Financial Planning.

Why use this feature

Axiom Financial Planning includes utilities that allow you to transfer data from other Axiom products, including Axiom Capital Planning. This sharing of data allows you to get the most out of your Axiom Healthcare products to meet the many financial planning needs of your organization.

The Transfer Capital Projects to Financial Planning utility provides a form-based wizard experience so that you can quickly and easily transfer the specific data needed in your Financial Planning plan files.

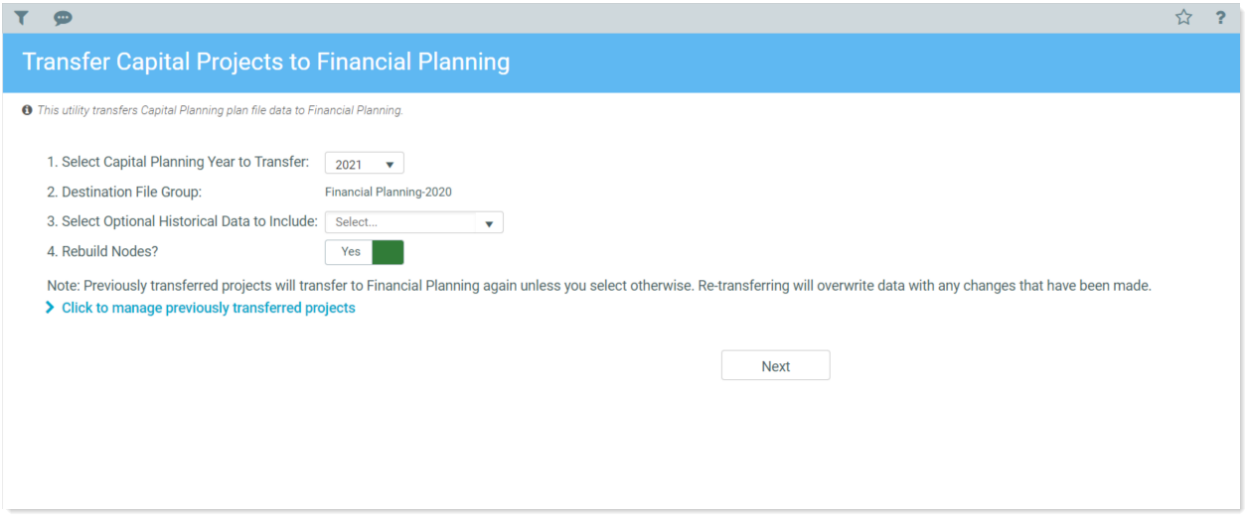
How this feature works

If your organization is licensed for Axiom Capital Planning and Axiom Financial Planning, you can quickly and easily transfer capital project data to Axiom Financial Planning using the new Transfer Capital Projects to Financial Planning utility.

Where: This new utility is available from the Integration section of the Fin Plan Admin task pane.

Who: Administrators who have both Axiom Capital Planning and Axiom Financial Planning products can use this utility.

How: From the Fin Plan Admin task pane > Integration section, click **Transfer Capital Projects to Financial Planning**. The wizard will walk you through the process of selecting the projects to transfer.



Where to find more information

The following topics in the online help have been created and/or updated with information and instructions for using this feature:

- Transferring capital project data
- Select and transfer projects from Axiom Capital Planning
- Working with capital project data in plan files

Enhancements to the Code Dimension Update utility

A new mapping reference column and additional Revenue items have been added to the Code Dimension Update utility.

Why use this feature

Axiom Financial Planning includes utilities that allow you to transfer data from other Axiom products, including Axiom Management Reporting and Axiom Rolling Forecasting. This sharing of data allows you to get the most out of your Axiom Healthcare products to meet the many financial planning needs of your organization.

The Transfer to Financial Planning utility uses the Code Dimension table in transferring data between products. Enhancements to the Code Dimension utility provide additional information and mapping options when integrating data.

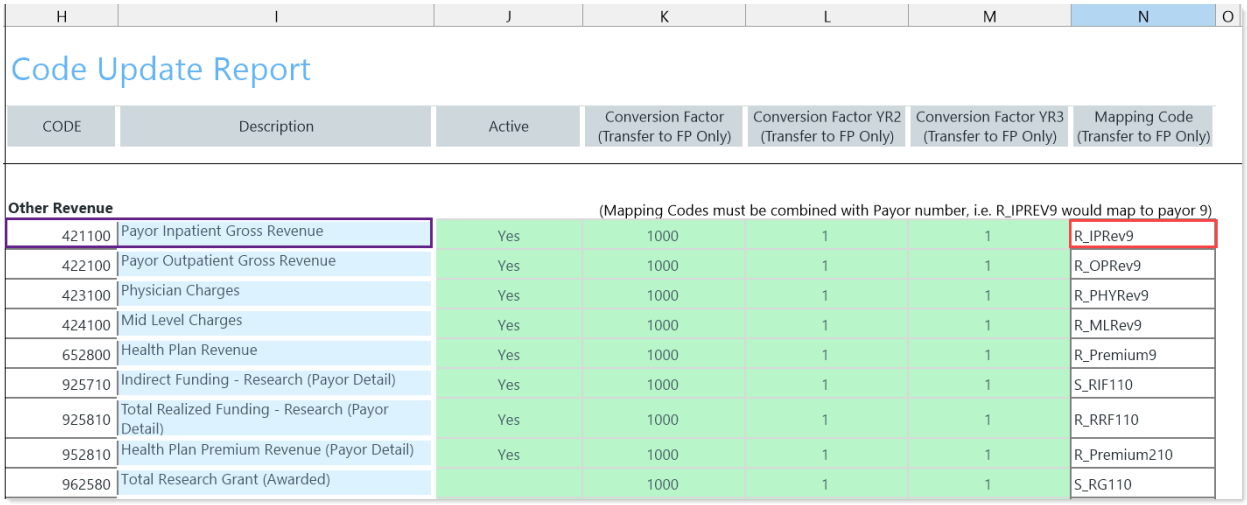
How this feature works

If your organization is licensed for Axiom Management Reporting and/or Axiom Rolling Forecasting, you can quickly and easily transfer operating budget and rolling forecast data to Axiom Financial Planning using the Transfer to Financial Planning utility. The CODE dimension table contains all the valid CODE items used in the Axiom Financial Planning system. For each revenue item listed in the CODE and Description columns of the Code Update Report, the new reference column displays the mapping code to use in the ACCT table's FPCode column to map that item to Axiom Financial Planning.

Where: This change applies to the Code Dimension Update utility, available from the Fin Plan Admin task pane, which is used to update Dimension tables used specifically by Axiom Financial Planning.

Who: Only Axiom Financial Planning administrators can access and use this utility to modify Axiom Financial Planning Dimensions.

How: From the Fin Plan Admin task pane, in the **Administration** section, expand **Dimension Update Utilities**, and then double-click **Code Dimension**. The new column, Mapping Code (Transfer to FP Only), is column N. In the following example, to map Payor Inpatient Gross Revenue to Axiom Financial Planning, you would use the code listed in column N.



Code Update Report

CODE	Description	Active	Conversion Factor (Transfer to FP Only)	Conversion Factor YR2 (Transfer to FP Only)	Conversion Factor YR3 (Transfer to FP Only)	Mapping Code (Transfer to FP Only)
Other Revenue			(Mapping Codes must be combined with Payor number, i.e. R_IPREV9 would map to payor 9)			
421100	Payor Inpatient Gross Revenue	Yes	1000	1	1	R_IPRev9
422100	Payor Outpatient Gross Revenue	Yes	1000	1	1	R_OPRev9
423100	Physician Charges	Yes	1000	1	1	R_PHYRev9
424100	Mid Level Charges	Yes	1000	1	1	R_MLRev9
652800	Health Plan Revenue	Yes	1000	1	1	R_Premium9
925710	Indirect Funding - Research (Payor Detail)	Yes	1000	1	1	S_RIF110
925810	Total Realized Funding - Research (Payor Detail)	Yes	1000	1	1	R_RRF110
952810	Health Plan Premium Revenue (Payor Detail)	Yes	1000	1	1	R_Premium210
962580	Total Research Grant (Awarded)		1000	1	1	S_RG110

Where to find more information

The following topic in the online help has been updated with information and instructions for using this feature:

- Updating Axiom Financial Planning dimensions - Update the Code dimension

Understanding the Financial Management Cycle

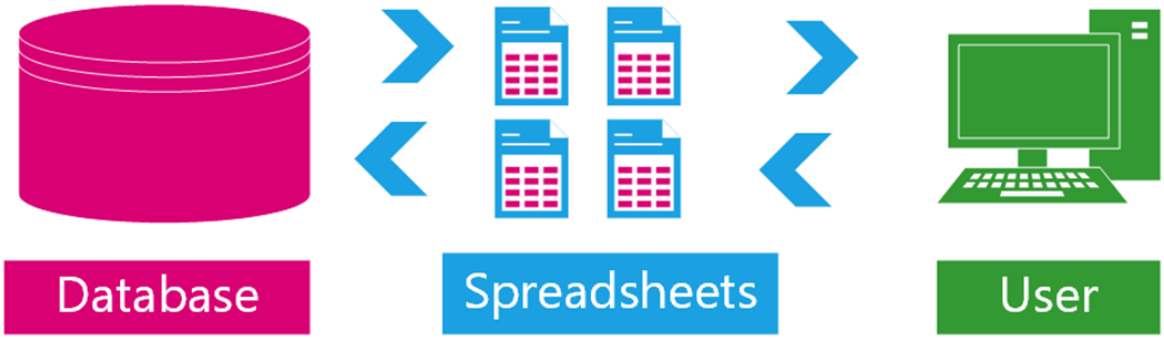
The Axiom Healthcare Suite products support an iterative, continuous cycle where strategic plans define day-to-day operational targets while operational data informs long-term strategic planning.

In practical terms, all of the products in the Axiom Healthcare Suite work together to keep strategic plans rooted in day-to-day operational reality while ensuring that operations align with long-term strategic plans. For instance, targets established in Axiom Financial Planning pass to Axiom Capital Planning as well as Axiom Budgeting and/or Axiom Rolling Forecast, while data from the Axiom Budgeting and Axiom Cost Accounting applications drive the analyses that Axiom Financial Planning uses to set targets.

While you can use these products independently, they complement one another, with each product addressing different aspects of the financial management cycle.

Understanding how Axiom Financial Planning works

Axiom Financial Planning and the other Axiom Software products store data (financial data, labor data, key statistics, and so on) in a central database, and then pull that data into the interface where you can view, enter, or modify the data using familiar spreadsheet commands. This allows unmatched flexibility for reporting and modeling your organization's finances without needing advanced programming skills. Anyone with intermediate-level spreadsheet skills can master the Axiom Financial Planning core features.



Axiom Financial Planning also uses spreadsheets and/or forms to edit system configuration settings and preferences for how data is stored, formatted, and calculated within the system.

Financial Planning best practices

Though Axiom Financial Planning is flexible enough to support whatever planning methods your organization might prefer, it has been our experience that organizations get the best results when strategic planning is tied directly to operations. To that end, we recommend that your organization

follow a process similar to the following:

1. Confer with leadership to define long-term goals per your organization's mission and create a multi-year strategic plan for achieving those goals based on available data.
2. Present the long-range plan to managers and set current-year performance targets in line with strategic goals.
3. Communicate quantitative expectations to all management levels, along with concrete operational guidelines.
4. Make sure targets are defined in relation to operational volume targets established from the financial plan.
5. Develop budgets or rolling quarterly forecasts based upon defined expectations using historical information adjusted for Operational Targets.
6. Track operational performance and use collected data to inform future planning.
7. Evaluate and revise strategic plan as necessary on an annual basis.

The individuals who interact with this software most often include:

- **Director of Financial Planning** – Typically a single individual who builds out an organization's financial models and plan.
- **Financial Analyst** – In larger organizations with multiple entities, the Director of Financial Planning might be assisted by one or more Financial Analysts with limited access to the system.
- **Report Recipients** – Outputs of Axiom Financial Planning are typically distributed to executives, managers, board members, and sometimes external stakeholders such as banks.

2

Getting Started

This section provides information on the basics of using Axiom Financial Planning, such as:

- General system navigation and user interface
- Using spreadsheet plan files and report files from an end user perspective
- Using general Axiom spreadsheet file features such as views, snapshots, and printing
- Viewing data using web-friendly reporting tools such as Web Reports and Data Explorer

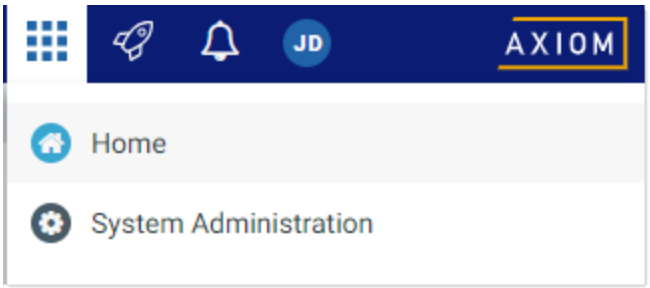
This section is intended for all users who are getting started with Axiom Financial Planning. For end users, this section provides an ongoing reference for file-related tasks.

Home page

All users have a home page that opens automatically when you log into Axiom Financial Planning. Depending on your system, the Web Client home page may be one of the following:

- A product-specific home page for an installed Axiom Financial Planning product
- A custom home page created specifically for your organization
- The default Axiom Financial Planning home page

If you navigate away from the home page, you can return to it by using the Area menu in the Global Navigation Bar:

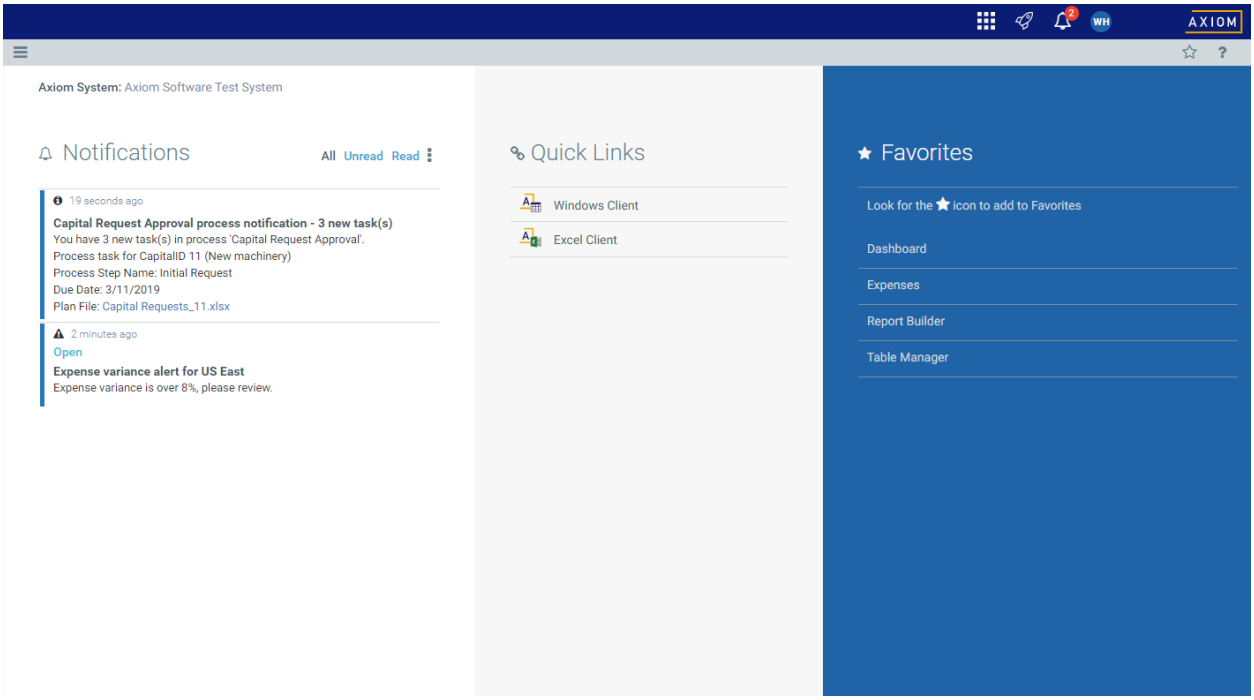


Home option on Area menu

If you are in a system with installed products, the Area menu may contain product names instead of the **Home** item. In that case, you can select a product name to return to the home page for that product.

Default home page

If a user does not have an assigned browser-based home page, then the Web Client displays a default home page. The default home page displays notifications, favorites, and quick links.



Example default home page

This default home page can also be accessed (by any user) by going to the following URL:

Example On-Premise URL

`http://ServerName/Axiom/Home/Launchpage`

Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory.

Example Cloud System URL

`https://ClientName.axiom.cloud/Home/Launchpage`

Where *ClientName* is the name of your Axiom Cloud Service system.

This page has the following features:

- **Notifications**: You can read and delete notifications using the same features available in the Notifications panel.

- **Quick Links**: You can use a set of global quick links that are displayed here for easy access. These links are built-in to the page and cannot be customized. However, the link to the Excel Client may not be present if your system has been configured to hide it.
- **Favorites**: You can open and delete web favorites.

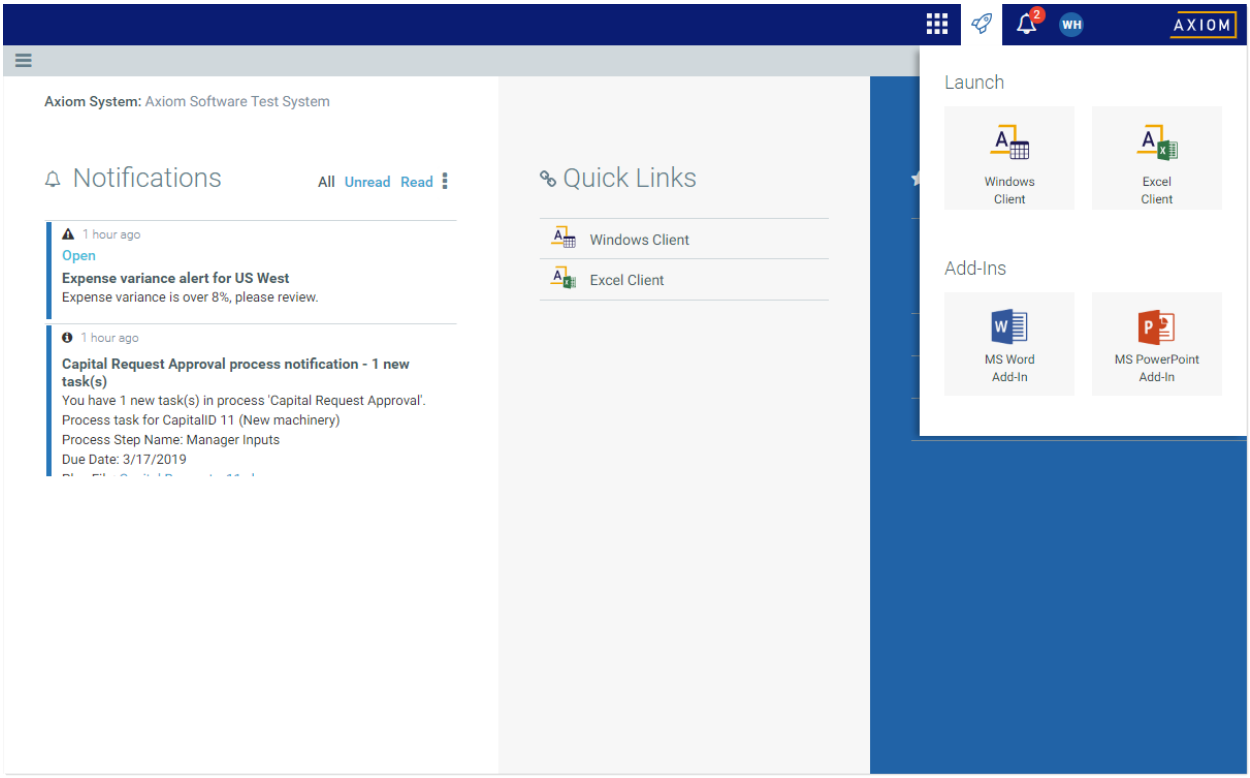
Launching Axiom Financial Planning applications

You can launch various Axiom Financial Planning applications from the Web Client Quick Launch menu, including the Axiom Excel Client and Axiom Windows Client.

The Quick Launch menu serves the following purposes:

- Users can install applications from this area as needed. Afterward, they can continue to launch installed applications from this location, or they can use other options (such as a shortcut on their desktop).
- For systems using SAML or OpenID authentication, this is the only option for users to launch installed applications. SAML and OpenID authentication require users to be authenticated using the Web Client before they can launch a desktop application.
- Users can install and launch add-ins such as the add-ins for Microsoft Office applications.

To open the Quick Launch menu, click the Quick Launch icon in the Global Navigation Bar.



Quick Launch menu

Launching the Financial Planning Desktop Client

Using the Quick Launch menu, you can launch the Financial Planning Desktop Client. Click on one of the following icons:

Item	Description
Windows Client	Launches the Axiom Windows Client on your desktop.
Excel Client	Launches the Axiom Excel Client on your desktop. Requires Microsoft Excel. **NOTE:** This option may not display in the menu, in which case you should use the Windows Client as your desktop client.

If the client is not already installed on the current workstation, clicking the icon will initiate the install and then launch the client. If the client is already installed, clicking the link will launch the client. You must be using Microsoft Edge or Internet Explorer 11 (or higher) to perform these actions. Other browsers may be able to install and launch the client if a ClickOnce extension is applied to the browser.

The appropriate client to use depends on your organization's preferences and on your user role. Your organization will provide instruction as to which client you should use.

For more information on installing the Windows Client and Excel Client, including prerequisites and configuration details, see the Installation Guide (on-premise systems) or the Cloud Service Technical Guide (cloud service systems). Some software prerequisites can be downloaded and installed from the Web Client. You can access the prerequisites download page from the Axiom Financial Planning About box.

NOTE: The default home page also contains links to launch the Windows Client or the Excel Client.

Launching add-ins

Using the Quick Launch menu, you can launch Axiom Financial Planning add-ins. Click on one of the following icons:

Item	Description
MS Word Add-In	Launches the Axiom Financial Planning Add-In for Microsoft Word.
MS PowerPoint Add-In	Launches the Axiom Financial Planning Add-In for Microsoft PowerPoint.

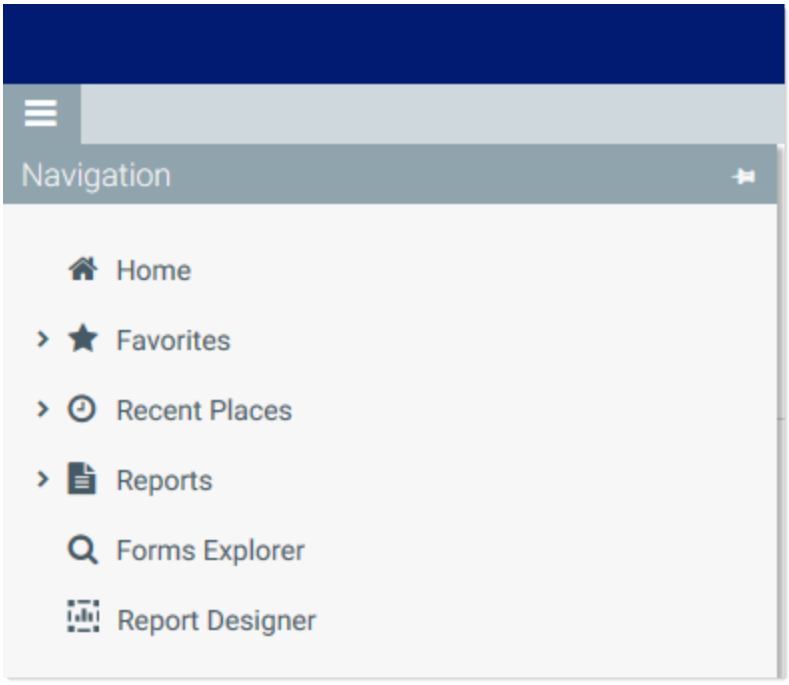
NOTE: One or both add-ins may not display in the menu, depending on your organization's preferences.

The Word and PowerPoint Add-ins are optional applications to support document integration between Axiom Financial Planning and Word or PowerPoint.

Navigation panel

Using the Navigation panel, you can navigate to your documents and to various areas of the Web Client.

To open the Navigation panel, click the menu icon in the left side of the Task Bar. To navigate to an area or document listed in the panel, click on the item.



Example Navigation panel

The Navigation panel updates dynamically to show the available navigation links for the currently active area of the Web Client. The following areas are available:

Area	Description
Default	Axiom Financial Planning provides a set of standard navigation links that show by default when you are in the Web Client. The previous screenshot shows the standard navigation links. These links provide access to your favorites, recent places, web-enabled reports and forms, and the Report Designer. The standard navigation links can be customized, so each client's system may look different. Navigation links can only be customized by administrators using the Desktop Client.
System Administration	The system administration links show when you are in the System Administration area, and provide access to features such as the Table Manager, Audit Manager, and software updates.

Area	Description
Product-Specific	Systems with installed products may have product-specific web navigation links. When you select a product name from the Area menu  in the Global Navigation Bar., the product-specific links display in the Navigation panel. For more information, see the product-specific documentation.

Additionally, when you open a report or other browser-based document, that document may be associated with a set of document-specific navigation links. These links are added to the Navigation panel while you are in that document.

Viewing system information

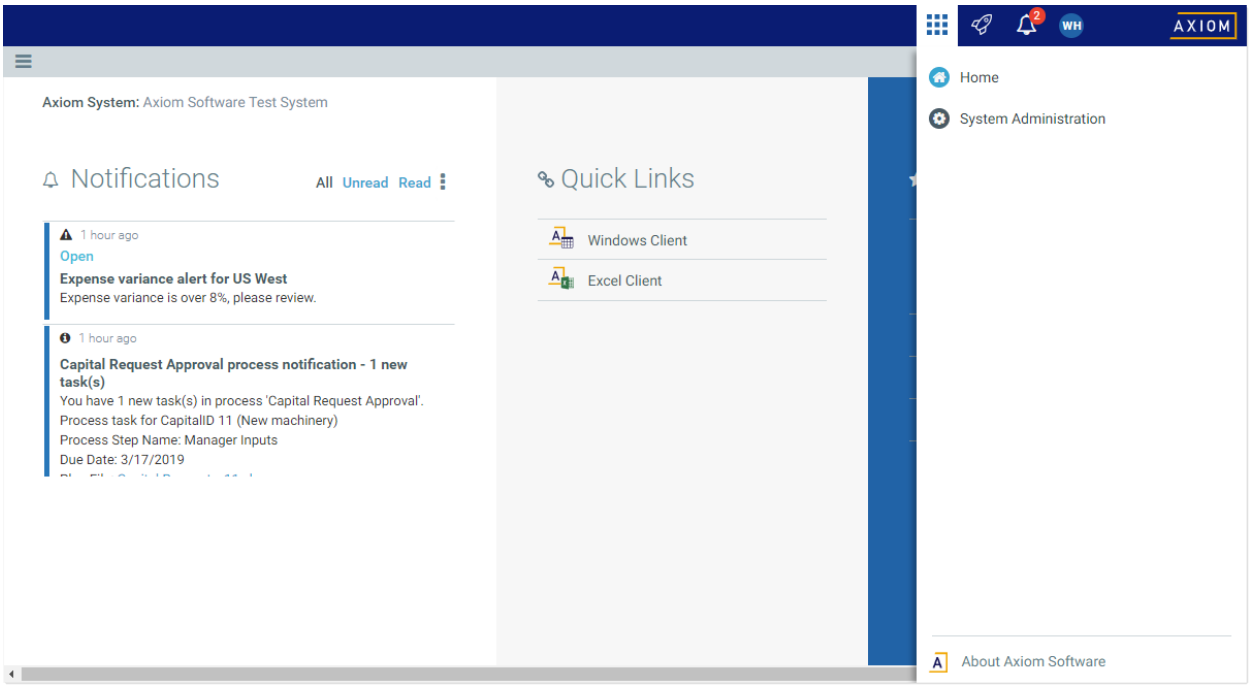
Use the Axiom Software About box to see information about your current system, such as:

- Axiom Financial Planning version number
- Product version numbers
- System name
- Application server URL

The About box also contains a link to download software prerequisites, if necessary for installation of the Desktop Client.

To open the About box:

1. Click the menu icon  in the Global Navigation Bar.
2. At the bottom of the Area menu, click **About Axiom Software**.



About Axiom Software at bottom of Area menu

Getting to know the interface

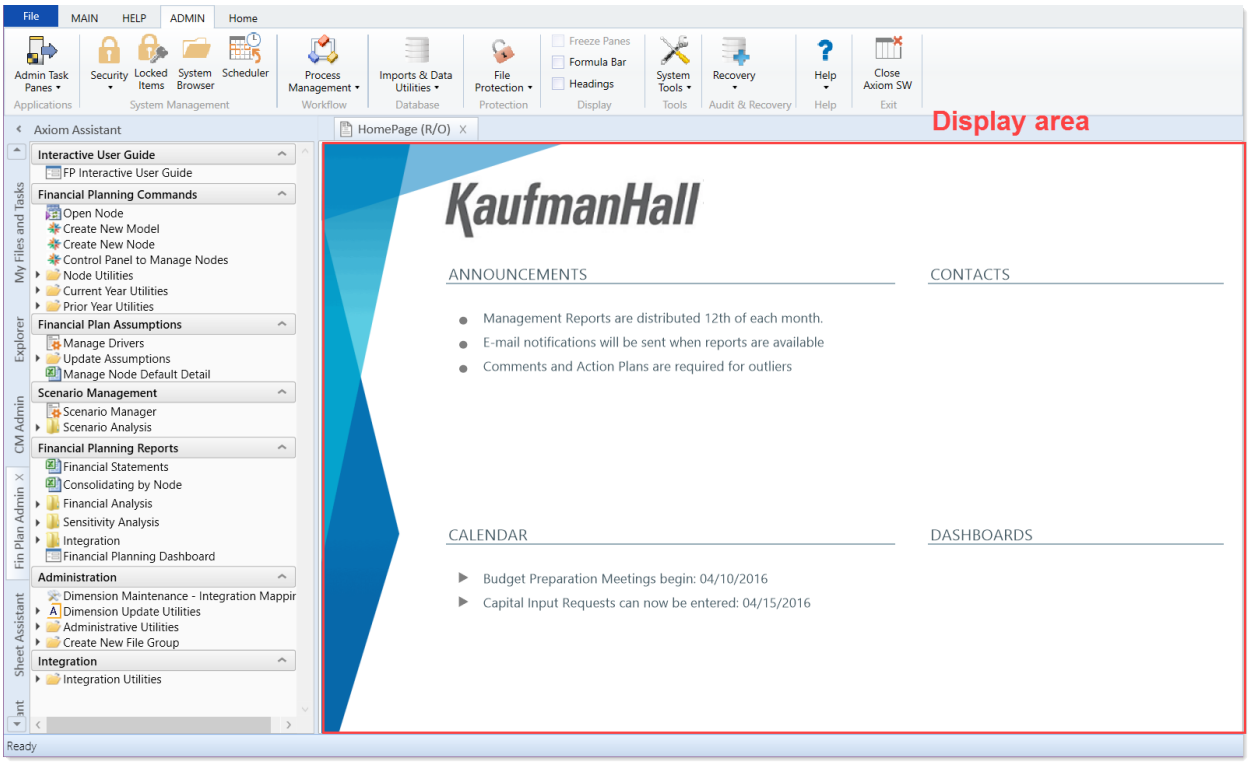
All Axiom Software products share a common interface and make use of many of the same features.

NOTE: The interface elements referenced in this section can vary depending on if or how your organization customizes them. This means that topics in this manual may reference features that do not display in your task panes, which means they may not be available for you to use. Contact your Axiom administrator for more information.

The interface includes several sections, including:

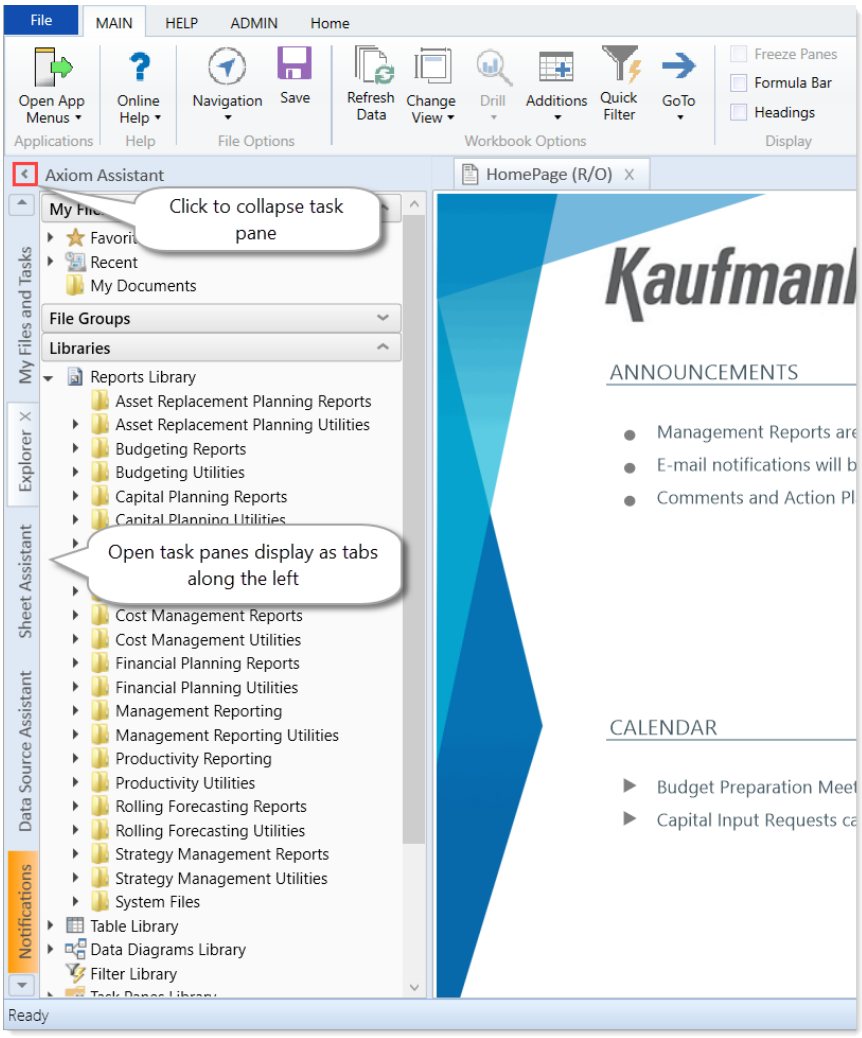
Display area

The main display area of displays the open files. By default, it shows the Kaufman Hall Home dashboard, which displays announcements, assigned tasks, links to dashboards, and contact information for administrators. Your Axiom Software product administrator configures the information that displays on this screen.

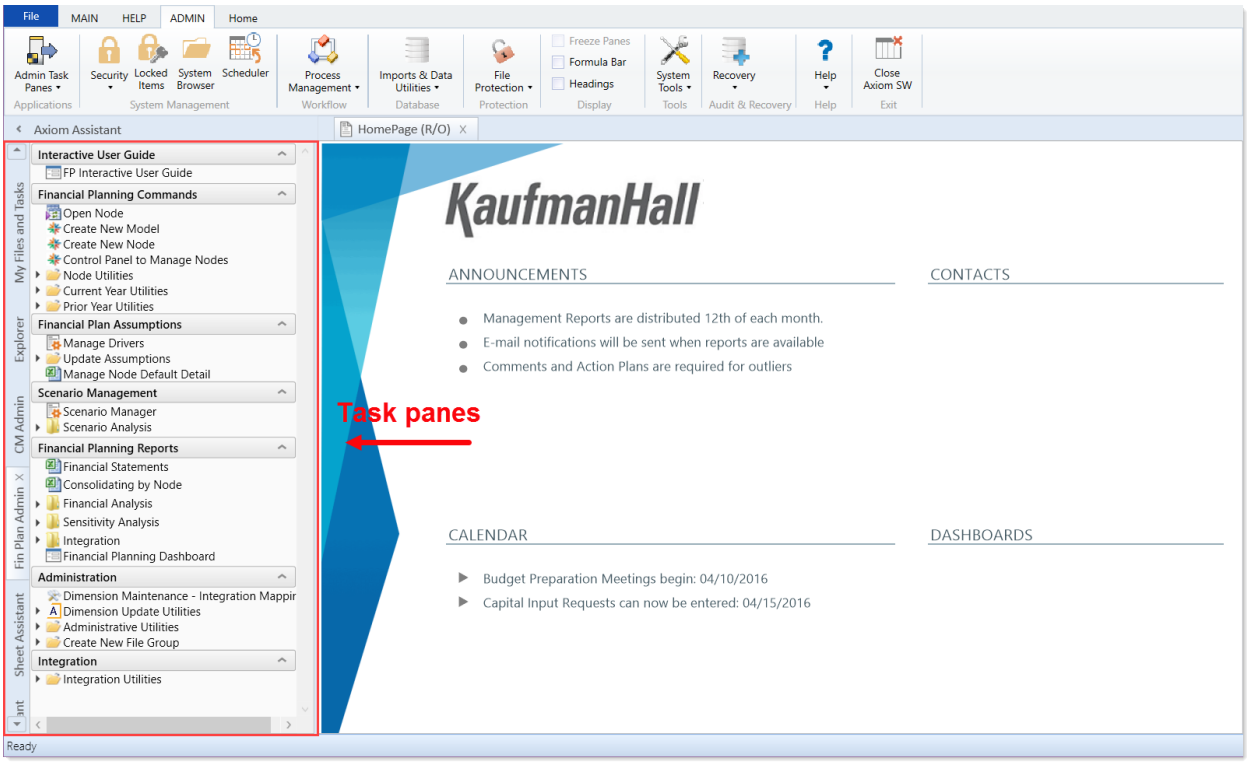


Task panes

A task pane provides access to commands, utilities, reports, plan files, and so on for Axiom Financial Planning, and displays on the left side of the main display area. To switch between task panes, click the tabs on the left side of the interface. To expand or collapse the task panes, click the arrow in the left-hand corner above the tabs.



Each Axiom Software product includes a set of specialized task panes. Different task panes display depending on your security role profile. The administrator role profile has access to all of the features of Axiom Financial Planning, including drivers, dimension tables, and other system administrator features while the end user task pane includes a subset of the options available in the Admin task pane.



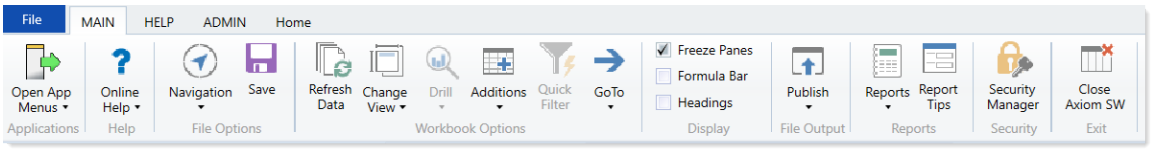
Ribbon tabs

Ribbon tabs provide access to commonly used features and shortcuts to frequently accessed files. They display above the task pane and main display areas. The role assigned to you determines the ribbon tabs that display. For example, the Admin ribbon tab only displays to those users assigned the Administrator role profile.

Main

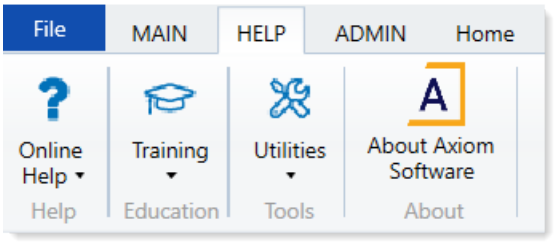
Includes commands for accomplishing most tasks in Axiom:

- Opening, closing, and saving files
- Accessing online help for products and advanced help
- Viewing data in spreadsheets
- Printing or emailing files
- Accessing shortcuts to frequently accessed reports



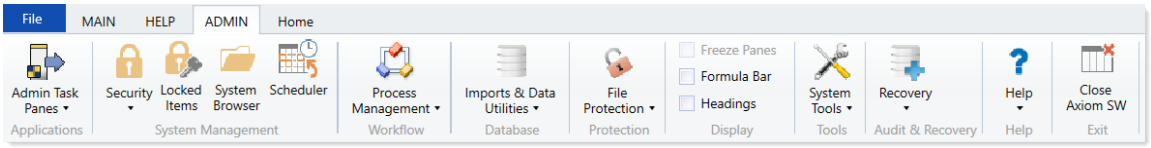
Help

Includes access to online help for each product, training materials, utilities, and software release information.



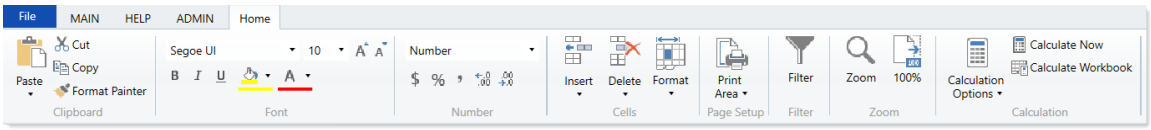
Admin

Includes commands for managing and configuring security, Scheduler jobs, processes, and data as well as other system-related tools used by administrators. This ribbon tab only displays to users with administrator privileges.



Home

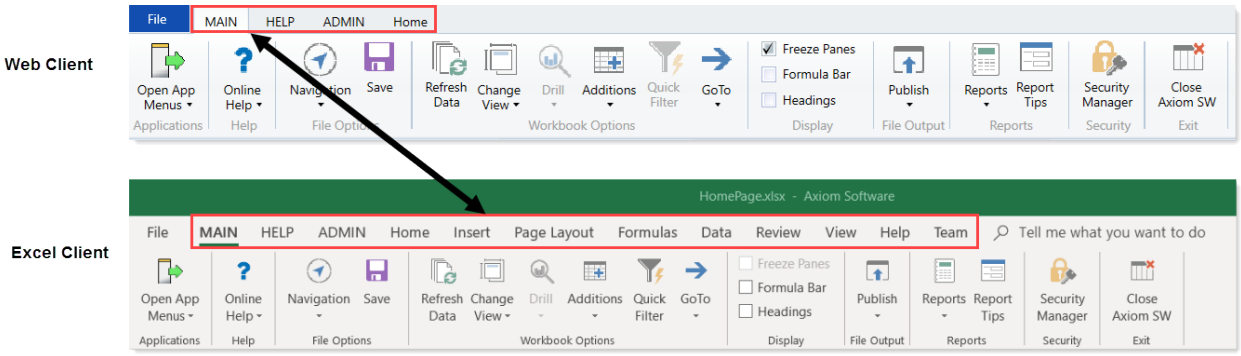
Includes standard spreadsheet commands.



Some options on the ribbon tabs display grayed out unless certain types of files such as reports or plan files are currently open or if you do not have the necessary security permissions to use the feature.

The Excel Client displays all of the same ribbon tabs included in a normal Excel file. The Windows Client only includes a subset of the same ribbon tabs located in the Home ribbon tab.

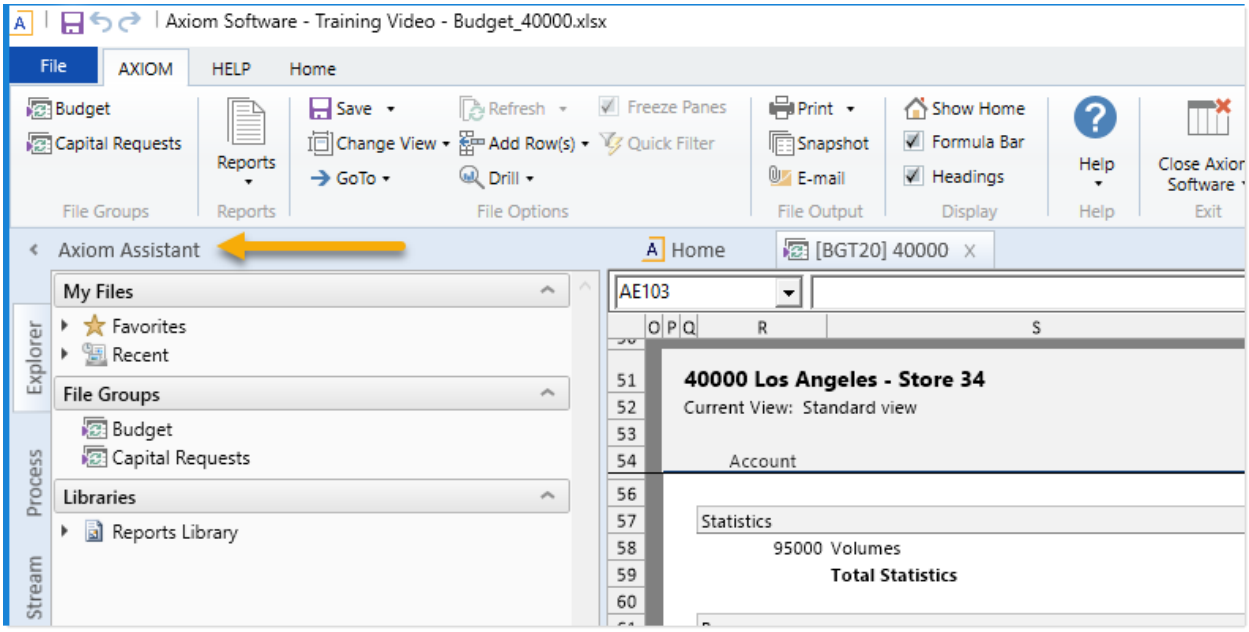
TIP: When creating reports, we recommend that you use the Excel Client.



Using Axiom Assistant task panes

The Axiom Assistant area provides quick and easy access to Axiom Financial Planning files and features as you work in the Desktop Client. A variety of task panes are available to help you perform general and context-sensitive tasks. Additionally, system administrators can create customized task panes for use in this area.

The Axiom Assistant area is located in the left-hand side of the application, below the ribbon and to the left of any opened files. By default, the area is expanded, and you can work with any of its available task panes by clicking the side-tabs along the left-hand edge of the pane.



Example Axiom Assistant area

Available task panes

The task panes available to you in the Axiom Assistant area depend on your system configuration and your security permissions. The following task panes may be available:

Task pane	Description	Availability
Data Source Assistant	Helper tool to build data sources, such as RefreshVariables, DataLookup, and Grid.	This task pane is system-controlled and displays if you have the appropriate security permissions, and the file is an Axiom file.
Explorer	Open files and other items that you have access to, including favorites.	This task pane is included by default, but may be disabled in your system or restricted to only certain users.
File Processing	Configure and perform file processing for an Axiom file, such as to perform multipass processing, file collect, or batch processing.	This task pane is system-controlled and displays if you have the appropriate security permissions and the file is enabled for File Processing.
Form Assistant	Configure form settings for an Axiom file, and preview the form.	This task pane is system-controlled and displays if you have the appropriate security permissions and the file is enabled for Axiom forms.
Messages	View comments about the current document, and add comments.	This task pane is system-controlled and displays for all eligible documents.
Notifications	View alert and system notifications and open associated files.	This task pane is system-controlled and displays if you have any active notifications.
Process	View process information and complete process tasks. By default this task pane only displays if it is relevant to you (for example if you are the assigned owner of a process task).	This task pane is included by default, but may be disabled in your system.
Sheet Assistant	Configure workbook and worksheet settings for an Axiom file, including Axiom queries.	This task pane is system-controlled and displays if you have the appropriate security permissions and the file is an Axiom file.
Table	View table details, set a filter, and refresh the currently opened table.	This task pane is system-controlled and displays when using Open Table in Spreadsheet.

Task pane	Description	Availability
<Custom Task Panes>	Your organization may have defined one or more custom task panes for your system.	Custom task panes may open automatically when Axiom Financial Planning is launched, or you may have access to the Task Panes Library to open certain task panes as needed.

The order of task panes in the Axiom Assistant area cannot be manually changed. Your system administrator has specified an order for the task panes that open when the system is started. System-controlled task panes display after these startup task panes.

Minimize Axiom Assistant

By default, the Axiom Assistant area is maximized when you first start Axiom Financial Planning. If desired, you can minimize this area—for example, to gain more screen space while working on a file. When minimized, the area displays as a thin strip along the left-hand side of the application, with one or more side-tabs for each task pane.

You can expand the Axiom Assistant area to perform a task, and then minimize it again when you are finished.

- To minimize the Axiom Assistant pane, click the button in the header.
- To expand the Axiom Assistant pane, click the button in the collapsed header, or click on one of the task pane tabs.

Axiom Financial Planning remembers the state of the Axiom Assistant (minimized or expanded) when you exit the application, and will apply that state the next time you open Axiom Financial Planning on the same machine.

It is not possible to completely hide the Axiom Assistant area when task panes are open, however, if no task panes are open then the Axiom Assistant area is automatically hidden (and will automatically show again when a task pane is opened).

Opening task panes

In most cases, the task panes that you need to use will open automatically—you do not need to manually open them.

- Certain task panes are configured to open automatically when Axiom Financial Planning is started, such as the Explorer task pane. These task panes are considered to be "global" task panes that you may want to use at any time while you work in the system.
- Other context-sensitive task panes only open when using certain features. For example, the File Processing task pane only displays when you open a file that is enabled for File Processing. There is no need to manually open the task pane because it will always be available when it is relevant (and assuming that you have security permissions to view it).

If you have access to the Task Panes Library to open certain custom task panes as needed, then you can open a task pane by double-clicking it in the Explorer task pane or the Axiom Explorer dialog. Alternatively, one of your "startup" task panes might be used to open other task panes.

For example, you might have access to a Monthly Reporting task pane that details the steps you need to do to run your monthly reports, and links to those reports. You wouldn't necessarily need this task pane to be open at all times; instead, you would only want to see it when you are ready to process your monthly reports. You could open the task pane as needed from the Task Panes Library or from another custom task pane that links to it.

Closing task panes

Most task panes cannot be manually closed. Either they are global task panes that always apply, or they are context-sensitive task panes that close automatically when the associated file or feature is closed. Alternatively, you can minimize the Axiom Assistant area to "hide" all task panes and gain more screen space for your open files.

If a task pane is closeable, then you can close it by clicking the **X** icon on the side-tab for the task pane. If this icon is not present, then the task pane cannot be closed. Typically, only task panes that you open manually can be closed manually, but in some cases you may also be able to close task panes that open on startup.

Using task panes in the Axiom Excel Client

When using the Axiom Excel Client, each file opens within its own window, and each window maintains its own set of ribbon tabs and task panes. This means that as you switch windows, the set of task panes available in each window may be different. For example:

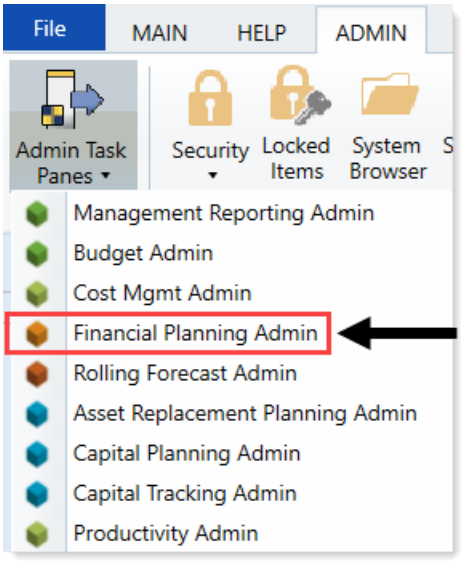
- If you manually opened a task pane in one window, that task pane will only be present in that window. It will not be present in other windows.
- The currently active task pane is managed independently for each window, so the active task pane may change as you change windows. (This can also occur when using the Axiom Windows Client, if you switch between files that have different default task pane associations. However, in the Axiom Excel Client it may also happen when switching between files with the same default task pane associations.)
- The current state of task panes is managed independently for each window. For example, if you expand the Reports Library in the Explorer task pane in one window, that expansion will not be present if you switch to a different window.

Opening the Axiom Financial Planning task panes

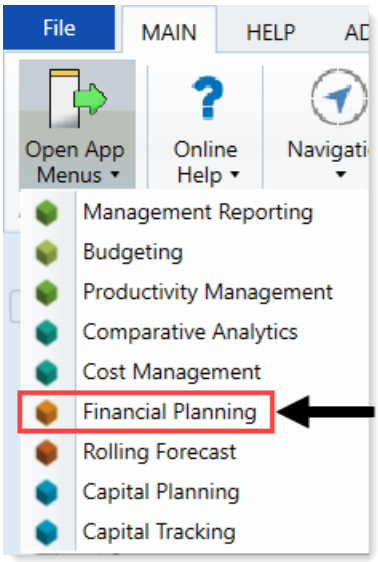
To open the Axiom Financial Planing task panes:

- For administrators, in the **Admin** ribbon tab, click **Admin Task Panes**, and select **Financial**

Planning Admin.



- For end users, in the **Main** ribbon tab, click **Open App Menus**, and select **Financial Planning**.



Opening the Explorer task pane

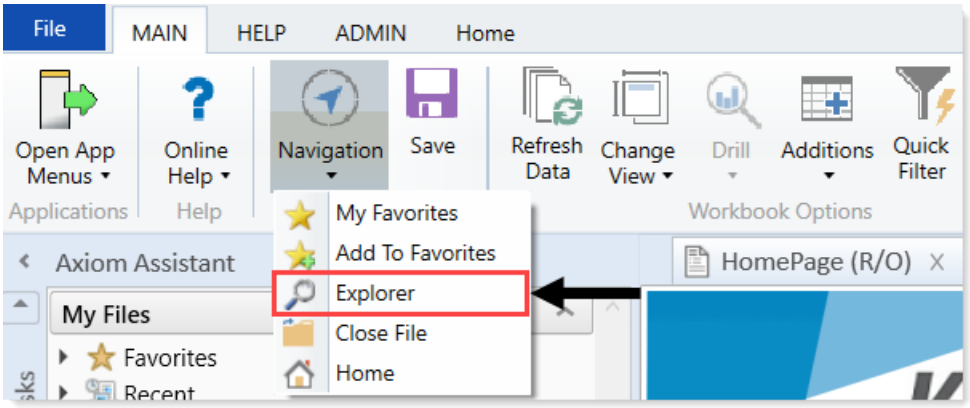
Axiom Financial Planning provides a built-in Explorer task pane so that you can quickly access your favorites, recent items, and all the files that you have rights to access.

> **TIP:** You can also access Favorites, Recent, and My Documents from the My Files and Tasks task pane.

By default, all users are given access to this task pane. If desired, administrators can disable use of this task pane entirely, or restrict access to certain sets of users.

To access the Explorer task pane:

- In the **Main** ribbon tab, click **Navigation**, and select **Explorer**.



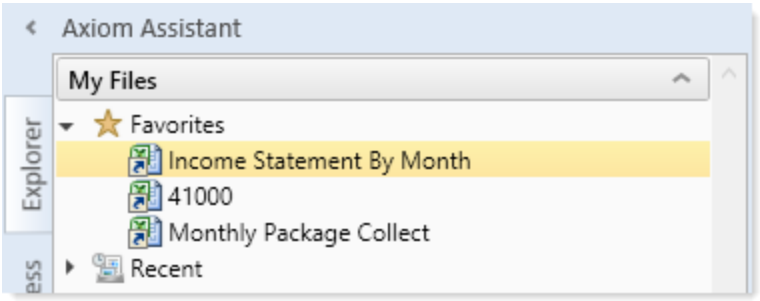
Viewing process notifications

Axiom Financial Planning provides a built-in view in the My Files and Tasks task pane that allows the assigned owners of process steps to easily complete their assigned tasks and monitor active processes. This is applicable if you are using the Process Management feature to define and manage processes.

Managing favorites

You can save Axiom files and other items as favorites, for quick access to commonly used items. In the Desktop Client, your favorites list is available in the following locations:

- The Explorer task pane in the Axiom Assistant area
- The Axiom Explorer dialog (if you have permission to access this dialog)



When an item is saved to favorites, you can open the item by double-clicking it, or you can right-click it to access any other commands that would be available on the item in its native area. For example, if you have rights to the Table Library and you save a table as a favorite, you can right-click the table favorite and perform actions such as editing the table structure.

If an item that a favorite points to is deleted, then the favorite becomes invalid and a red arrow icon displays next to it. If you attempt to open an invalid favorite, a message box informs you that the item has been deleted, and asks whether you want to delete the favorite. If a file is moved or renamed within the Axiom Software file system, but it retains the same document ID, then the shortcut will not be broken.

Saving and deleting favorites

You can save an item as a favorite in one of the following ways:

- In the **Explorer** task pane and the **Axiom Explorer** dialog, you can right-click an item and select **Add to Favorites**.
- When a file is open, you can right-click the file tab and select **Add to Favorites**.

The item is saved as a favorite and now displays in your Favorites list. If the file was open when you saved it as a favorite, it displays using the file tab name. If needed, you can change the display name by editing the shortcut properties for the favorite.

TIP: If you open a table using **Open Table in Spreadsheet**, and then save the open table as a favorite (using the file tabs), the settings you used will be automatically saved as part of the favorite, in the shortcut properties. You may want to rename the favorite to indicate the particular settings (for example: GL2020 - Filtered for North Region).

NOTE: If a web-enabled file is saved as a favorite in the Desktop Client, that favorite will also display in the Web Client. This includes Axiom forms and web reports. All other types of favorites do not display in the Web Client.

To delete a favorite, right-click the item and then select **Delete**.

Organizing favorites

You can create sub-folders in the Favorites area to organize favorites by folder. To create a new folder, right-click **Favorites** and select **New Folder**.

By default, favorites are displayed in the order that they were added (new favorites are added to the bottom of the list). You can drag and drop individual favorites to change the order. Sub-folders cannot be reordered—they will always display in alphabetical order.

To rename a favorite, right-click the item and then select **Rename**. The name becomes editable, and you can type a new name.

Shortcut properties

You can edit the shortcut properties for a favorite. Right-click the favorite and select **Shortcut Properties**. In this dialog, you can edit the shortcut name, change the shortcut target, and define certain shortcut properties.

The available shortcut properties vary by file type. For example, you can configure a report favorite to always open as read-only, or to automatically apply a Quick Filter when opening.

Using web favorites in the Desktop Client

If you save a favorite in the Web Client, that favorite also displays in the Desktop Client favorites list. You can double-click the web favorite to open it in the Web Client browser.

When a favorite is saved in the Web Client, it is stored as a URL instead of a document shortcut. If the target of the favorite is later deleted, the favorite does not show as invalid in the Desktop Client. If you try to use the favorite, you are informed that the document or page cannot be found. In this case you must manually delete the favorite.

Opening recent files

Axiom Financial Planning maintains a list of your recently opened files in the Desktop Client. You can use this list for quick access to recent files.

The recent file list is located in the **My Files** section of the Explorer task pane and Axiom Explorer. You can double-click files to open them, or right-click to access the context menu for the file type. Recent files are listed using the file tab name that they were opened with, which may or may not be the same as the file name.

The list displays the last 15 files that you recently opened. Note the following:

- If you want to clear the list, right-click **Recent** and select **Clear History**.
- If you want to continue to have quick access to a recent file, you can add it to your favorites. Right-click the file and select **Add to favorites**.
- If the icon next to a file name is a red arrow, this means that the file has been moved or deleted since you accessed it, so it can no longer be opened from the recent file list.

NOTE: In the Axiom Windows Client only, recent files can also be accessed from the **File** menu. In the Axiom Excel Client, although your recent files are tracked in **File > Recent**, those links point to the temporary versions of the file stored on your local drive, not the source versions of the files stored in the Axiom Financial Planning database. Therefore, Excel's recent file list cannot be used to open Axiom files.

Viewing alert notifications

When a new alert is added to the database as a result of an alert processing, a notification is delivered to all designated alert recipients using email and/or the Notifications task pane.

Email notification

If the alert notification is delivered using email, the subject of the email is "Axiom Financial Planning alert: <*Alert Title*>". The alert message displays within the body text. The email also contains a hyperlink to the supporting file if one is specified in the alert definition.

Notification task pane

Alert notifications display in the Notifications task pane in the order they are received, with the most recent alerts at the top.

By default, notifications are collapsed so that only the severity icon and the alert title display. You can expand the notification to read the alert message and to navigate to the supporting document for the alert, if defined.

If you receive a new alert notification during the current session or if unread alerts are present when you log in, the Notifications tab flashes orange and remains orange until the tab is clicked. New notifications display in bold text until they are read.

Using the right-click menu, you can mark notifications as read or unread and can delete notifications from the task pane. If you have rights to access the source file for an alert, you can also navigate to the alert definition in that file.

Notifications do not have an expiration date. A notification continues to display in your Notifications task pane until you delete it or until the notification record is purged from the database using the System Data Purge task in Scheduler.

NOTE: If you delete a notification, this simply removes the notification from the task pane. It does not delete the notification record from the database.

The Notifications task pane is system-controlled. You cannot manually open and close it, and it is not available for customization. The task pane behaves as follows:

- The task pane displays on startup if you have an active notification (read or unread). If the task pane contains unread notifications, the task pane is active, and the tab flashes. The task pane continues to display for the duration of the current session, even if you delete all active notifications from the task pane.
- The task pane does not display on startup if you have no active notifications. If you receive a new notification mid-session, the task pane automatically opens, becomes active, and the tab flashes.

Commenting on documents using the Message Stream task pane

When viewing a spreadsheet Axiom file within the Desktop Client, you can view comments that other users have made about the document and also make comments about the document. New comments are stored in the message stream for that document, so that all other users who access the document can see the comment. Additionally, you can "tag" other users in the comment, so that the tagged users are notified about the comment.

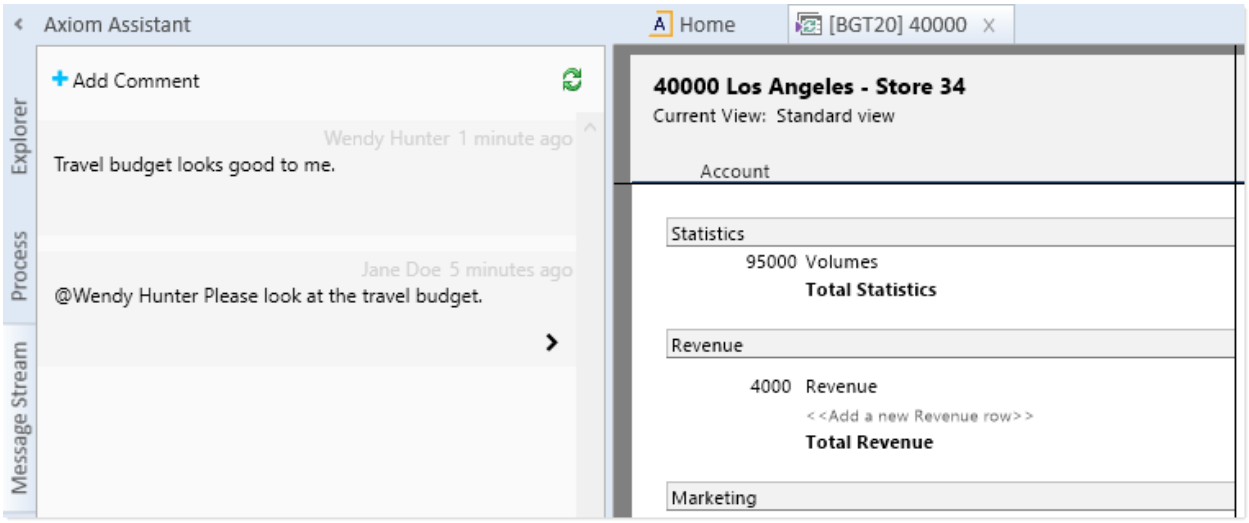
You can view comments and add comments using the Message Stream task pane. This is a system-controlled task pane that automatically opens for eligible documents.

NOTES:

- The message stream is only available for documents where it has been enabled.
- The message stream is also available for Axiom forms that are open within the Desktop Client, using the **Message Stream** panel. This panel is accessible from the task bar displayed across the top of the form.

Viewing the message stream

To view the message stream for the current document, click the **Message Stream** tab to display the task pane in the Axiom Assistant sidebar. This task pane shows all comments that have been made about the document.



Example message stream

Comments are displayed in the order they were made, with the most recent comment shown at the top of the panel. Each comment shows when the comment was made and the user who made it.

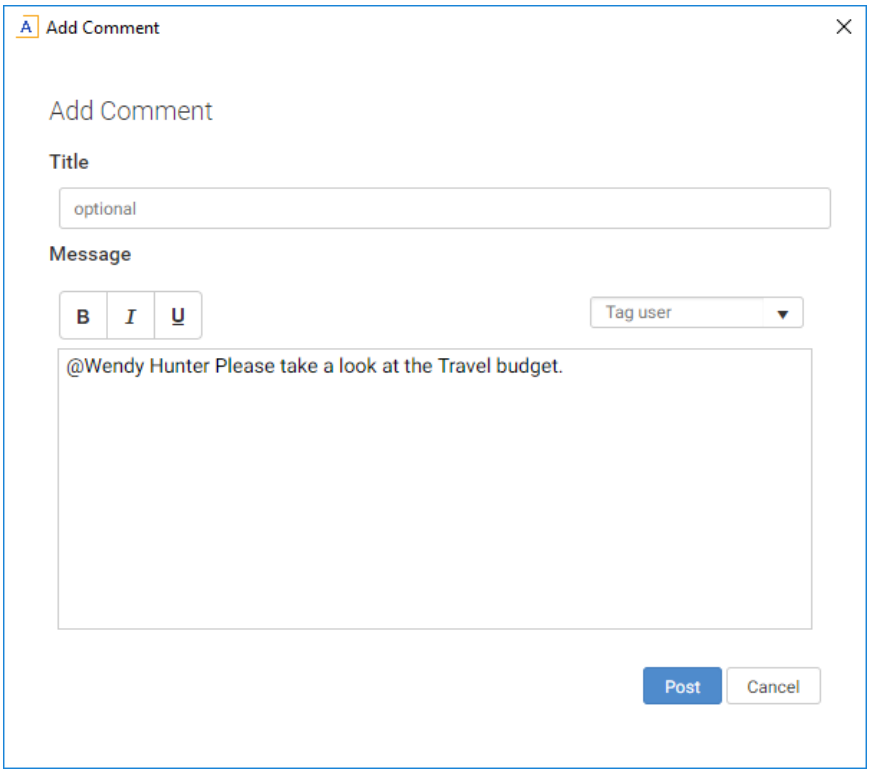
To view the full text and details of a comment, hover your cursor over the comment so that the > symbol displays on the right-hand side of the comment. Click the symbol to open a separate **Comment Details** dialog with the full comment text.

Once the message stream has been loaded for the current document, it is only updated automatically after you add a new comment. If necessary, you can manually refresh the task pane to see if any other users have made comments during the current file session.

Comments are stored for the life of the document, and cannot be deleted.

Adding a comment

To add a comment, click **Add Comment** at the top of the Message Stream task pane. In the **Add Comment** dialog, you can define an optional title for the comment, and then define the comment text. Basic text formatting of bold, italic, and underline can be used.



If desired, you can "tag" one or more users in the comment, so that those users are notified about the comment. Any user tagged in the comment will receive an email that contains the content of the comment and a link to the document. To tag a user, use the **Tag user** box to find a user and insert the tag. You can type into the box to find a specific user, or select a user from the drop-down list. When you click on a user name in the list, a tag will be inserted at the current cursor point in the comment text. The tag displays as `@FirstName LastName`.

When you click **Post**, the comment is saved to the message stream, and any tagged users will be notified.

NOTES:

- All users with access to the document can see comments posted to the message stream. Any comments made should be appropriate for the entire document audience. Do not post any sensitive information to the message stream.
- Adding a comment automatically subscribes you to the document's message stream, and tagging a user automatically subscribes that user to the document's message stream.

Ongoing notifications (subscriptions)

If you have made a comment in a document's message stream, or if you have been tagged in a comment, you are now subscribed to that document's message stream. Whenever a new comment is made to that document's message stream, you will receive a notification in the Notifications task pane.

The notification details the user who made the comment and when it was made, the text of the comment, and a link to open the file.

Currently it is not possible to unsubscribe from a document's message stream once you have been subscribed.

Changing your Axiom Financial Planning password

If your authentication method is Axiom Prompt, you can change your password as needed using the Desktop Client. This feature does not apply to users who are using any other authentication method (such as Windows User Authentication), because those passwords are controlled externally from Axiom Financial Planning.

To change your password:

1. On the **Axiom** tab, in the **Help** group, click **Help > Change Password**.

   NOTE: In systems with installed products, this feature may be located on the **Main** or **Admin** tab.

   This command is only available to Axiom Prompt users.

2. In the **Set Password** dialog, enter your current password, then enter and confirm your new password.

   If password rules are being enforced, your password must meet the rules. A validation message will inform you of the rules if necessary. Alternatively you can click **Generate Password** to auto-generate a password that meets the rules. If you do this, make sure to note the generated password because you will not have another opportunity to see it. If you do not note the password and cannot log in later, an administrator will need to reset your password.

3. Click **OK**.

Your password is now changed. You will need to use this new password the next time that you log in.

Closing Axiom Financial Planning

When you close Axiom Financial Planning, you will be prompted to save any changed but unsaved files.

To close the Desktop Client:

- Click the **Close Axiom Software** button in the **Exit** group of the **Axiom** tab.

  NOTE: In systems with installed products, this button may be located on the **Main** or **Admin** tab.

You can also close the application by clicking the **X** button in the top right-hand corner of the application window.

If you are using the Axiom Excel Client, there is no option to close Axiom Financial Planning but leave the current Microsoft Excel session open. Keep in mind that it is not necessary to close Axiom Financial Planning in order to work on a regular Excel file. You can open regular Excel files within Axiom Financial Planning, or you can open a second Excel session.

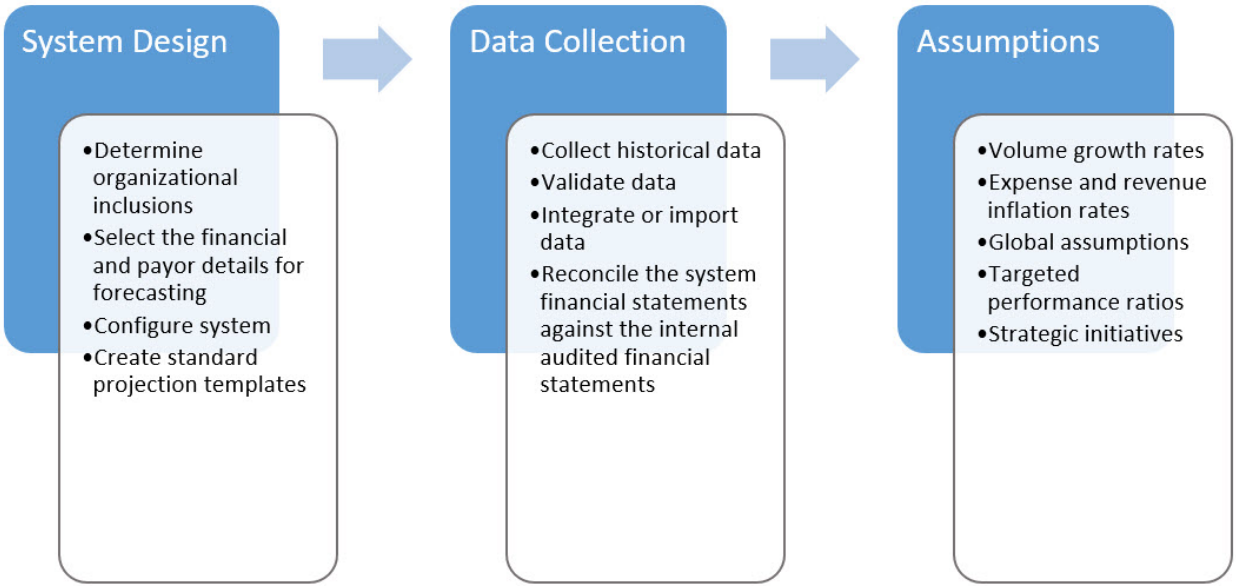
3

Concepts of System Design - Setup and Configuration

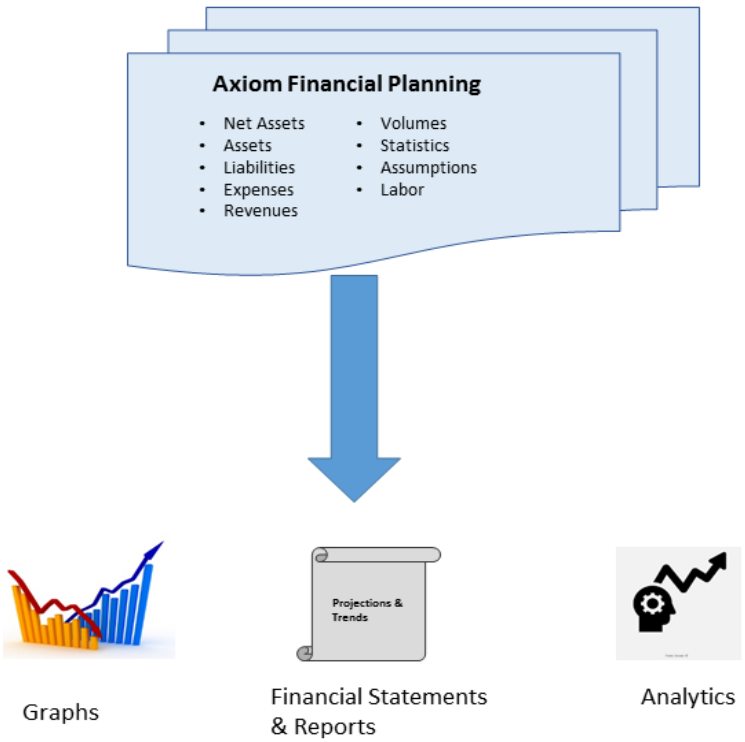
The implementation process of Axiom Financial Planning is an eight to ten week time line. The goal of this process is to design an efficient and dynamic system that will allow flexibility in applying strategic changes to the long-range plan in a timely manner. Common questions asked of the long-range plan are:

1. What will our financials look like in the next five to ten years?
2. When would be a best time for the organization to launch these strategic decisions?
3. How do we compare to the rating medians?
4. What are the organization's strategic capital requirements? Are we in a position to take on a new capital project and when?
5. How much cash should the organization have?
6. How much debt can the organization afford?
7. What is the magnitude of the organization's capital shortfall?
8. What short- and long-term profitability targets are necessary to resolve the shortfall?
9. What is the level of operating change required to meet the targets?
10. What value does the strategy add?
11. What are the risk elements?

The following diagram provides an overview of the tasks included in the Axiom Financial Planning implementation process:



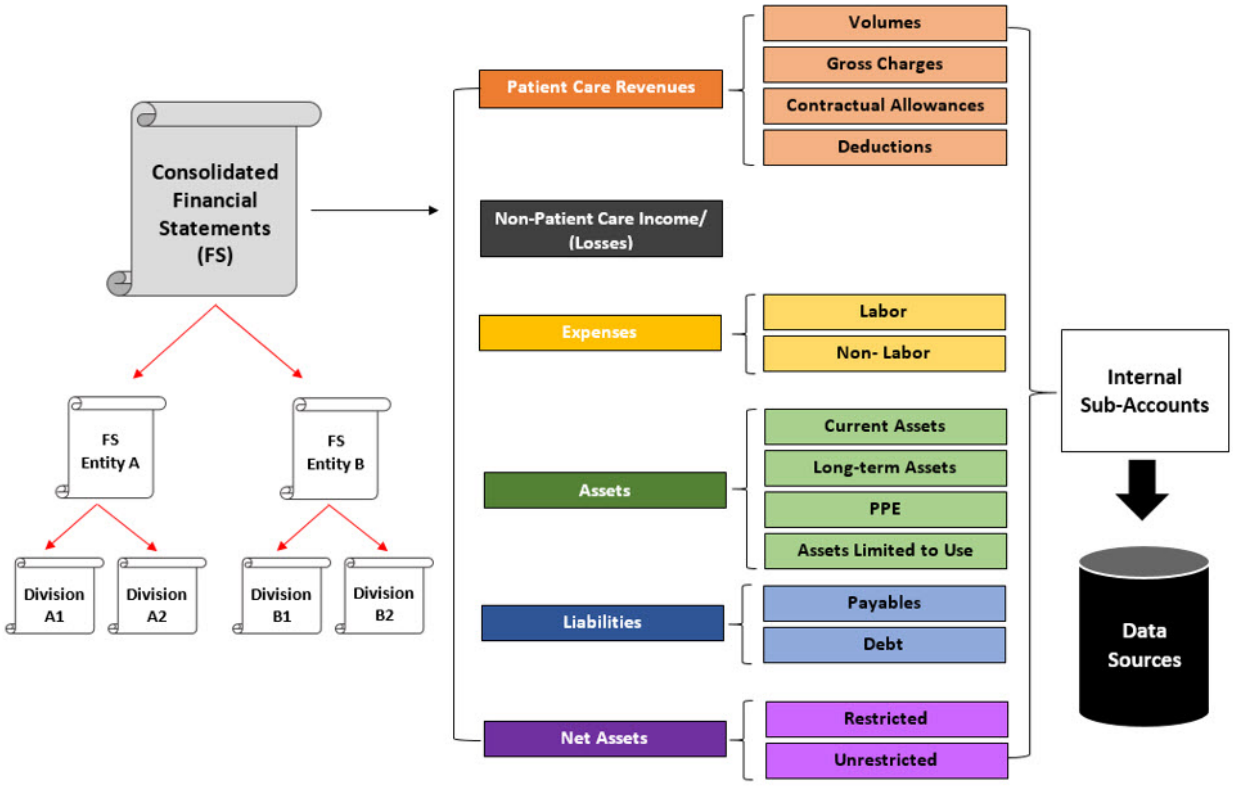
The following diagram displays the relationship between the Axiom Financial Planning inputs and the outputs of the system.



System design is the foundation in building standards and efficiencies in Axiom Financial Planning. This step makes updating and manipulating your organization's financial plan more manageable, regardless of complexity and size.

The terms *setup* and *configure* are commonly used during this phase. Setup is the thought process by which an organization reviews its internal financial statements, chooses which entities are included, and determines the level of detail that drives the financial forecast. Deconstructing the financial statement is another approach to this process and an opportunity to begin identifying data sources for this level of detail, which may change how the financial plan is designed.

Configuration is the act of building the setup into the software through Dimensions Maintenance, Financial Planning Commands, and Financial Assumptions functions. Kaufman Hall provides an offline setup and configuration template tool to facilitate this process. Your Kaufman Hall Implementation Consultant will provide direction on how to configure the system.



The setup and configuration process includes the following tasks:

A. Setup – Input category definitions

B. Setup – Defining financial nodes and models

C. Configuration – Dimensions maintenance

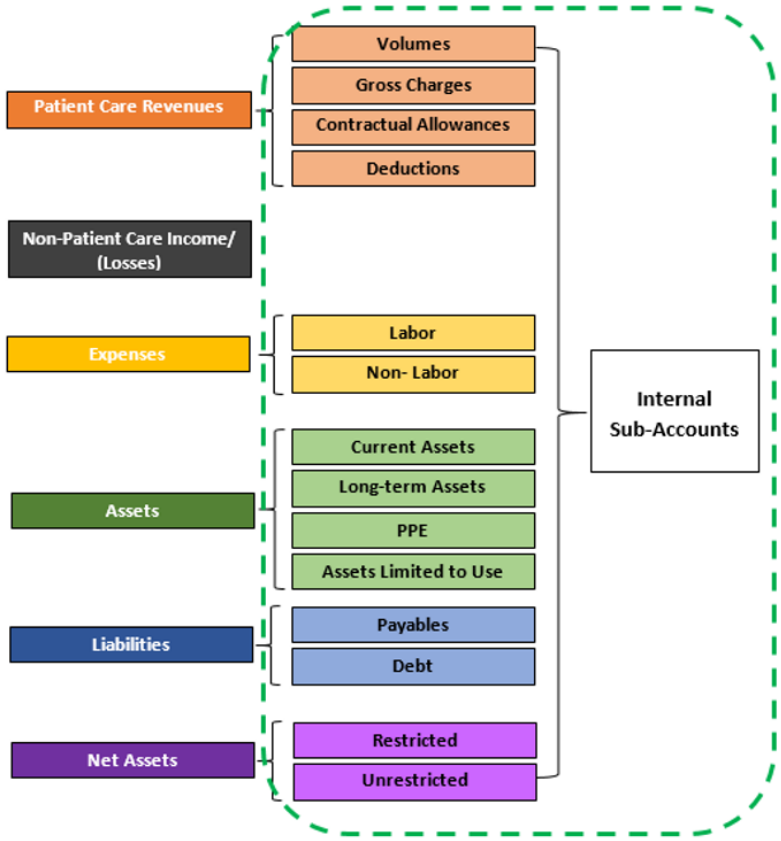
D. Configuration – Creating models and nodes

E. Data – Collecting and populating historical data

A. Setup – Input category definitions

Before data can be collected, you must identify income statement and balance sheet drivers for revenues, expenses, assets, liabilities, and net asset forecasting. The line items on the financial statements and internal chart of accounts are traditionally the foundation for the level of detail the organization opts to use as projection inputs. The green dotted outline in the following diagram represents how deconstructing the financial statement can assist in this process. These input categories are configured in the CODE dimension table.

NOTE: Axiom Financial Planning projects patient care revenues by payor categories. Volumes, gross charges, and contractual allowances are influenced by these categories. Payor categories can be defined as detailed as an insurance contract, financial class, or as general as a payor grouping (Government, Commercial, Self-Pay, Other). These payor categories are configured in the PAYOR dimension table.



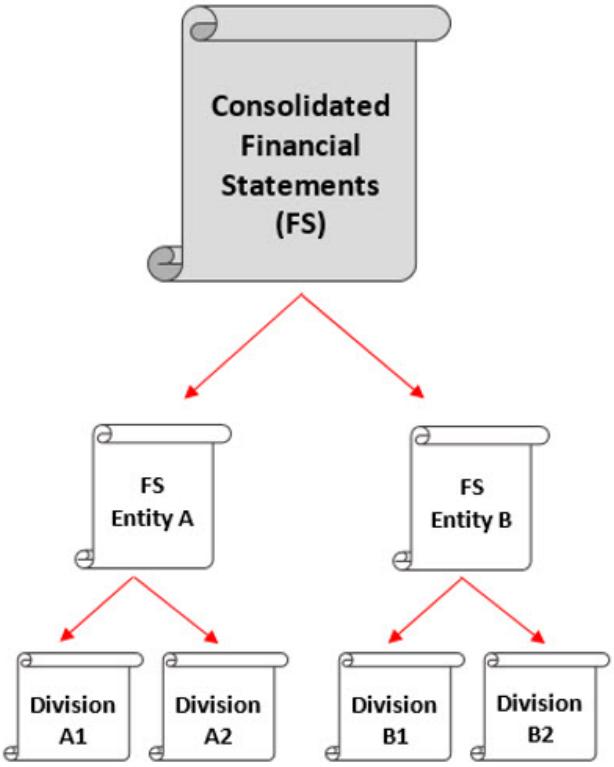
B. Setup – Defining financial nodes and models

Typically, nodes and models are defined at the organizational level at which balance sheets are maintained (For example, a hospital, physician group, health plan, and so on). Nodes can represent an entity, division, user-defined business group, strategic initiative, health plan, new debt, or a balance sheet within your organization.

From a technical standpoint, a node is the forecast for the defined business segment. A node template is created for each node and stores data inputs that drive the node projections. You can standardize node-type templates using the Managed Node Default Detail utility. For more information, see D. Configuration – Creating models and nodes. Select financial statements are generated within the node. To better understand each type and the financial statement inclusions, see the section on Managing Models and Nodes.

Models correspond to a collection of nodes that share a balance sheet. Each model must have a balance sheet either on a consolidated level using a balance sheet node type or within an Entity node type.

For example, all entities and divisions at Clearview Health System have income, balance sheet, and cash flow statements. The organization has robust database systems that can extract user-defined patient care populations and related hypothetical financial statements.



Based on the organizational and reporting structure, six design options are being evaluated.

One Model Options:

Option 1	
Node Name	**Node Type**
Balance Sheet	Balance Sheet
Entity A	Operations
Entity B	Operations

Option 2	
Node Name	**Node Type**
Entity A	Entity
Entity B	Entity

Option 3	
Node Name	**Node Type**
Balance Sheet	Balance Sheet
Division A1	Operations
Division A2	Operations
Division B1	Operations
Division B2	Operations

Option 4	
Node Name	**Node Type**
Division A1	Entity
Division A2	Entity
Division B1	Entity
Division B2	Entity

Two Model Options:

Option 5: Entity A Model	
Node Name	**Node Type**
Balance Sheet	Balance Sheet
Division A1	Operations
Division A2	Operations

Option 5: Entity B Model	
Node Name	**Node Type**
Balance Sheet	Balance Sheet
Division B1	Operations
Division B2	Operations

Option 6: Entity A Model	
Node Name	**Node Type**
Division A1	Entity
Division A2	Entity

Option 6: Entity B Model	
Node Name	**Node Type**
Division B1	Entity
Division B2	Entity

C. Configuration – Dimensions maintenance

Configuration is the next step after setup decisions are finalized. In the initial configuration, CODE and PAYOR dimensions are frequently used to mirror the Input Category Definitions setup. Over time, all dimensions will be key in maintaining nodes, models, and reports and will be covered in detail during training. For more information, see Configuring dimensions.

D. Configuration – Creating models and nodes

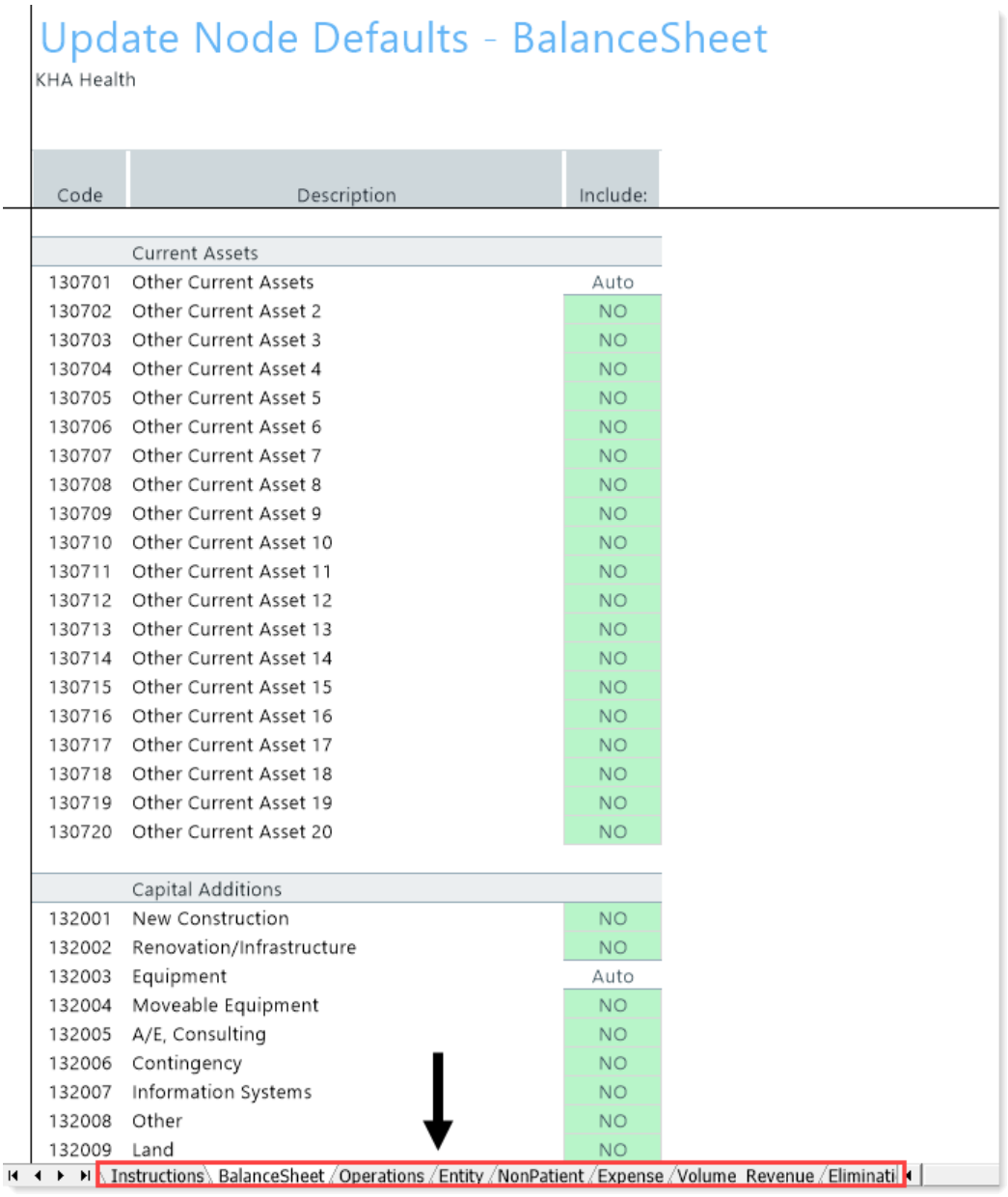
This step includes the following:

- Standardize and customize node templates

You standardize node-type templates using the Manage Node Default Details utility. By using this utility, future nodes created through the Create a New Node utility display the same input rows upon initial launch.

NOTE: You cannot apply the defaults retrospectively to existing nodes.

When you open the utility, the tabs at the bottom of the workbook represent the node types.



Create models

A model must exist for nodes to be created because a node must be linked to a model. For more information, see Creating a model.

Create nodes

After you create models, you can then create nodes to assign to them. You can create nodes two ways:

- Manually, by using the Create New Node utility. For more information, see Creating a node.

- Customized and automatically, by using the Node Rebuild Utility. To use this utility, you must import data using the Transfer to Financial Planning utility, the Rollforward Utility, or the FP Data Collection Template. For more information, see Building nodes from imported history and other data.

E. Data – Collecting and populating historical data

Axiom Financial Planning generates multi-year forecasts and scenarios based in part on historical data stored within nodes. You can enter this historical data using any of the following methods:

- Manual entry directly on the node
- Filling out a specially formatted data collection workbook
- Automated imports from other Axiom applications

Which method you choose is largely a matter of preference and the availability of data. During implementation, your Kaufman Hall Implementation Consultant will help you select the most appropriate input method and assist in entering your initial data. From there, it is your responsibility to ensure that historical data is updated, as necessary.

Manual Entry

You can enter historical data manually, directly into nodes. Simply enter each of the values requested in the left-hand columns for each of the base years. Values for future projections, based on your organization's historical trend, populates automatically after all the necessary historical data has been entered. These standard formulas can be overwritten when the long-range plan assumptions are applied to the projections.

The major categories include:

- Volume
- Gross Charges
- Reimbursement
- Expense
- Capital Expenditures
- Balance Sheet

To facilitate data entry, cells are color coded as follows:

- **White cells are protected**. The values are hard-coded, pre-populated from the database, or calculated from other fields, which you cannot change.
- **Blue cells may be edited**. Blue shaded cells might be empty or pre-populated with a value or formula that you can change.
- **Green cells contain drop-down menus**, allowing you to select from one of several predefined options.

Data collection and import workbook (data upload, integration, or collection templates)

Collecting historical data may require multiple sources and assistance from other members of your organization. To help with this process, Kaufman Hall provides an Excel data collection workbook to share with VPs, directors, managers, and other stakeholders. The workbook serves as a centralized repository for housing information without the need to grant other users access to Axiom Financial Planning. Alternatively, data can be entered and queried from other Kaufman Hall products, or linked to data files within the upload and integration workbooks.

To complete this step, complete the following tasks:

1. Collecting and importing data from other sources
2. Building nodes from imported history and other data is to be used with the integration utility or data collection. After the data is loaded, select the **Build Nodes from Loaded Data** option in the Node Rebuild Utility to create nodes.

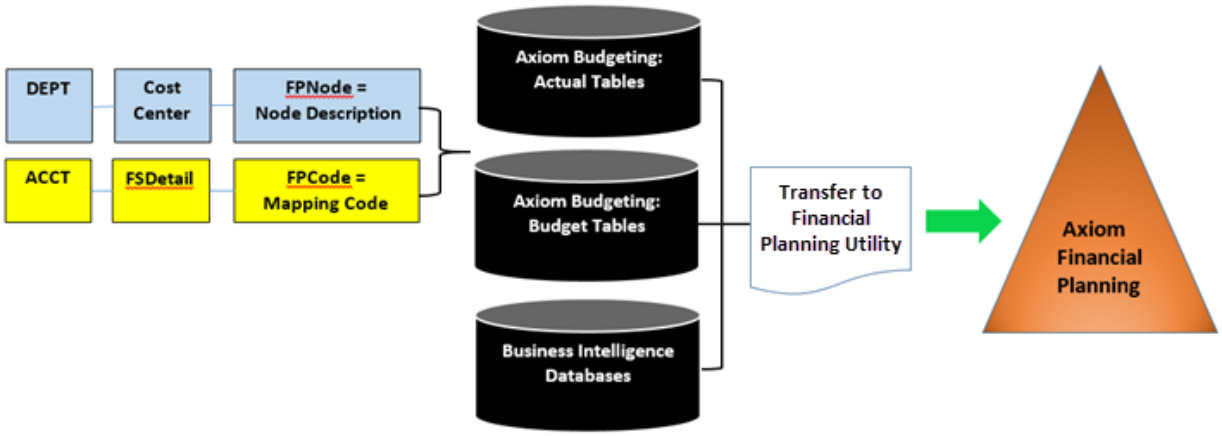
Automated imports

Axiom Financial Planning can draw data from other Axiom Software products. During implementation, actual and budget data residing in Axiom Management Reporting can be imported into Financial Planning for base years. Additionally, all other tracks can influence the long-range financial plan on an ongoing basis. Your Kaufman Hall Implementation Consultant can provide methods of integrating decisions and data from those tracks.

Mapping Budgeting dimensions to Financial Planning

To extract data from the Axiom Budgeting actual and budget tables, you must build relationships between Axiom Budgeting and Axiom Financial Planning.

The two most critical are cost center to nodes and sub-accounts to financial planning projection categories. These relationships are mapped in the Axiom Budgeting dimension tables DEPT and ACCT. The Transfer to Financial Planning utility recognizes these mappings, extracts the data, and imports it into Axiom Financial Planning in the appropriate nodes and projection categories, as shown in the following diagram.



1. Identify which financial planning node each cost center belongs to. Document this identification in the **FPNode** column of the DEPT dimension table. To do this, you will need to use the Dimension Maintenance utility. For more information, see Working with the Dimension Maintenance utility.

   IMPORTANT: Use the node description, not the node number, in this column.

Maintenance

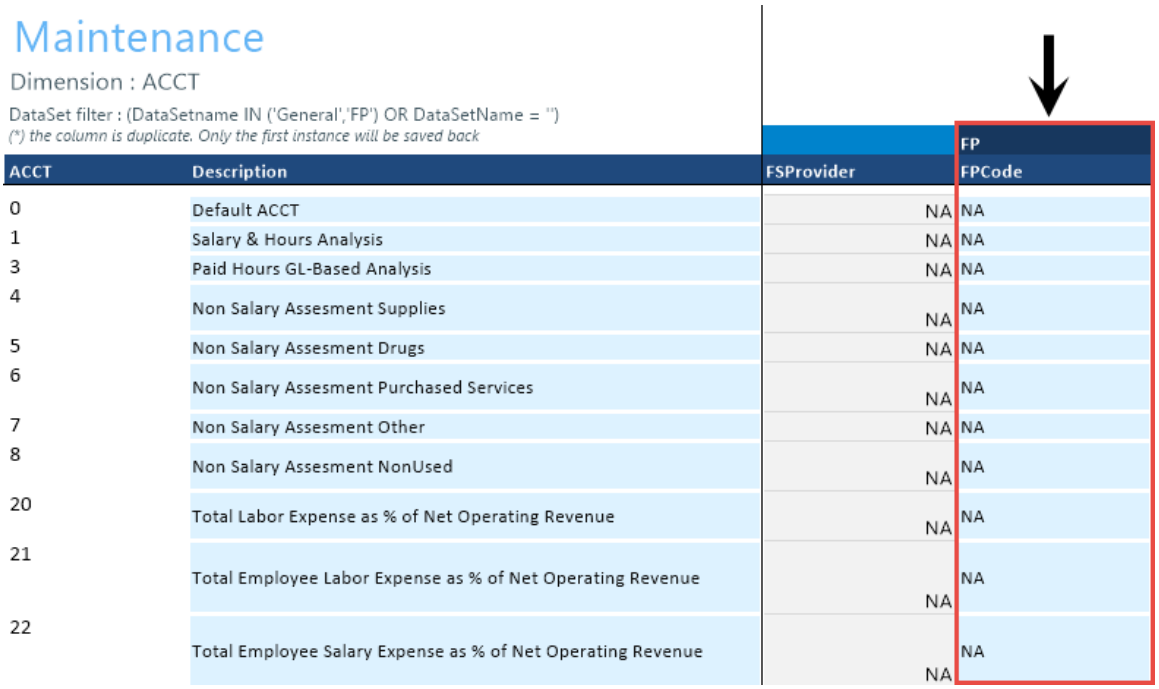
Dimension : ACCT

DataSet filter : (DataSetname IN ('General','FP') OR DataSetName = '')

(*) the column is duplicate. Only the first instance will be saved back

ACCT	Description	FSProvider	FP FPCode
0	Default ACCT	NA	NA
1	Salary & Hours Analysis	NA	NA
3	Paid Hours GL-Based Analysis	NA	NA
4	Non Salary Assesment Supplies	NA	NA
5	Non Salary Assesment Drugs	NA	NA
6	Non Salary Assesment Purchased Services	NA	NA
7	Non Salary Assesment Other	NA	NA
8	Non Salary Assesment NonUsed	NA	NA
20	Total Labor Expense as % of Net Operating Revenue	NA	NA
21	Total Employee Labor Expense as % of Net Operating Revenue	NA	NA
22	Total Employee Salary Expense as % of Net Operating Revenue	NA	NA

2. Identify which financial planning dimension code each internal sub-account belongs, and enter this identification in the **FPCode** column in the ACCT dimension table.



Maintenance

Dimension : ACCT

DataSet filter : (DataSetname IN ('General','FP') OR DataSetName = '')

(*) the column is duplicate. Only the first instance will be saved back

ACCT	Description	FSProvider	FP FPCode
0	Default ACCT	NA	NA
1	Salary & Hours Analysis	NA	NA
3	Paid Hours GL-Based Analysis	NA	NA
4	Non Salary Assesment Supplies	NA	NA
5	Non Salary Assesment Drugs	NA	NA
6	Non Salary Assesment Purchased Services	NA	NA
7	Non Salary Assesment Other	NA	NA
8	Non Salary Assesment NonUsed	NA	NA
20	Total Labor Expense as % of Net Operating Revenue	NA	NA
21	Total Employee Labor Expense as % of Net Operating Revenue	NA	NA
22	Total Employee Salary Expense as % of Net Operating Revenue	NA	NA

In some cases, the organizational and reporting structure may result in customized mapping, aside from the above instructions. Work with your Kaufman Hall Implementation Consultant for guidance.

In addition to importing base year data, the Transfer to Financial Planning utility has features to create new nodes, reconcile data against Axiom Budgeting/audited financial statements, and review mapping discrepancies between Axiom Budgeting and Axiom Financial Planning. These features assist in resolving data integrity issues prior to importing the final mapped data into the nodes—a critical step in preparing a node for forecasting. For more information, see Collecting and importing data from other sources.

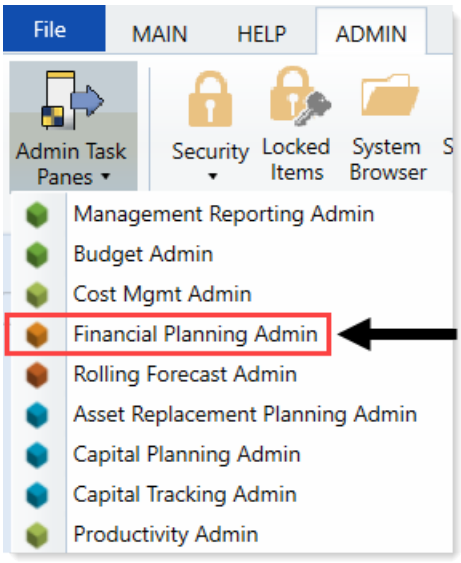
For information on using the transfer utility, see Using the Transfer to Financial Planning utility.

Viewing Financial Planning data table diagrams

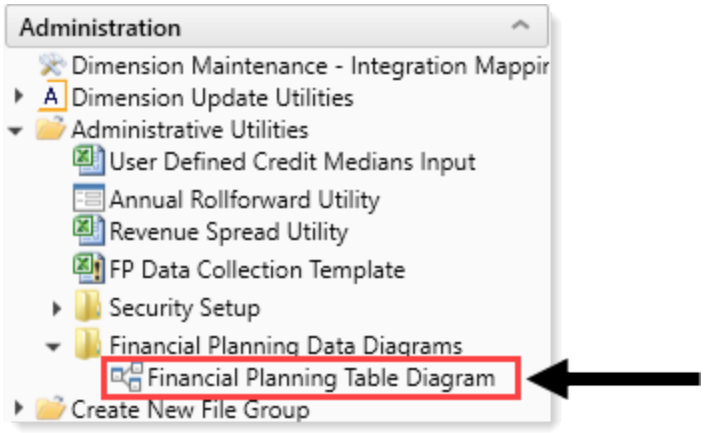
Use this option to view diagrams that show the relationship between dimensions and data tables in Financial Planning.

To view Financial Planning data table diagrams:

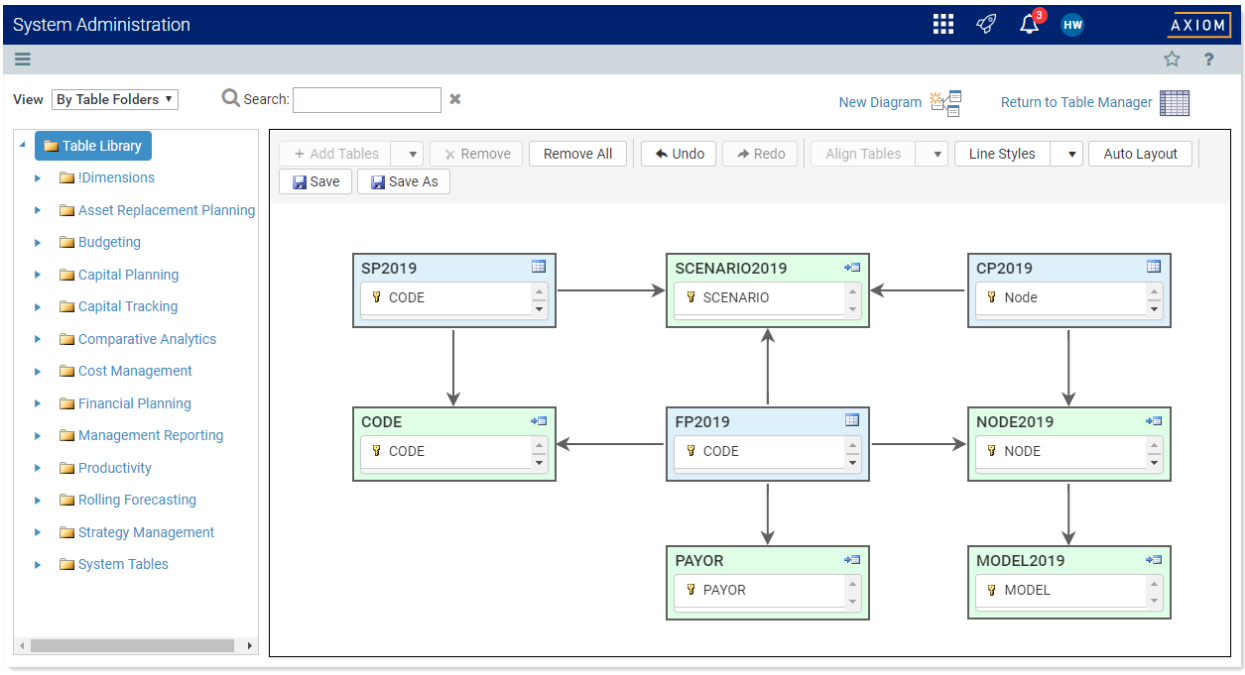
1. In the **Admin** ribbon tab, click **Admin Task Panes > Financial Planning Admin**.



2. In the **Fin Plan Admin** task pane, in the **Administration** section, click **Administrative Utilities** > **Financial Planning Data Diagrams**, and double-click **Financial Planning Table Diagram**.



The Web client launches to display the following table diagram.


System Administration
AXIOM
View
By Table Folders
Search:
New Diagram
Return to Table Manager
Table Library
!Dimensions
Asset Replacement Planning
Budgeting
Capital Planning
Capital Tracking
Comparative Analytics
Cost Management
Financial Planning
Management Reporting
Productivity
Rolling Forecasting
Strategy Management
System Tables
Add Tables
Remove
Remove All
Undo
Redo
Align Tables
Line Styles
Auto Layout
Save
Save As
SP2019
CODE
SCENARIO2019
SCENARIO
CP2019
Node
CODE
CODE
FP2019
CODE
NODE2019
NODE
PAYOR
PAYOR
MODEL2019
MODEL

4

Configuring Axiom Financial Planning

Use the following options to configure Axiom Financial Planning.

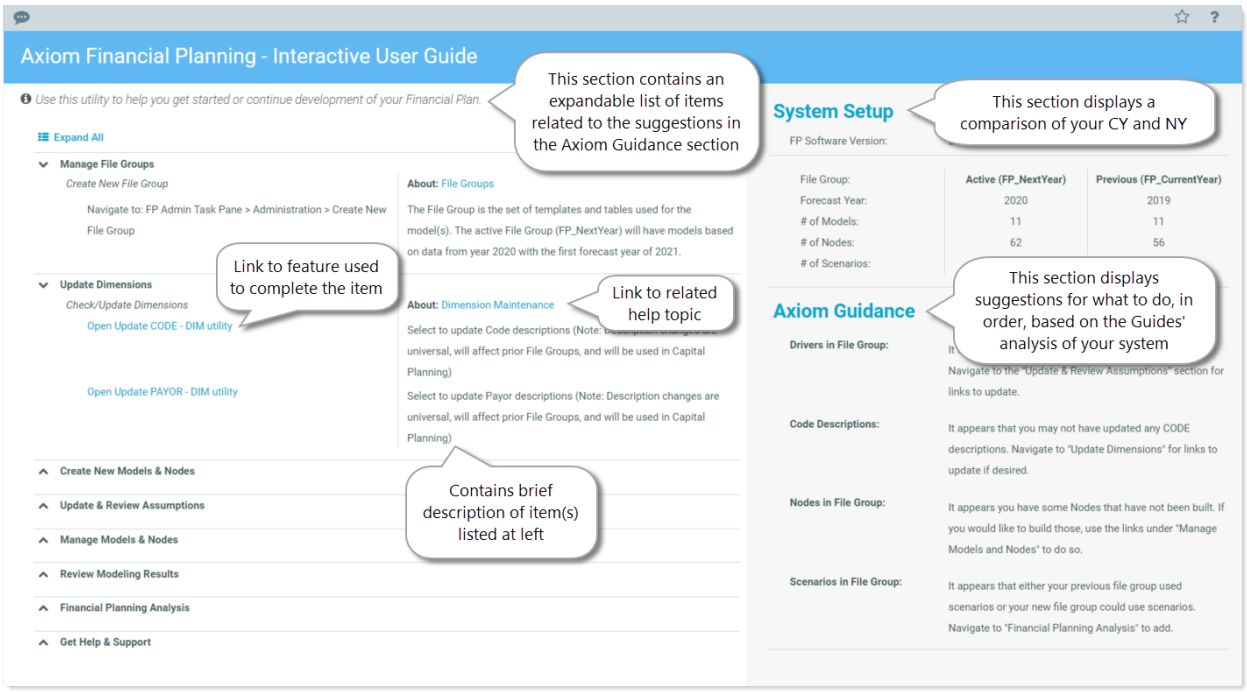
Using the Financial Planning Interactive User Guide

The FP Interactive User Guide helps Axiom Financial Planning administrators develop their financial plans by guiding them through the process.

This utility analyzes your Axiom Financial Planning system (files groups, drivers, dimensions, scenarios, nodes, etc.) and determines what needs to be updated, and then displays a list of suggested items on the right.

Review the analysis on the right side of the utility (under Axiom Guidance), and then see the items listed on the left. The utility also provides links to assets used in each part of the process and links to related help topics. The list on the left does not change, but the items under Axiom Guidance update based on where you are in the process.

You can use this utility at any point in the plan development process because it performs a new analysis each time you open it.



To use the interactive user guide:

1. In the Fin Plan Admin task pane, in the **Interactive User Guide** section, double-click **FP Interactive User Guide**.
2. On the right side of the page in the **System Setup** section, review the information.
3. In the **Axiom Guidance** section, review the first suggested item. The instructions “Navigate to...” tell you what section on the left corresponds to the item. On the left side of the page, expand the corresponding section. Use the links to open the tools needed to complete the item. If you need additional help, click the link to the related help topic.
4. When finished with the first item, continue to the next one listed in the **Axiom Guidance** section.

> **TIP:** After completing any of the items, you can stop, close the utility, and return later. When you reopen the utility, the list updates to reflect any work you have already done. To get an updated list at any time while working through the utility, close and reopen the utility.

Configuring a file group for your annual financial plan

Before you can model your organization's finances and generate long-term plans and forecasts in Axiom Financial Planning, you need to set up a file group for the current year's financial plan. This file group contains plan files with the financial models for each node (unit) in your organization. A node can be defined as an entity, health plan, balance sheet, or initiative.

In addition to nodes, an Axiom Financial Planning file group includes:

- Driver files
- Templates
- Process definitions

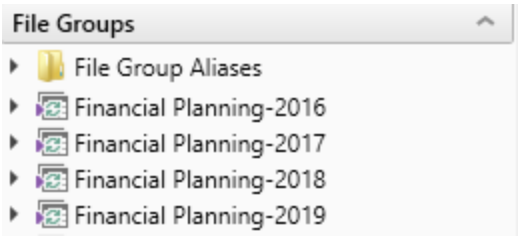
You maintain a designated file group for the active financial plan for the current fiscal year. At the end of each year, you roll forward the data from the current year's file group to the next year's file group. The Annual Rollforward Utility helps walk you through this process.

Apart from this, you rarely need to interact with the file group directly. Most of the time, you open and edit individual files using links in the various task panes.

For information and guidance in setting up your annual financial plan, you can use the Financial Planning Interactive User Guide.

Viewing file groups

You access file groups from the **File Groups** section of the **Explorer** task pane. You can have a file group for each fiscal year, which you can then roll forward from year to year, as shown in the following example. For more information on rolling forward yearly data, see Rolling Forward to a New Planning Year.

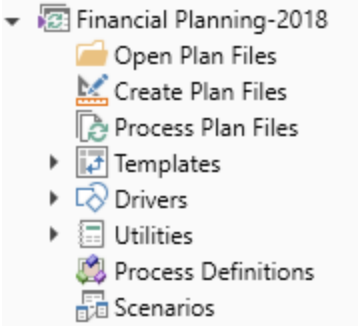


Your access rights to each plan file (read-only or read/write) within a file group are determined by a combination of your security settings and process settings (if applicable).

By default, only administrators can see the file group administration options for a group. Users without administration privileges can only open the specific plan files within the group to which they have access. From here, you can open, create, and process plan files as well as manage file group components such as templates and drivers.

To view a file group:

1. In the Explorer task pane, in the **File Groups** section, do any of the following, depending on your security permissions:



- **Open Plan Files** – Open and view a plan file.
- **Create Plan Files** – Create and save empty plan files per the configuration settings in dimensions and the file group's driver files.
- **Process Plan Files** – Load historical data into each budget plan file, then run calculations based on Calc Methods in dimensions.
- **Copy Plan Files** – Copy plan files from one file group to another.
- **Templates** – Stores all standard templates and any custom templates you create.
- **Drivers** – Stores configuration settings and key statistics used throughout the file group. For more information, see .
- **Utilities** – Stores any additional utilities if your organization purchased certain add-on modules.
- **Process Definitions** – Displays processes defined for the files group.
- **Scenarios** – Create and manage plan files, templates, drivers, utilities, and process definitions for a scenario.

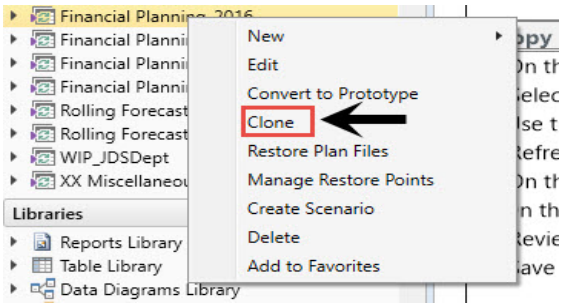
Archiving a file group

As part of the implementation process, your Kaufman Hall Implementation Consultant helps you create a Financial Plan - *year* file group for the current fiscal year. For the next and subsequent years, you use the Annual Rollforward Utility to move the data from the current year's file group to that of the next fiscal year. For more information, see Rolling data forward to a new planning year.

Use this option to archive file groups for plan files that you no longer need frequent access to.

To archive a file group:

1. In the Explorer task pane, in the **File Groups** section, right-click the active budget, and select **Clone**.



2. The **Clone File Group** dialog opens. This wizard guides you through the cloning options.
3. In the **General Properties** section, review the following settings, and modify them, as needed:
   - **File Group Name** – Change the file group name from **Financial Plan - *year*** to **Financial Plan *year* - Archive** (where *year* is the current budget year).
   - **File Group Year** – Enter the fiscal year for the archive file group.
4. Click **Finish**. The archived budget file group displays in the **Explorer** task pane.

IMPORTANT: Do not modify any of the other settings in the **Clone File** dialog, as it may result in system errors, inaccurate data being written to the database or Kaufman Hall EPM, or calculating values incorrectly within the file group.

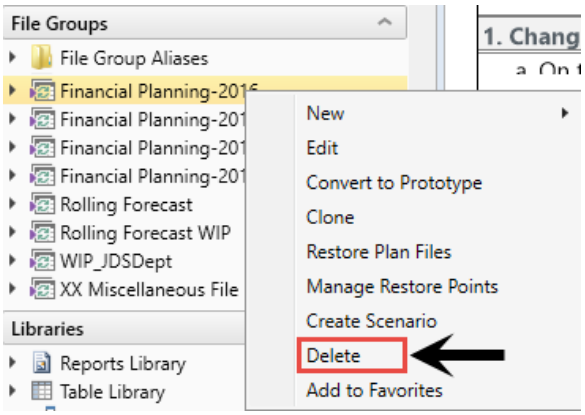
Deleting a file group

Deleting a file group deletes all the files stored in the associated file group folder, including templates, plan files, drivers, and calc method libraries. Additionally, any document reference tables linked to the file group are also deleted.

IMPORTANT: This action cannot be undone, and the deleted files cannot be recovered using normal Kaufman Hall EPM functionality. You should be sure that you no longer need the file group before you delete it. You may want to take a backup of the Kaufman Hall EPM database before deleting the file group.

To delete a file group:

1. In the Explorer task pane, in the **File Groups** section, right-click the file group, and select **Delete**.



2. At the confirmation prompt, click **Yes**.

The file group and all associated files are deleted.

Configuring drivers (assumptions)

In Axiom Financial Planning, the file group for each year's plan contains driver files. Among other functions, the driver files allow you, as the administrator, to decide which sections to include or exclude from plan files and enter many of the values that display as prepopulated in nodes, scenarios, and reports.

The driver types include the following:

- **Baseline** – Sets of assumptions used for generating projections.
- **CorpAllocation** – Allocations to apply to all nodes in the plan.
- **Setup** – General settings and preferences for the financial plan.

NOTE: By default, your system will include a Baseline driver file that contains data for the future scenario deemed most likely. As you create your forecasts, you may want to create alternate versions of the Baseline file to account for other possible scenarios (For example, one for a conservative future outlook and another for an aggressive outlook). For information on creating different versions of the Baseline driver, see Creating custom Global Sets (drivers).

When making changes to driver files, make sure to reprocess the appropriate plan files to propagate the changes. For more information, see Processing plan files.

Configuring the Baseline Assumptions driver file

The Baseline Assumptions driver file contains:

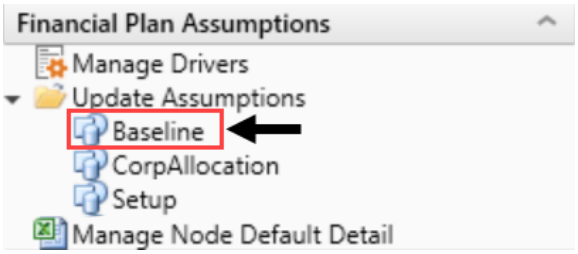
- Volume Adjustments
- Payor Mix

- Patient Revenue Inflation Rates
- Reimbursement Inflation Rate Details (by Payor)
- Global Assumptions
- Charity and Bad Debt
- Operating Expense Inflation
- Master Template Balance Sheet
- Supplemental Detail – Medicare Adjustments
- Health Plan Global Assumptions
- Health Plan Assumptions
- Research Plan Global Assumptions

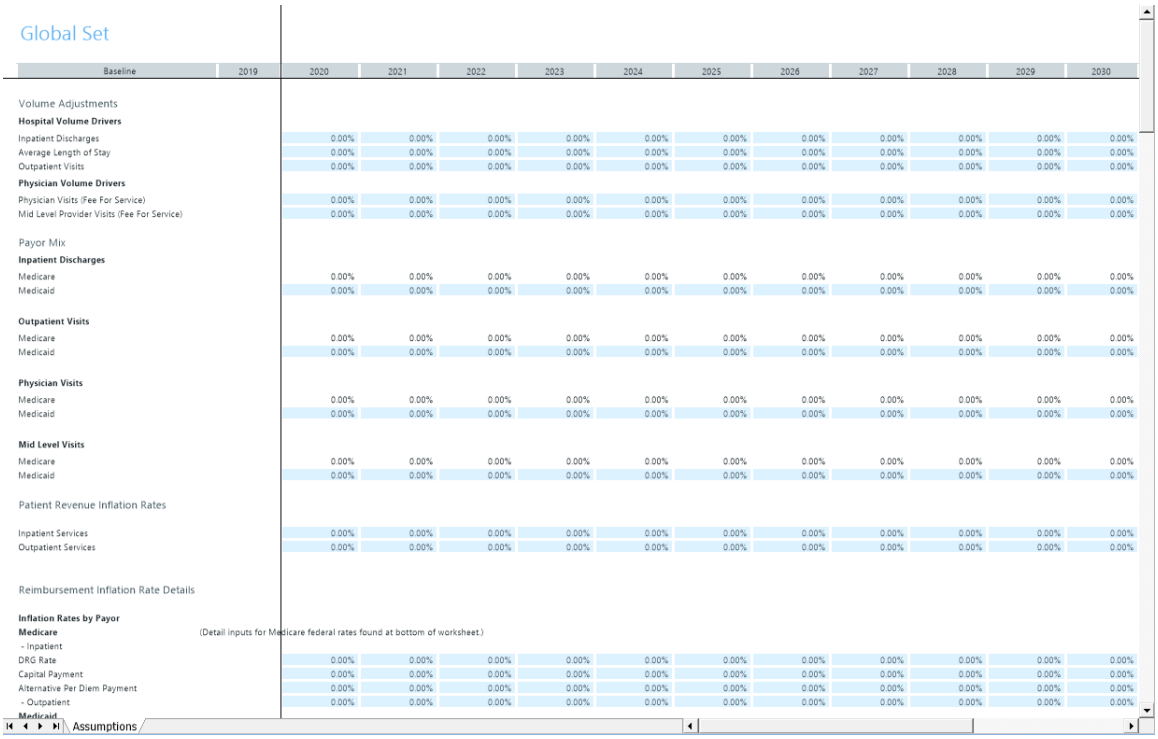
You can create different variations of this driver to use for forecasting and planning purposes. You can then assign one of these Baseline Assumption driver variations to plan files and/or scenarios to anticipate what-if situations. For information, see Creating custom Global Sets (drivers).

To configure the Baseline Assumptions driver file:

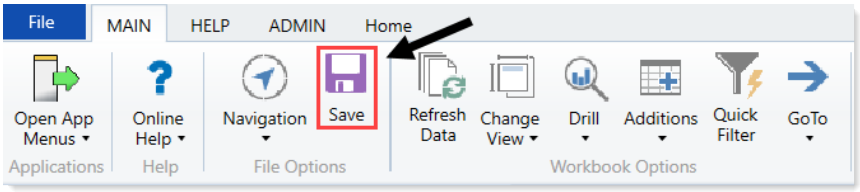
1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, click the **Update Assumptions** folder, and double-click **Baseline**.



2. Complete the appropriate cells.



3. To add codes, In the **Main** ribbon tab, click **Additions > Add Rows > Add additional detail**, and select the type of information to add to the sheet.
4. To save your changes, on the **Main** tab, in the **File Options** group, click **Save**.



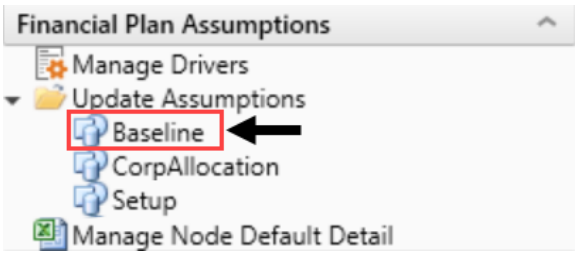
5. Process existing plan files to propagate the changes. For more information, see Processing plan files.

Set payor volume mix in the baseline assumptions driver

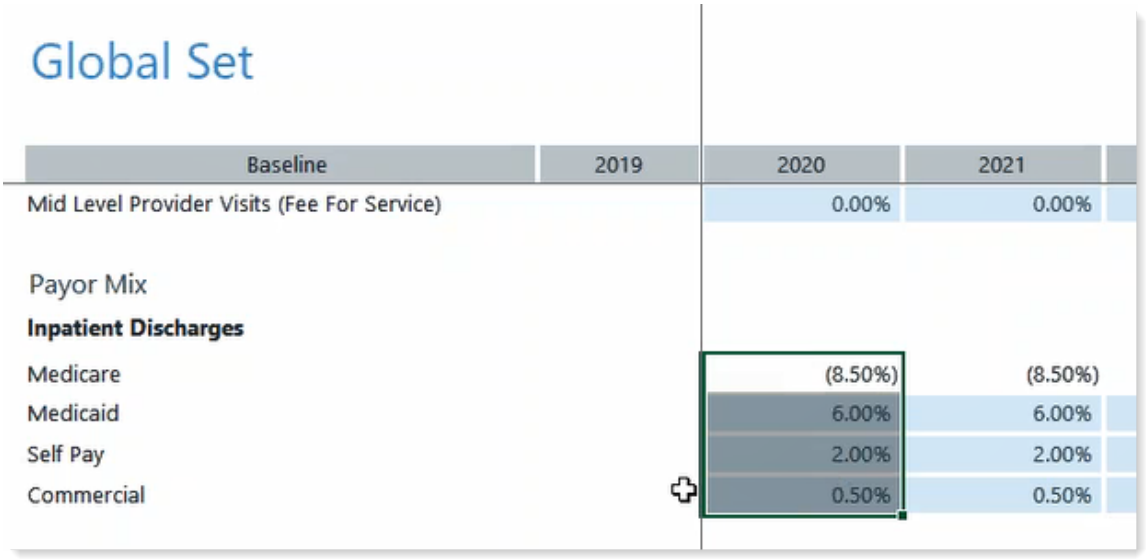
The Payor Mix section in the baseline assumptions driver allows administrators to shift payor volume mixes and have those changes automatically propagate to nodes that use the driver. You can shift the payor volume mix for Inpatient Discharges, Outpatient Visits, Physician Visits, and Mid Level Visits. You can also add payor lines if needed.

To set the payor volume mix:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, click the **Update Assumptions** folder, and double-click **Baseline**.



In the **Payor Mix** section, note the amount in the Medicare cell for the first modeled year. This is not an input cell so you cannot change the amount. The form is configured so that when the amount in the Medicare cell is added to the amounts in the cells below it, the sum is always zero, as shown in the following example (-8.5 + 6 + 2 + 0.5 = 0).



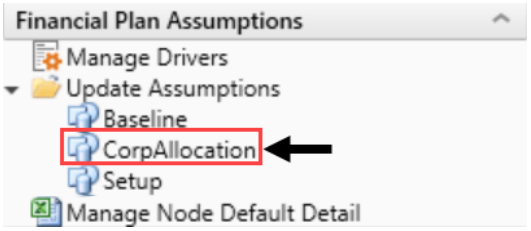
2. Adjust the mix as desired.
3. (Optional) To add a new payor to the set:
    a. In the **Main** ribbon tab, click **Additions** > **Add Row(s)** > **Custom Inserts** > **Add Payor Mix** (or **Add Payor Mix Physician** if adding the line to the Physician Visits and Mid Level Visits).
    b. In the **Choose Value** dialog, select the payor, and click **OK**.
    c. In the **Main** ribbon tab, click **Save**.
4. In the **Main** ribbon tab, click **Save**.
5. Process existing plan files to propagate the changes.

Configuring the Corporate Allocation driver file

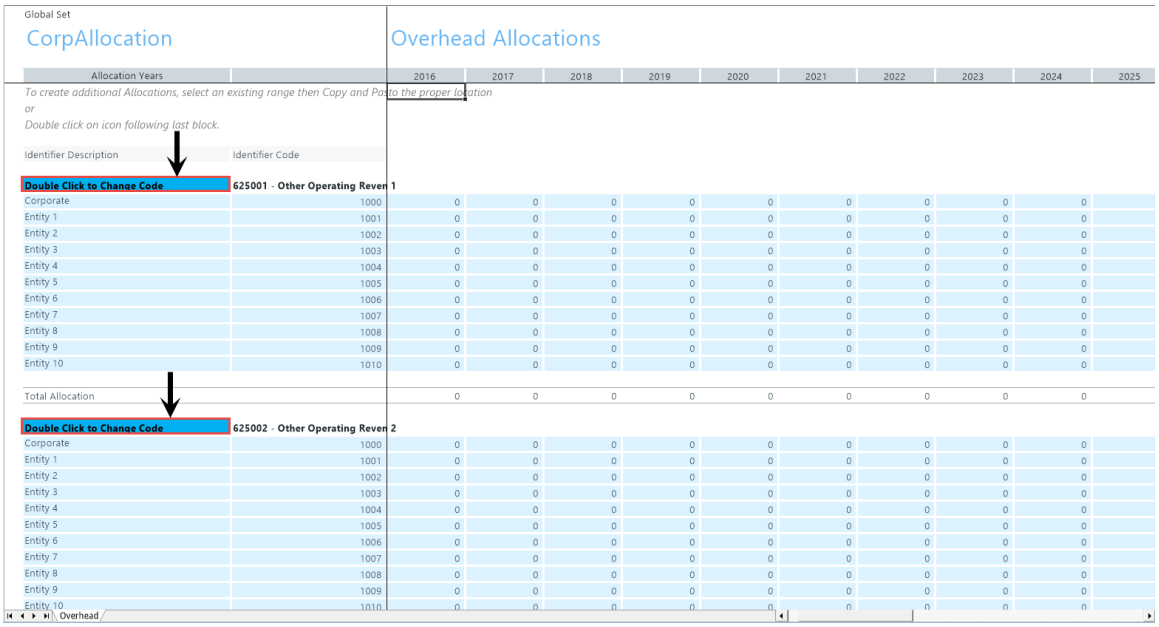
The Corporate Allocation driver file allows you to allocate revenues and expenses tracked at the corporate level to the organization's component entities.

To configure the Corporate Allocation driver file:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, click the **Update Assumptions** folder, and double-click **CorpAllocation**.

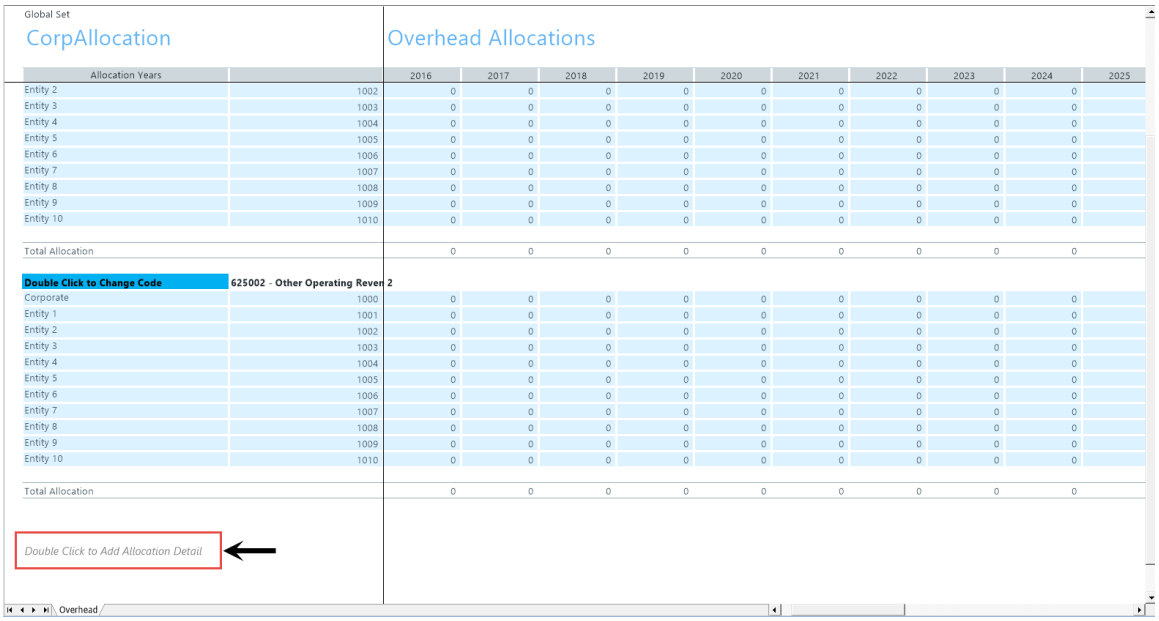


2. To select a revenue or expense code, double-click the dark-blue cell at the top of each section.

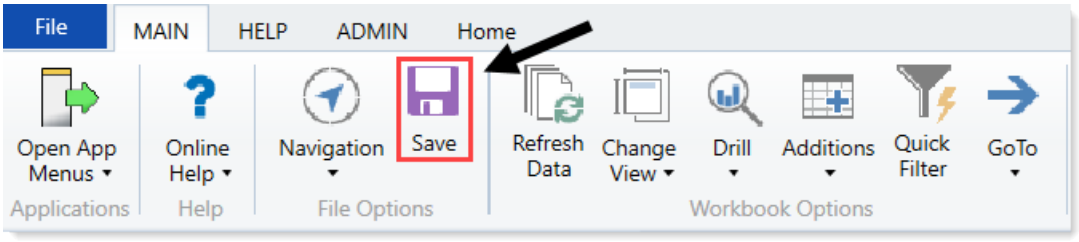


3. Enter the names and identifier codes for various entities in the cells of that section, and then enter the allocations to each entity for each year in the plan in the cells to the right. The identifier codes are set in the NODE.AllocationID column of the NODE dimension table.

4. To add additional codes, at the bottom of the worksheet, double-click **Double Click to Add Allocation Detail**. This adds a new section to the sheet for which you may specify a new code and list of entities.



5. To save your changes, on the **Main** tab, in the **File Options** group, click **Save**.



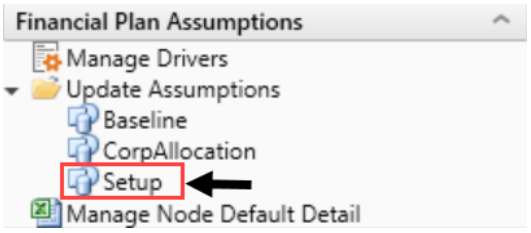
6. Process existing plan files to propagate the changes. For more information, see Processing plan files.

Configuring the Setup driver file

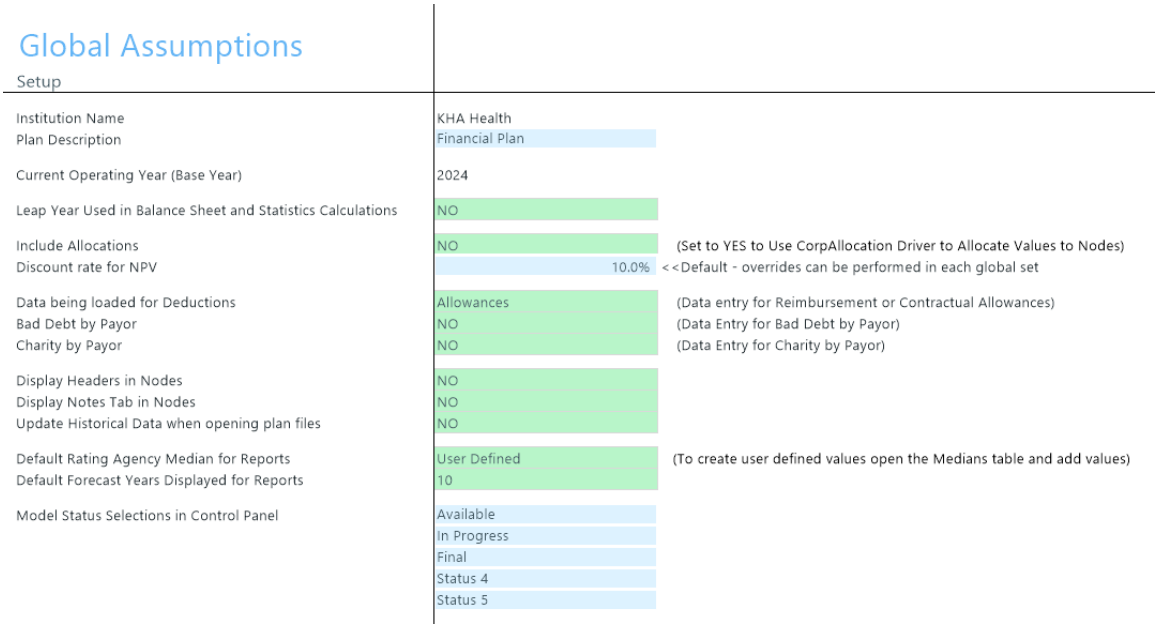
The Setup driver file contains some basic settings for the financial plan file group.

To configure the Setup driver file:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, click the **Update Assumptions** folder, and double-click **Setup**.



2. For the current plan, you may configure the following options:

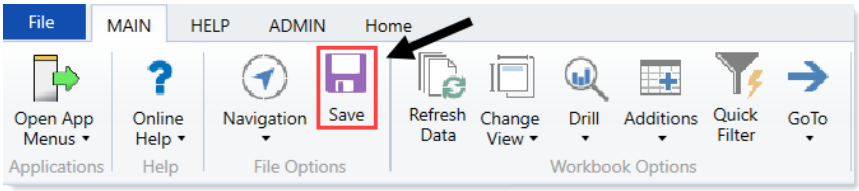


Row	Steps
Institution Name	This field is set for all applications at the Axiom Software suite level.
Plan Description	Your organization's preferred term for its financial plans. The default is Financial Plan.
Current Operating Year (Base Year)	The base year of the financial plan, from which forecasts will be generated going forward.
Leap Year Used in Balance Sheet and Statistics Calculations	Select one of the following: • To use 366 days in leap years for all calculations involving days per year, select **Yes**. • To use 365 days in all years, select **No**.
Include Allocations	Select one of the following: • To insert allocation codes into the operations and entity nodes, select **Yes**. Use this option with the CorpAllocation global assumption driver. For more information, see Configuring the Corporate Allocation driver file. • To exclude allocation codes from the operations and entity nodes, select **No**.

Row	Steps
Discount rate for NPV	Select one of the following: • To include the discount rate for NPV, select **Yes**. • To exclude the discount rate for NPV, select **No**.
Data being loaded for Deductions	Select whether to use **Allowances** or **Reimbursement** for calculating net patient revenue. **NOTE:** Integration utility requires **Allowances** as the selection.
Bad Debt by Payor	Select one of the following: • To display bad debt for each payor in the reimbursement section, select **Yes**. • To group bad debt into one to five groupings, displayed after reimbursement in each node, select **No** and assign groupings in the PAYOR dimension table.
Charity by Payor	Select one of the following: • To display charity for each payor in the reimbursement section, select **Yes**. • To group charity into one to five groupings, displayed after reimbursement in each node, select **No** and assign groupings in the PAYOR dimension table.
Display Headers in Nodes	Select one of the following: • To display headers in all plan files, select **Yes**. • To hide headers in all plan files, select **No**.
Display Notes Tab in Nodes	Select one of the following: • To include the Notes tab in all plan files, select **Yes**. • To exclude the Notes tab in all plan files, select **No**.
Update Historical Data when opening plan files	Select one of the following: • To automatically update existing nodes with historical data on plan file open, select **Yes**. • To not update nodes with historical data on plan file open, select **No**. **IMPORTANT:** This option only works for existing codes and payors. It will not insert or update data for new codes or payors.

Row	Steps
Default Rating Agency Median for Reports	For any report that uses a rating agency value, select the default rating agency to use as the default refresh variable.
Default Forecast Years Displayed for Reports	Select the default number of years to display in a report.
Model Status Selections in Control Panel	Type up to five different status descriptions users can choose from when selecting a model.

3. To save your changes, on the **Main** tab, click **Save**.



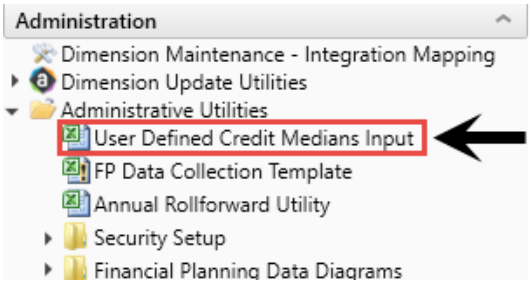
4. Process existing plan files to propagate the changes. For more information, see Processing plan files.

Configuring user-defined credit medians

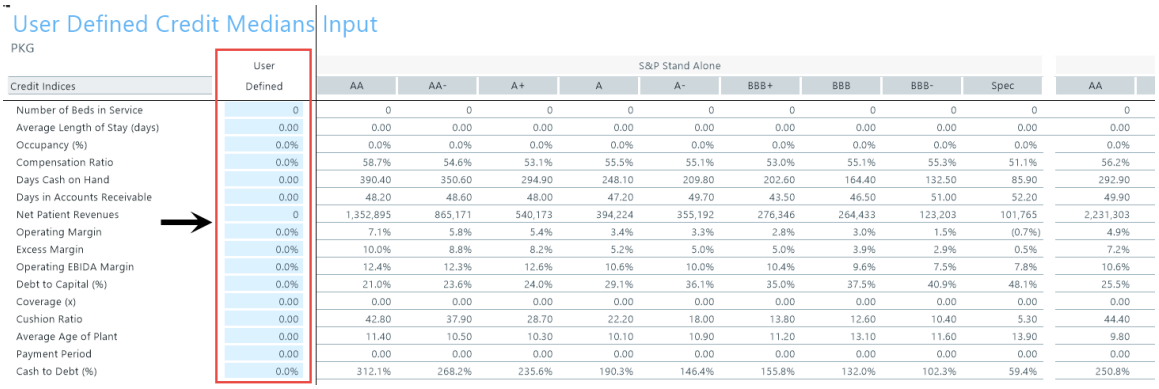
The User Defined Credit Medians Input utility displays the medians for each rating for each agency for the current year and allows you to enter your own user-defined medians.

To configure user-defined credit medians:

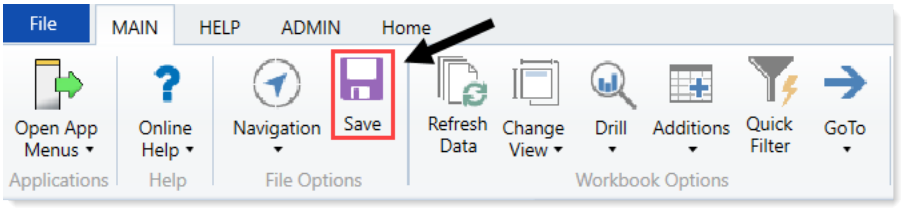
1. In the Fin Plan Admin task pane, in the **Administration** section, click **Administration Utilities**, and double-click **User Defined Credit Medians Input**.



2. In the **User Defined** column, make the appropriate changes for the credit indices rows.



3. In the **Main** ribbon tab, click **Save**.



4. Process existing plan files to propagate the changes. For more information, see Processing plan files.

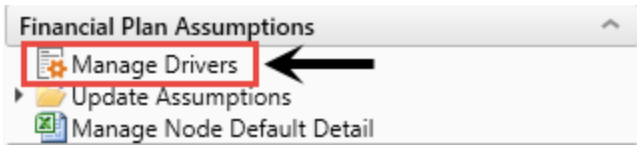
Creating custom Global Sets (drivers)

Creating custom drivers allows you to create multiple variations of different assumptions that you can use to anticipate and plan what-if situations. For example, you can create different versions of the Baseline Assumption driver, and apply them to plan files and/or scenarios to produce different outputs based on the changes you made in the driver.

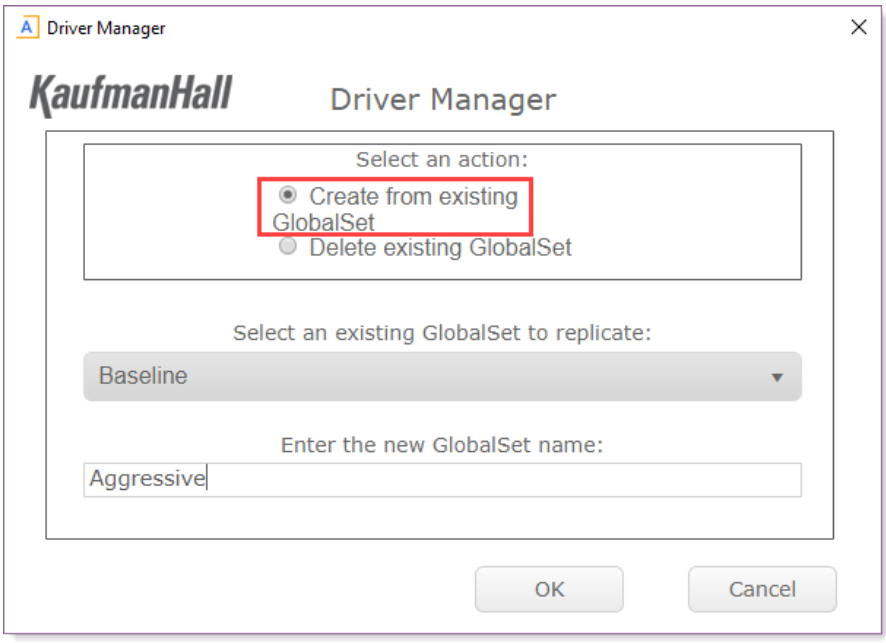
You can create custom driver files using the Manage Drivers utility. This feature allows you to create a new GlobalSet by copying an existing GlobalSet or deleting a GlobalSet. Creating custom drivers allows you to apply global assumptions (e.g., inflation and growth rates) across all nodes or particular nodes in the designated models.

To create a custom driver:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, double-click **Manage Drivers**.



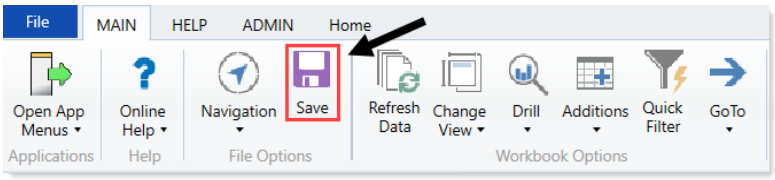
2. In the **Driver Manager** dialog, select **Create from an existing GlobalSet**.



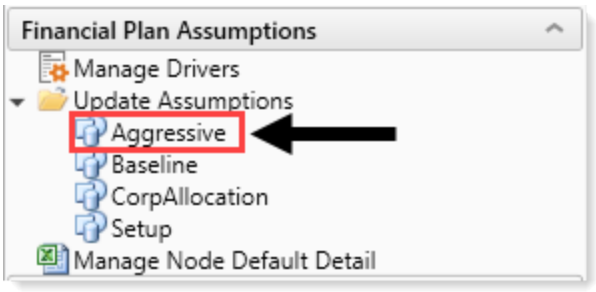
3. From the **Select an existing GlobalSet to replicate** drop-down, select the GobalSet to copy. The new Driver will be populated with existing data from the copied driver.
4. In the **Enter the new GlobalSet name** field, type the name for the new GlobalSet.

   NOTE: No spaces are allowed in the driver name, but you can use underscores in place of spaces.

5. Click **OK**.
6. At the confirmation prompt, click **Confirm**.
7. To open the new GlobalSet, click the link in the Driver Manager dialog.
8. To close the Driver Manager dialog, click **Close**.
9. In the new custom driver, make desired changes, and then, in the **Main** ribbon tab, click **Save**.



The new driver file displays in the Update Assumptions folder under Financial Plan Assumptions in the Fin Plan Admin task pane.



The driver is now available to be associated with nodes.

10. To link nodes to the driver, open the **Control Panel to Manage Nodes** utility for the model containing the desired node. In the **Global Set** column for the desired node, change the driver. For detailed instructions, see Modifying node settings.
11. When ready, process existing plan files to propagate the changes from the driver. For more information, see Processing plan files.

Add a new row to a driver file

Global Sets are drivers used in Axiom Financial Planning. The default drivers include Baseline, CorpAllocation, and Setup. Each driver type comes with a standard set of rows that are sufficient for most use cases. However, you may need to create a custom row to add to each of your nodes. Use these instructions to add and populate a new row in the driver. If you want to substantially alter a default driver, consider creating a new version of the driver to use instead.

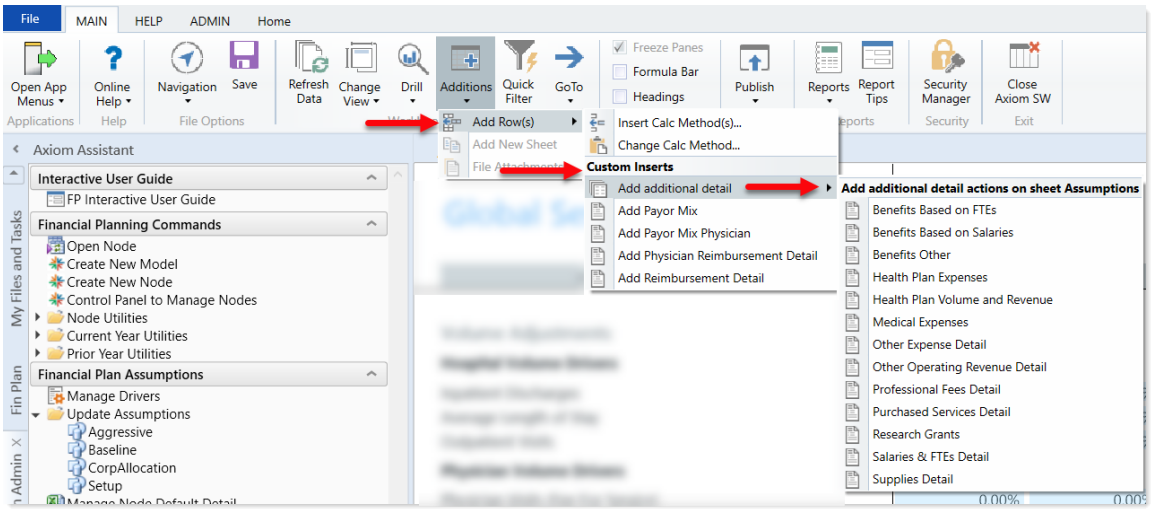
NOTE: If the desired row affects only one node, add the row to the node instead of the driver.

To add a new row to a driver file:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, expand **Update Assumptions** and then double-click the driver to modify.

   NOTE: You do not need to select a part of the driver before adding the new row; the row will be added to the correct section of the driver automatically.

2. In the **Main** ribbon tab, click **Additions** > **Add Row(s)** > **Custom Inserts** > **Add additional detail** > **[desired detail line]**.



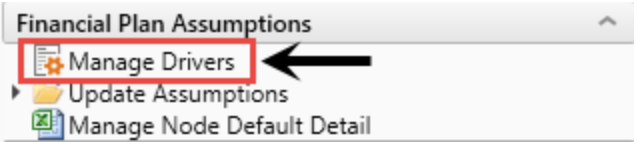
3. In the **Calc Method Variables** dialog, click **Choose Value**.
4. In the **Choose Value** dialog, select the desired code, and then click **OK**.
5. In the **Calc Method Variables** dialog, click **OK**. The new line is added with the selected code to the driver.
6. To add the new line to all the nodes using this driver, process the relevant plan files.

Deleting Global Sets (drivers)

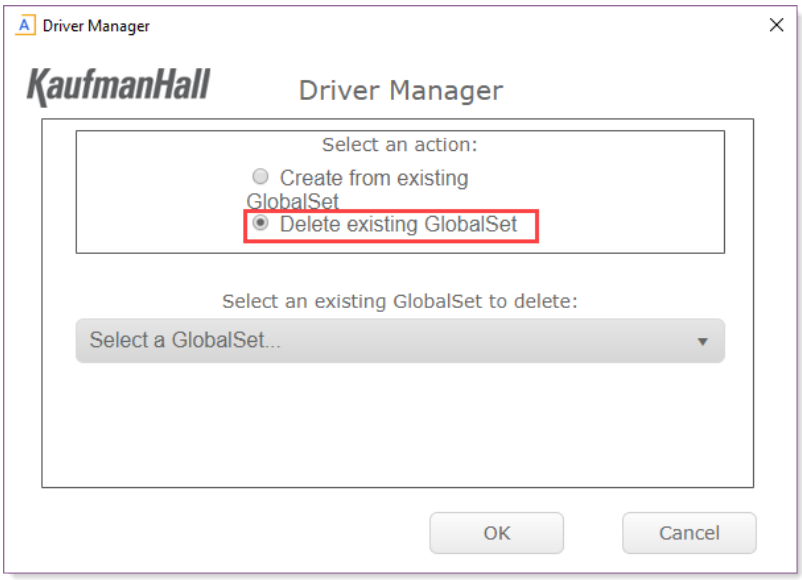
You can delete driver files as long as they are not associated with any node or scenario. You delete driver files using the Manage Drivers feature.

To delete Assumptions driver files:

1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, double-click **Manage Drivers**.



2. In the **Driver Manager**, select the **Delete existing GlobalSet** option.



3. In the **Select existing GlobalSet to delete:** drop-down, select the GlobalSet to delete.
4. Click **OK**.

   IMPORTANT: This will permanently delete the file and data. Ensure the file is not in use.

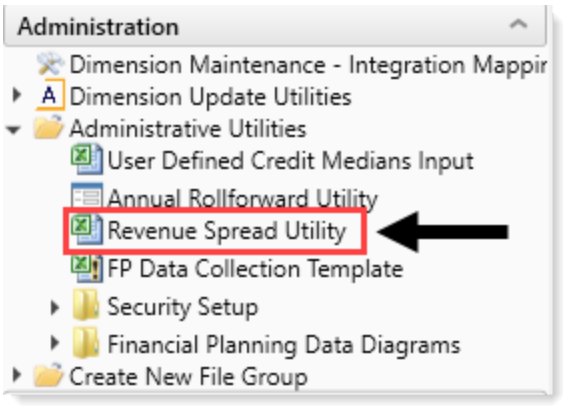
5. At the confirmation prompt, click **Confirm**.
6. To close the dialog, click **Close**.

Configuring revenue spread

Use the Revenue Spread Utility to spread any of the statistics, gross charges, or contractual allowances by payor based off of any of the spread types. After you save the utility, the system changes the data based on the methodology you select.

To configure revenue spread:

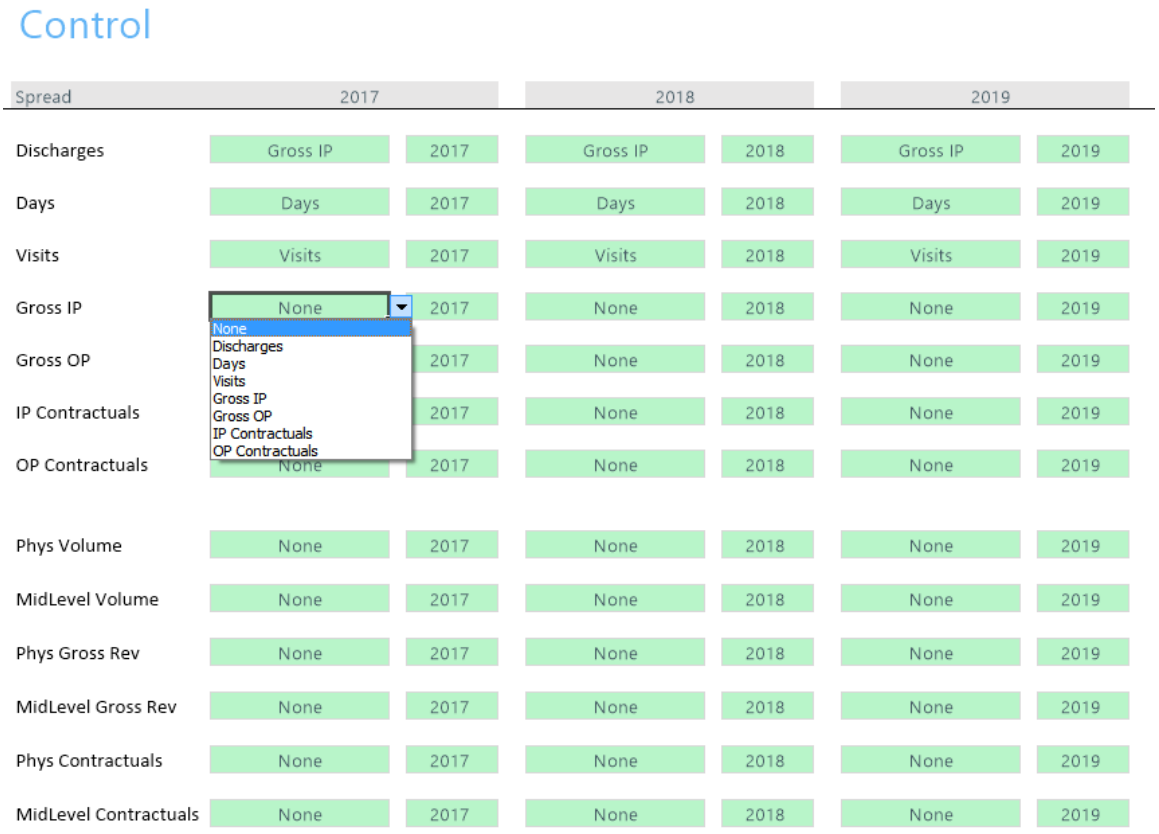
1. In the Fin Plan Admin task pane, in the **Administration** section, click **Administrative Utilities**, and double-click **Revenue Spread Utility**.



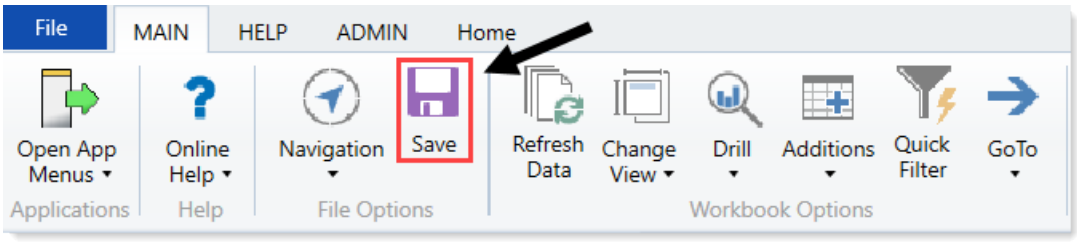
2. In the **Refresh Variables** dialog, select one or more nodes to spread the data, and click **OK**.

   IMPORTANT: Any nodes included in the refresh will be updated. DO NOT include any nodes you do not want to change.

3. On the **Control** tab, from the drop-down, for the volume or revenue to update, select the methodology to use.



4. When finished, on the **Main** ribbon tab, click **Save** to update the values in the nodes.



5. Do one of the following:
   - If the nodes are already built, update the nodes by opening and refreshing them individually or processing plan files.
   - If the nodes have not been built, build the nodes from history or rebuild the nodes.

Configuring dimensions

Dimensions are the key index fields for the tables in Axiom Financial Planning. All the data in Axiom Financial Planning is associated with one or more dimensions.

Fields in dimension tables are typically referred to as columns. Field / column names are expressed as *tablename.fieldname*.

A few examples of dimension fields used in Axiom Financial Planning include:

- **MODEL.ProjYears** – The number of projected years for a model.
- **SCENARIO.Description** – The description text for a scenario.

When Axiom Financial Planning is first implemented, your Kaufman Hall Implementation Consultant helps you configure the dimension tables to reflect the structure of your organization (departments, entities, accounts, etc.). Over time, you may need to edit the data in dimension tables to add, edit or remove codes, models, and so on.

Some dimensions are used in multiple Axiom Software products. These dimensions are managed using the Dimension Maintenance Utility. For more information about configuring the parts of these dimensions that apply to Axiom Financial Planning, see Working with the Dimension Maintenance utility.

Some dimensions are unique to Axiom Financial Planning and must be updated using the Dimension Update utility specific to that dimension. For more about these dimensions and instructions on how to update them, see Updating Axiom Financial Planning dimensions.

Working with the Dimension Maintenance utility

Your organization may use multiple distinct Entity Management branches within your structure to help manage your Axiom Software products. It might be the responsibility of each local product administrator

to maintain their own elements within dimensions for each Axiom Software product that your organization is licensed for. Additionally, and ideally, each administrator should not be able to modify elements outside of their area, otherwise, reports and processes could be negatively impacted.

The Dimension Maintenance utility allows the administrator for a local branch to manage only grouping columns within a dimension and limits this dimension to only the elements that the administrator has access to.

IMPORTANT: Version 2017.1 and higher includes a variety of security changes to enable this tool. The dimension tables have been restricted to read-only access until the system administrator configures a user for dimension maintenance security. For more information, see Editing the security rights for a user.

The Dimension Maintenance utility allows administrators to:

- Have multi-user and filtered access to key universal dimensions
- Restrict dimension grouping column maintenance to specified product grouping columns
- Create dimension grouping columns, and assign them to products
- Add new records and update all validated grouping columns, even when they are outside of that product range
- Create dimension grouping columns that automatically display in an organized manner

To enable the Dimension Maintenance functionality described above, the following features were created:

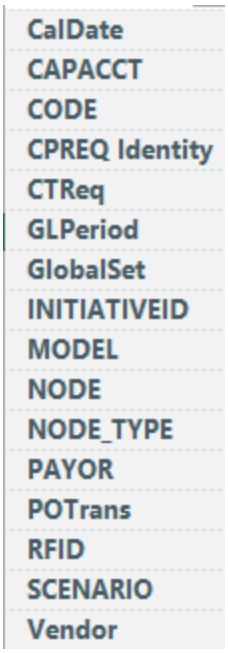
- In the Edit Data Structure mode, administrators can manage grouping columns using datasets.
- In the Dimension Maintenance utility, depending on their roles, users can select the products and dimensions to maintain.
- Using the security feature in the Dimension Maintenance utility, for each product, administrators can quickly assign write filters to those users who have an administrator role assigned to them.

The following table represents which dimensions are part of each product. A check mark means users can access the dimension using the Dimension Maintenance utility, but the records each user can edit depends on the security filter applied to each.

	Management Reporting Admin	Budgeting Admin	Rolling Forecast Admin	Capital Planning Admin	Capital Tracking Admin	Cost Management Admin	Costing Admin	DSS Admin	Financial Plan Admin
ACCT	✓	✓	✓			✓	✓		✓
CDMCode	✓	✓					✓	✓	
COSTCAT							✓	✓	
COSTITEM							✓	✓	
COSTMETHOD							✓		
COSTPOOL							✓	✓	
CPT	✓	✓					✓	✓	
DATATYPE	✓	✓							
DEPT	✓	✓	✓	✓	✓	✓	✓	✓	✓
ENTITY	✓	✓	✓	✓	✓	✓	✓	✓	✓
FINCLASS	✓	✓						✓	
ICATEGORY						✓			
INSPLAN							✓	✓	
IRESULTS						✓			
ITYPE						✓			
JOBCODE	✓	✓				✓	✓		✓
LOCATION	✓	✓					✓	✓	
METRICID						✓			
PAYTYPE	✓	✓				✓	✓		
PROVIDER	✓	✓					✓	✓	
REVCODE							✓	✓	
RFCODE			✓						✓
RFGROUP			✓						✓
YRMO							✓	✓	

The following dimension tables are not affected by this update and are not part of the Dimension Maintenance utility. Each of these dimensions retain:

- Full edit rights, per authorized user.
- Ability for direct table edit.
- Leverage existing edit tools as you have used in the past.



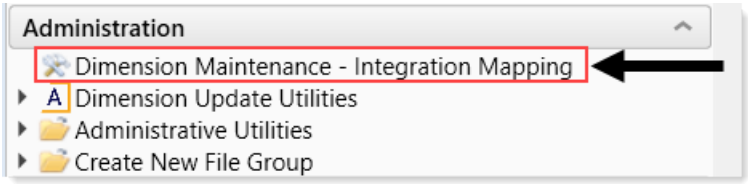
For more information, see Configuring the Dimension Maintenance utility.

IMPORTANT: Because Axiom Financial Planning uses the CODE, MODEL, NODE, PAYOR, and SCENARIO dimension tables, which are not included as part of the Dimension Maintenance Utility, you will need to update these tables using the Dimension Update Utilities. For more information, see Viewing Financial Planning data table diagrams. You will use the Dimension Maintenance Utility mostly for integration mapping purposes. For more information, see Updating Axiom Financial Planning dimensions.

Configuring the Dimension Maintenance utility

To configure the Dimension Maintenance utility:

1. To open the Dimension Maintenance Utility, in the **Fin Plan Admin** task pane, in the **Administration** section, double-click **Dimension Maintenance - Integration Mapping**.



2. Configure the utility to assign any custom dimension grouping column to their respective products. For more information, see Assigning an existing grouping column to a dataset (product).
3. Configure the security for each administrator user in the utility. You must apply a dimension filter

to any member that you want to have edit rights. If **NotConfigured** displays, then the user does have edit ability. A filter grants users edit abilities for those records within the assigned filter. For more information, see Editing the security rights for a user.

4. Review and test the Dimension Maintenance utility.

Assigning an existing grouping column to a dataset (product)

You can associate each grouping column you create with multiple licensed products. The assignment determines which product each column gets displayed under within the Data Maintenance utility.

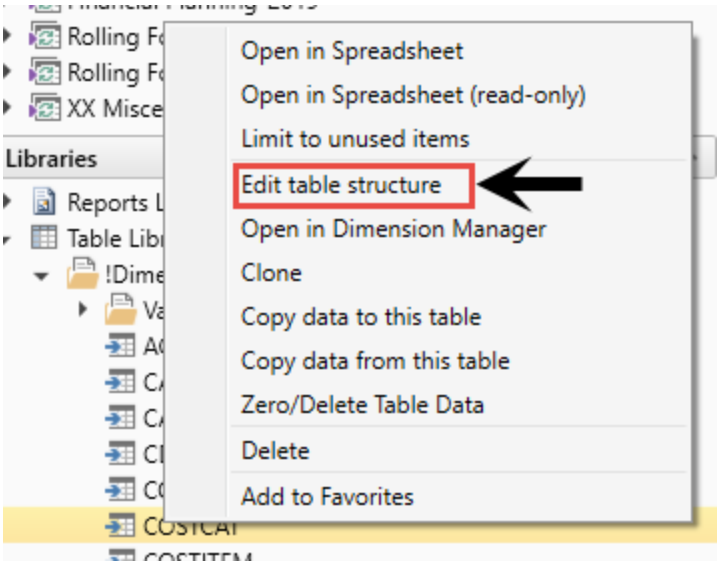
NOTE: You can only perform assignments for custom columns that your organization has added. We recommend that you do not change the assignments of any standard columns included with the product.

IMPORTANT: Make sure to define a default value entry for the column. To do this, complete steps 1-7 of Creating a grouping column.

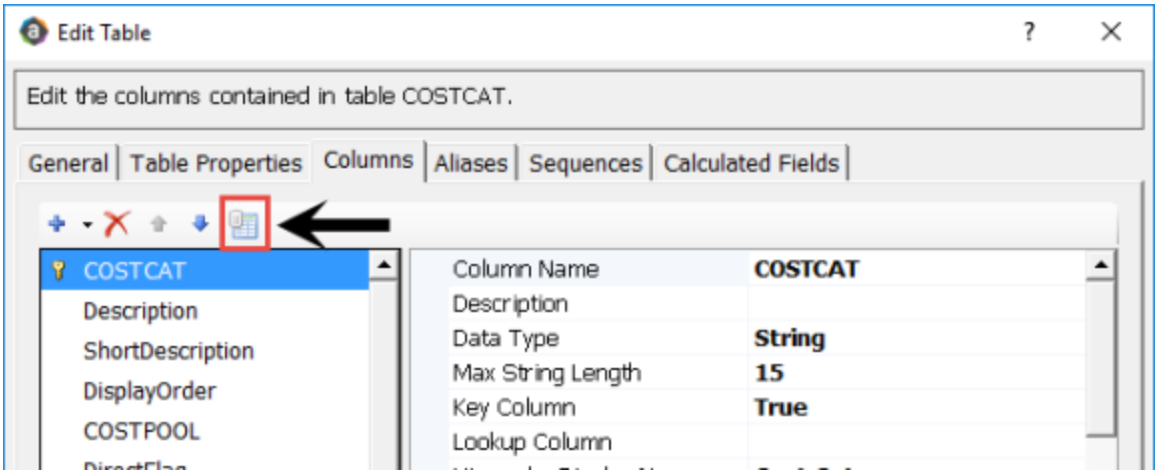
To assign an existing dimension grouping column to a dataset (product):

1. From the **Explorer** task pane, in the **Libraries** section, click **Table Library** > **!Dimensions**.

2. Right-click a dimension, and select **Edit table structure**.

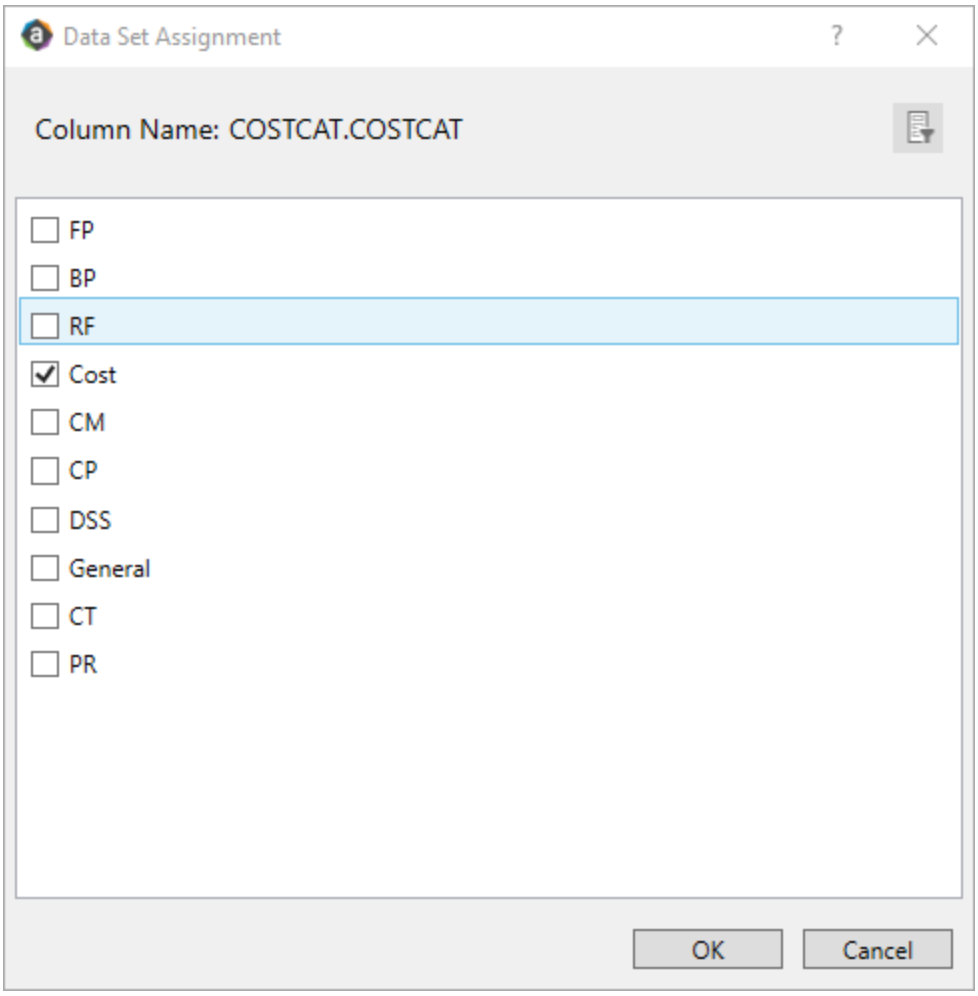


3. In the **Edit Table** dialog, click the **Columns** tab.
4. In the list of columns, select a column to assign, and click the **Assign Column to Data Sets** button.



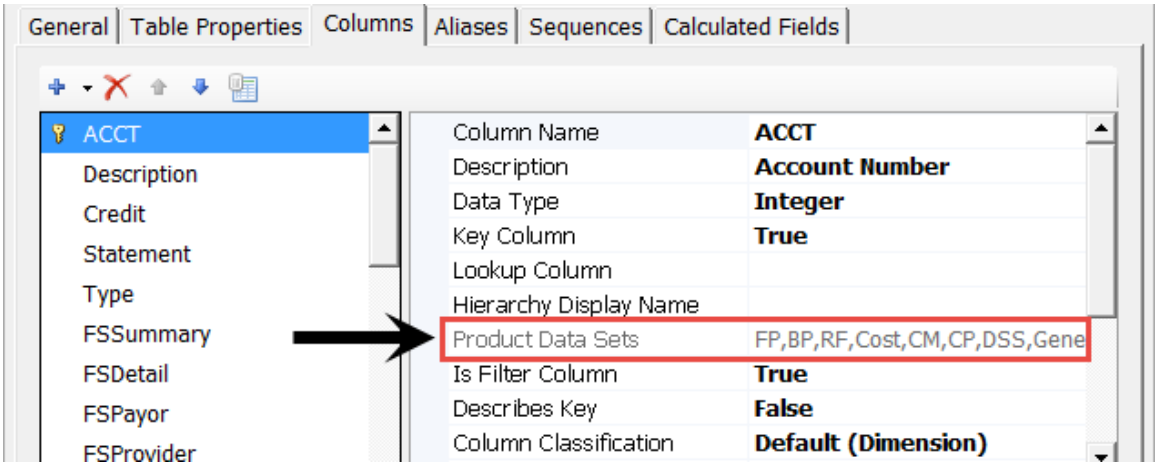
5. In the **Data Set Assignment** dialog, in the list of data sets (products) that have predefined for you, select the checkbox next to the products to assign this grouping column to, and click **OK**.

> **NOTE:** The list that displays will vary depending on the Axiom Healthcare Suite products you are licensed to use.



Product	Product Node
BudgetPlanning	BP
Financial Planning	FP
Rolling Forecast	RF
Cost Accounting	Cost
Cost Management	CM
Capital Planning	CP
Decision Support	DSS
Capital Tracking	CT
Performance Reporting	PR
Available to all related products	General

After you select the products, they display in the **Edit Table** dialog in the **Product Data Sets** field.



6. In the **Edit Table** dialog, click **OK**.

Editing the security rights for a user

You can only access the security management feature of the Dimension Maintenance utility if you are assigned the security administrator role.

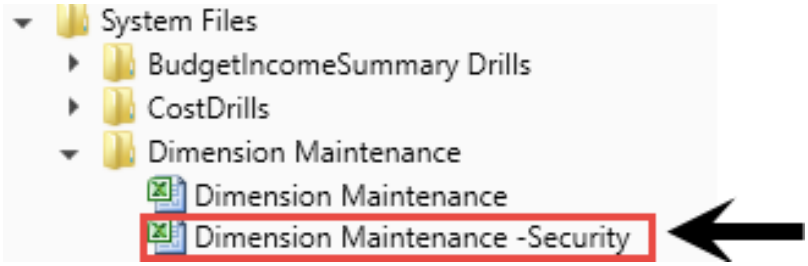
With Dimension Maintenance - Security, you can set in bulk the security rights for all users assigned a product administrator role for all dimensions for a specific dataset (product).

NOTE: If a user is assigned as an administrator for a product and as a user for another product, the user can only access the tables for the product they are administrator of. For example, if a user is a product administrator for Axiom Cost Accounting and a user for Axiom Budgeting and Performance Reporting, the user would only be able to edit the dimensions for Axiom Cost Accounting.

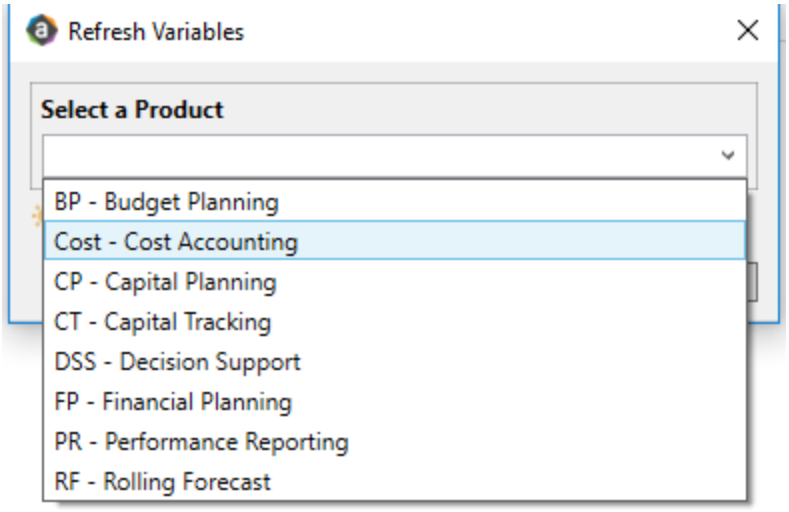
IMPORTANT: For a user (with a product administrator role) to edit a dimension, you must first assign them security rights using this utility.

To edit the security rights for a user:

1. From the **Explorer** task pane, in the **Reports Library** section, select **System Files > Dimension Maintenance**, and double-click **Dimension Maintenance - Security**.



2. In the **Select a Product** drop-down, select the product to display the respective product administrators, and click **OK**.

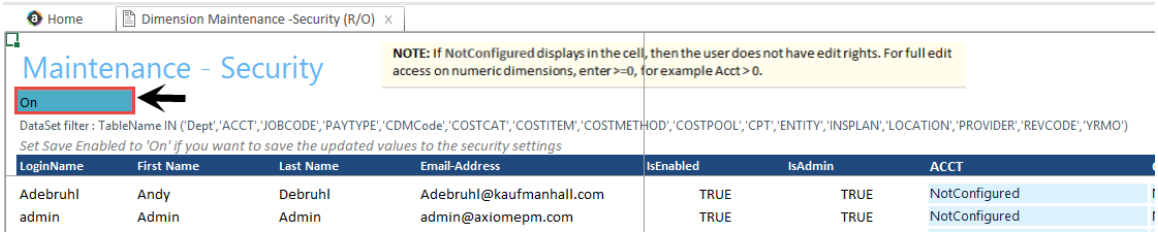


3. Select a user, and do one of the following:

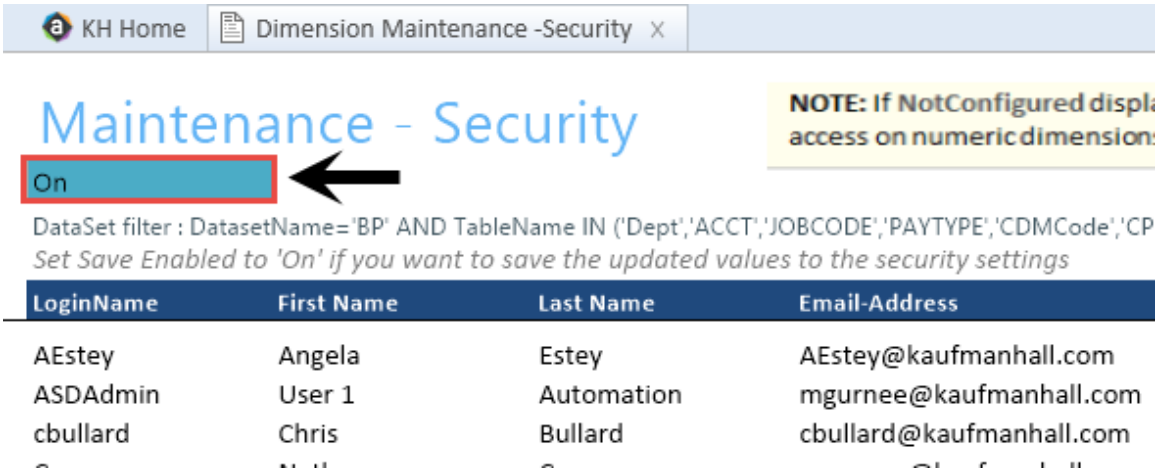
IMPORTANT: If **NotConfigured** displays in the cell, then the user does not have edit rights. For full edit access on numeric dimensions, enter **>= 0**, for example Acct > 0.

To...	Then...
Use the filter wizard to specify the security rights	a. Right-click the cell to edit. b. Select **Axiom Wizards > Filter Wizards**. c. Use the **Filter Wizard** to select and specify the security rights for a product administrator. For more information on using the Filter Wizard, do the following: i. On the **Main** ribbon tab, click **Help**. ii. In the left navigation pane, click **Reference > Filters > Filter Wizard**.
Enter the security rights manually	Click in a cell, and type the rights.

In the following example, Angela is not authorized to edit the ACCT dimension. She can, however, edit the DEPT dimension records for departments that belong to Entity 2.



4. In the **Maintenance - Security** table, at the top of the utility, **On** indicates saving will post changes to the database.



NOTE: The ability to save is initially enabled (On). Clicking **Save** on the **Main** ribbon tab posts any changes to the database.

5. In the **Main** ribbon tab, click **Save**.

Managing dimensions

After you configure the Dimension Maintenance utility and set the security rights for the appropriate users, they can access the utility from the Administrator task pane to manage and configure dimensions. The products and dimensions a user can access will vary depending on their role. As an administrator, you can select all of the Axiom Software products.

For more information, see the following:

- Editing a dimension
- Adding a dimension record
- Creating a grouping column

Editing a dimension

The Dimension Maintenance utility allows you to edit the grouping columns for one or more products, but the product options available to you depend on the role assigned to you. Axiom Financial Planning administrators have rights to Financial Planning dimensions, Axiom Capital Planning and Capital Tracking administrators have rights to Capital dimensions, and so on.

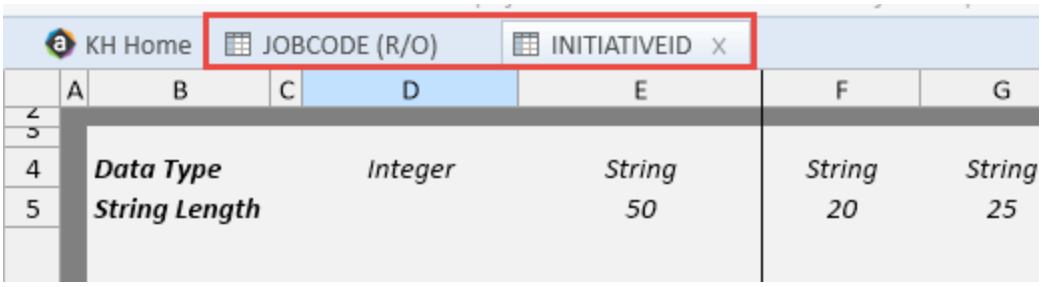
TIP: You never edit database tables directly in the database. Instead, data is pulled into spreadsheets, where you can edit the data and then subsequently save it back to the database.

The columns that display depend on what products each column is assigned to using the Data Set Assignment.

When editing dimensions, keep in mind the following:

- The products you select determine the columns you can view.
- The dimension you select determines the table you can edit.
- Your role determines the records you can edit.

Some dimensions are not included in the Dimension Maintenance utility. You can continue to access and modify these dimensions from the Axiom product's Admin task pane, as usual. If the dimension you open displays as read-only, this means that you need to use the Dimension Maintenance utility to modify it. For example, in Axiom Budgeting, when you open the DEPT dimension from **Bud Admin task pane > Budget System Maintenance > View Dimension Tables**, the tab displays DEPT R/O. Though you can view the dimension, you need to use the Dimension Maintenance utility to edit it. On the other hand, if you open the INITIATIVEID dimension, the tab does not display R/O. This means that you can modify the dimension as usual. This is because the INITIATIVEID table is not included in the list of tables that are maintained via the Dimension Maintenance utility. For a list of dimensions not included in the Dimension Maintenance utility, see the overview section.



IMPORTANT: Edit dimension data with extreme care, as any errors introduced could cause problems throughout the system. Do not modify fields not described in Axiom documentation.

After you select the product(s) and dimension to edit, the Dimension Maintenance utility refreshes itself and displays the different products and the columns that belong to them for the dimension. As seen in the following example, the columns display in groups.

TIP: It is not always necessary to populate every field. Enter as much information in the dimension table as you have available.

Maintenance

Dimension : PAYTYPE

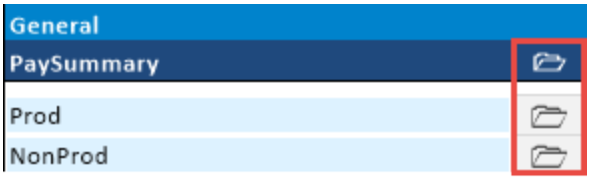
DataSet filter : (DataSetname IN ('General','BP') OR DataSetName = '')

(*) the column is duplicate. Only the first instance will be saved back

		General						BP			
PAYTYPE	Description	PaySummary		PayDetail		FTE		Empl_Detail		KHAInt	
P0001	Regular	Prod		Regular		Yes		Z_Employee		JobCode	
P0004	Paid Time Off	NonProd		NonProd		Yes		Z_Employee		JobCode	
P0006	Sick Pay	NonProd		NonProd		Yes		Z_Employee		JobCode	
P0008	Jury Duty	NonProd		NonProd		Yes		Z_Employee		JobCode	
P0009	Education	Prod		Regular		Yes		Z_Employee		JobCode	
P0011	Payroll Adjustments	Prod		Regular		Yes		Z_Employee		JobCode	
P0014	Personal Development	Prod		Regular		Yes		Z_Employee		JobCode	
P0015	Med Tech Pay	Prod		Regular		Yes		Z_Employee		JobCode	
P0016	Extra Shift	Other		Other		No		Z_Employee		Dollars	
P0019	Education	Prod		Regular		Yes		Z_Employee		JobCode	
P0020	Call Pay	Other		Other		No		Z_Employee		Dept	
P0022	Call-Back	Prod		Overtime		Yes		Z_Employee		JobCode	
P0024	Sick Pay	NonProd		NonProd		Yes		Z_Employee		JobCode	
P0028	PDO Cash-In	Other		Other		No		Z_Employee		NA	
P0030	Additional Pay	Other		Other		No		Z_Employee		Dept	
P0031	Retroactive Pay	Prod		Regular		Yes		Z_Employee		JobCode	
P0035	Hol/Flt Pool Bonus	Prod		Regular		No		Z_Employee		Dollars	
P0037	Suppl Staff-Hourly	Prod		Regular		Yes		Z_Employee		JobCode	
P0039	Additional Pay	Other		Other		No		Z_Employee		Dollars	
P0050	Recognition Pay	Other		Other		No		Z_Employee		Dollars	
P0051	Sign On Bonus	Other		Other		No		Z_Employee		Dollars	
P0054	Incentive Pay	Other		Other		No		Z_Employee		Dollars	

In the blue cells, you can do the following:

- Choose from a list of validated values by double-clicking the folder in the column next to the grouping column.



- Enter free-form values, though we recommend that you take into consideration any existing values or rules for that column.

Grouping columns tagged as General display first, as shown in the previous example. General columns are typical reference fields leveraged by multiple products. Each subsequent grouping displays based on the products you selected. Records display depending on the security assigned to you. For example, if a no write filter is assigned for that member, the dimension will return no records. For more information, see Editing the security rights for a user.

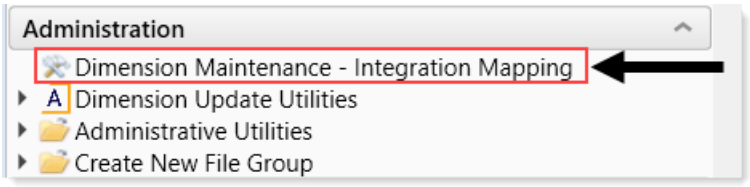
IMPORTANT: If you are not sure whether to edit a cell, contact your system administrator.

Some columns in dimensions tables are validated, allowing only certain predefined values. If you enter an invalid value, an error will occur when you save, specifying the cell so you may make a correction and save again.

To edit a dimension:

1. In the Fin Plan Admin task pane, in the **Administration** section, double-click **Dimension**

Maintenance.



2. In the **Refresh Variables** dialog, do the following:

    a. In the **Select The Product To Edit** drop-down, select the product.

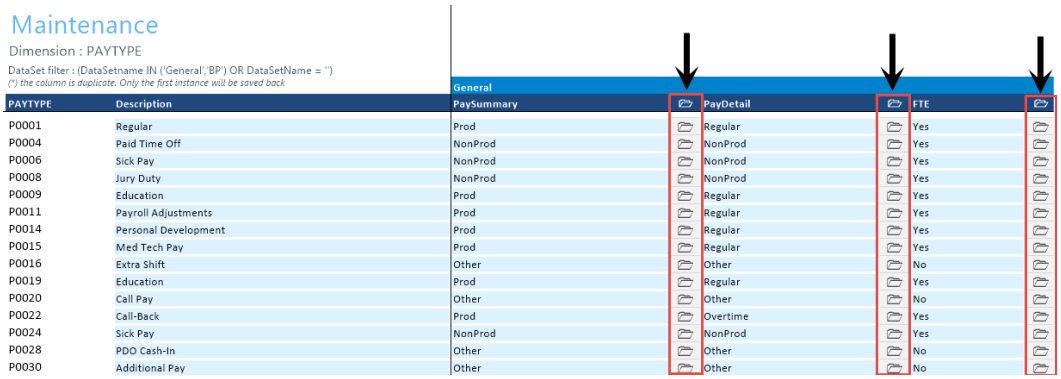
    > **NOTE:** The list of products that display is determined by the Axiom product licenses that your organization owns.

    b. In the **Select a Dimension to Edit** drop-down, select the dimension, and click **OK**.

3. To retrieve a smaller subset of data, you can use the **Quick Filter** in the **Workbook Options** of the **Main** ribbon tab.

4. Enter the dimension member attribute information in the appropriate cells. You can type a value in the cell free-form or select from a list of existing validated values. These are represented with a folder icon next to the grouping column. You can do one of the following to enter validated values:

    - Next to the column, double-click the folder icon. In the **Choose Value** dialog, select the value, and click **OK**.


Maintenance

Dimension : PAYTYPE

DataSet filter : (DataSetname IN ('General','BP') OR DataSetName = '')

(*) the column is duplicate. Only the first instance will be saved back

		General				
PAYTYPE	Description	PaySummary		PayDetail	FTE	
P0001	Regular	Prod		Regular	Yes	
P0004	Paid Time Off	NonProd		NonProd	Yes	
P0006	Sick Pay	NonProd		NonProd	Yes	
P0008	Jury Duty	NonProd		NonProd	Yes	
P0009	Education	Prod		Regular	Yes	
P0011	Payroll Adjustments	Prod		Regular	Yes	
P0014	Personal Development	Prod		Regular	Yes	
P0015	Med Tech Pay	Prod		Regular	Yes	
P0016	Extra Shift	Other		Other	No	
P0019	Education	Prod		Regular	Yes	
P0020	Call Pay	Other		Other	No	
P0022	Call-Back	Prod		Overtime	Yes	
P0024	Sick Pay	NonProd		NonProd	Yes	
P0028	PDO Cash-In	Other		Other	No	
P0030	Additional Pay	Other		Other	No	

    - If you have a large number of entries to make, instead of opening each folder, you can copy and paste the validated value to other cells in the same column.

IMPORTANT: Do not change the format of cells in dimensions (e.g., number, date, percentage, and so on).

5. After you finish making your changes, in the **Main** ribbon tab, click **Save**.

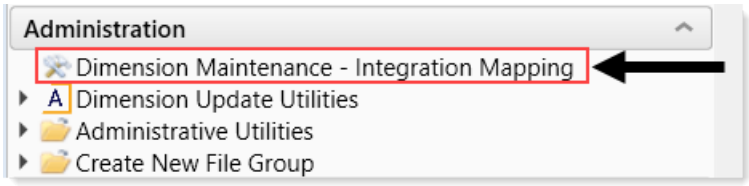
NOTE: If a column is missing, then it is assigned to a different dimension or not assigned. For more information, see Assigning an existing grouping column to a dataset (product).

Adding a dimension record

When you save the new dimension record, it displays in the existing table on the next utility refresh.

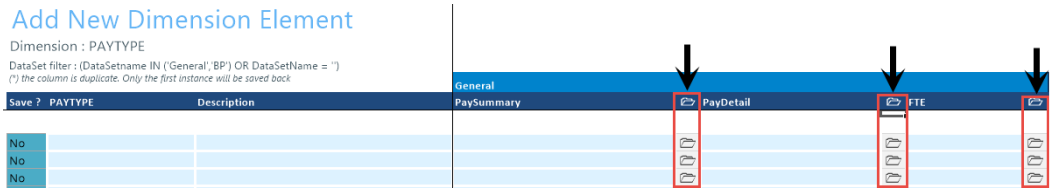
To add a dimension record:

1. In the Fin Plan Admin task pane, in the **Administration** section, double-click **Dimension Maintenance**.

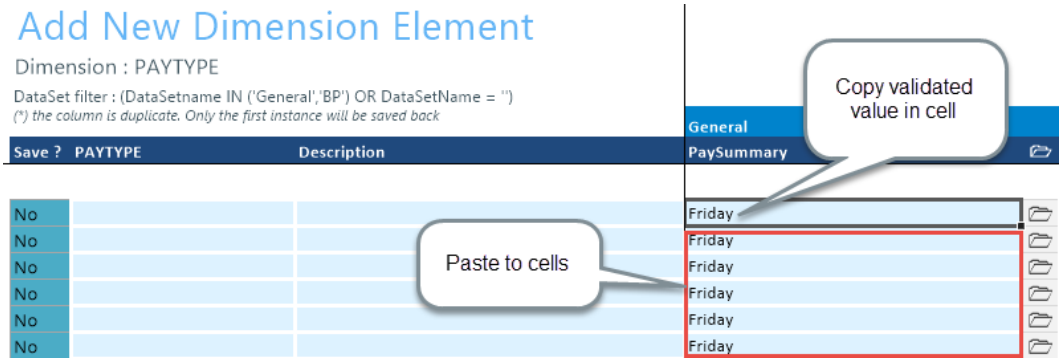


2. To select the product to add the new dimension record, do the following:
    a. Press **F9** or in the **Main** ribbon tab, in the **Workbook Option** group, click **Refresh Data**.
    b. In the **Refresh Variables** dialog, from the **Select The Product To Edit** drop-down, select the Axiom Healthcare Product.
    c. From the **Select a Dimension to Edit** drop-down, select the dimension.
    d. Click **OK**.
3. At the bottom of the workbook, click the **Add_New_Dimension** tab.
4. You can type a value in the cell free-form or select from a list of existing validated values. These are represented with a folder icon next to the grouping column. You can do one of the following to enter validated values:

- Next to the column, double-click the folder icon. In the **Choose Value** dialog, select the value, and click **OK**.

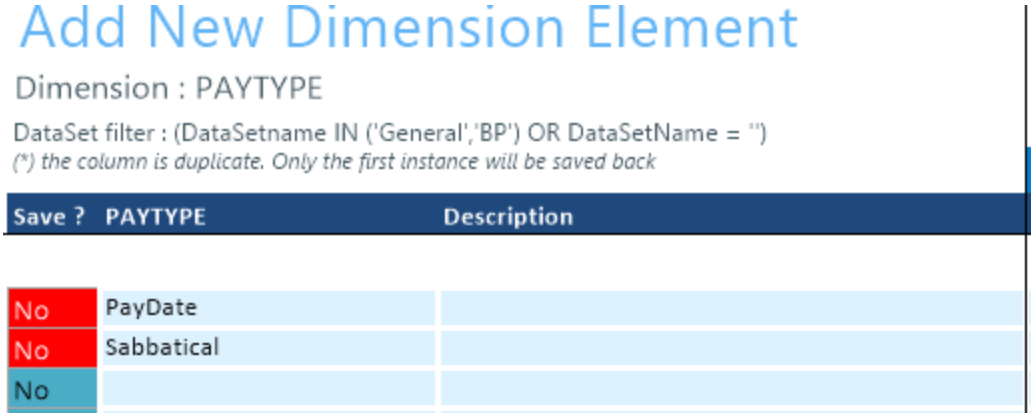


- If you have a large number of entries to make, instead of opening each folder, you can copy and paste the validated value to other cells in the same column.



5. For each record to create, in the **Save?** cell, click the drop-down box, and select **Yes**.

   If you do not select Yes, the **Save ?** cell for the new dimension displays No with a red background as a reminder that you need to save your changes. If you do not save your changes, the default values you enter will not display. If you leave the values unpopulated, the system will populate the defaults using those defined in the column properties in the dimension table.



6. In the **Main** ribbon tab, click **Save**.

Upon Save, the new record posts to the database and the utility refreshes, moving the newly saved record to the **Dimension Maintenance** tab.

IMPORTANT: When adding new records, the field used as that user's security filter must be completed and within their filter before it will save successfully. If it is not, the system displays a message that you cannot post this record to the database because it is outside of your write filter. For example, if a security administrator using the Dimension Maintenance Security provides a filter for Angela to grant her edit rights to the Department dimension for Entity =2, then Angela must enter 2 in the Entity column before saving. For more information about setting up security for the Dimension Maintenance utility, see Editing the security rights for a user.

Creating a grouping column

Some dimension tables include grouping columns that allow data associated with those records to share common settings or be rolled up into larger groups for calculation or reporting purposes.

NOTE: If you created a custom grouping column in Axiom Financial Planning version 2016.4 or earlier, you need to assign it to a data set (product). For instructions, see Assigning an existing grouping column to a dataset (product).

Here are a few guidelines for naming your columns:

- Keep the descriptions of grouping columns short and simple.
- Avoid using common English words in your grouping column names, such as Interface or Union. Instead, combine words to come up with column titles such as IntGroup.
- It is good practice to fill out each grouping column for every element (table row).
- Spaces are not allowed. Use the underscore to separate upper/lower case words.
- Grouping columns cannot start with a number, but they may include a number.

To create a grouping column:

1. Right-click the dimension table to add the grouping column to, and select **Edit table structure**.
2. In the **Edit Table** dialog, click the **Columns** tab.
3. Above the list of column names on the left side of the tab, click the **+** button.
4. In the **Column Name** field, type a name for the new column.

   IMPORTANT: Use only alphanumeric characters in group column labels.

5. In the **Data Type** field, click the drop-down button, and select **String**.
6. In the **Default Value** field, type a default value that displays to the user.
7. Click **Apply**.
8. In the list of columns, select the column you just added.
9. Above the list of columns, click the **Assign Columns to Data Sets** button.
10. In the **Data Set Assignment** dialog, select the checkbox for any Axiom Healthcare Suite products

to add to the column to, and click **OK**.

11. In the **Edit Table** dialog, click **OK**.
12. To view the new column, in the **Main** ribbon tab, click **Refresh Data**.

The new grouping column now displays in the dimension.

Updating Axiom Financial Planning dimensions

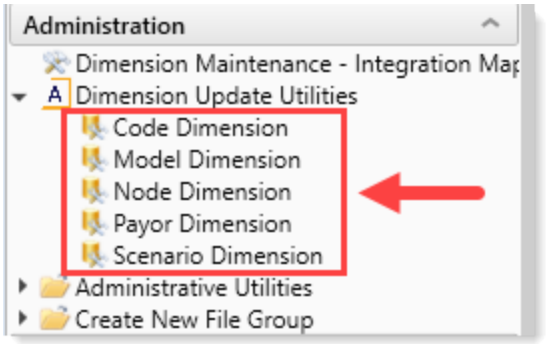
Axiom Financial Planning uses some dimensions that are not included in the Dimension Maintenance utility:

- CODE – Contains a unique numerical ID for each of the summary accounts used in Financial Planning calculations.
- MODEL – Contains the description, active/inactive status, base year and assumptions set for each financial planning model defined.
- NODE – Contains the description, model, node type, and other information for each node.
- PAYOR – Lists payor categories for financial modeling and reporting (Medicare, Commercial, Self-Pay, and so on).
- SCENARIO – Lists each scenario defined in Axiom Financial Planning, including a brief description for each, the person who created it, the base year, and submission and processed dates. You manage scenarios from the Scenario Manager utility.

Update a dimension table using the corresponding Dimension Update utility.

To update dimensions using the Dimension Update Utilities:

1. In the Fin Plan Admin task pane, in the **Administration** section, expand **Dimension Update Utilities**.



2. Double-click the utility for the dimension to edit.

Update the Code dimension

IMPORTANT: Changes made to CODE descriptions are system-wide, meaning they affect code descriptions in other Axiom products where the codes are used.

You can update/use the following Code dimension attributes:

- **Description** – Code description displayed in the Description column of the CODE table.
- **Active** – Determines whether a code can be inserted into nodes, and whether it will display as a mapping option in the Transfer to Financial Planning utility.
- **Conversion Factor (Transfer to FP Only)** – Used in transferring data from Axiom Budgeting to Axiom Financial Planning. Budgeting values are in normal dollars, but in Axiom Financial Planning, they are in thousands of dollars. The default for this column is to divide by 1000. You can also set this to divide by -1000, 1, or -1.
- **Conversion Factor YR2 (Transfer to FP Only)** – Used in transferring data from Axiom Budgeting to Axiom Financial Planning. You can change the division conversion factors just as in the general Conversion Factor column, but you can also change the number of days in the FTEs section, for example, to accommodate leap years if you are calculating by days. Conversion factors set here apply to the year selected for Year 2 in the first Configuration for Data Transfer page (page 2) of the Transfer to Financial Planning utility.
- **Conversion Factor YR3 (Transfer to FP Only)** – Used in transferring data from Axiom Budgeting to Axiom Financial Planning. You can change the division conversion factors just as in the general Conversion Factor column, but you can also change the number of days in the FTEs section, for example, to accommodate leap years if you are calculating by days. Conversion factors set here apply to the year selected for Year 3 in the first Configuration for Data Transfer page (page 2) of the Transfer to Financial Planning utility.

  NOTE: Although the conversion factors are edited here, the results are saved to the FPCode column in the ACCT table, not the CODE dimension table.

- **Mapping Code (Transfer to FP Only)** – Used in transferring data from Axiom Budgeting to Axiom Financial Planning. This column displays the code to use in the ACCT_FPCode column to map the CODE item to Axiom Financial Planning. This column is for reference purposes and cannot be edited.

To view the other dimension table column descriptions, See CODE.

Update the Model dimension

You can update the following Model dimension attributes:

- Description
- Active

- Status
- Projected Years
- Report Group
- Model Group
- Globals

To view descriptions for these and other MODEL dimension table columns, See MODEL.

Update the Node dimension

You can update the following Node dimension items for a selected Financial Planning Year:

- Description
- Model
- Type
- Tab Display
- Long Description
- Primary Group
- Secondary Group
- Allocation ID

To view descriptions for these and other NODE dimension table columns, See NODE.

Update the Payor dimension

IMPORTANT: Changes made to PAYOR descriptions are system-wide, meaning they affect PAYOR descriptions in other Axiom products where the codes are used.

You can update the following Payor dimension items:

- Description
- Type
- ENUFF
- Bad_Debt_Grp
- Charity_Grp
- Capitated

To view descriptions for these and other Payor dimension table columns, see PAYOR.

Update the Scenario dimension

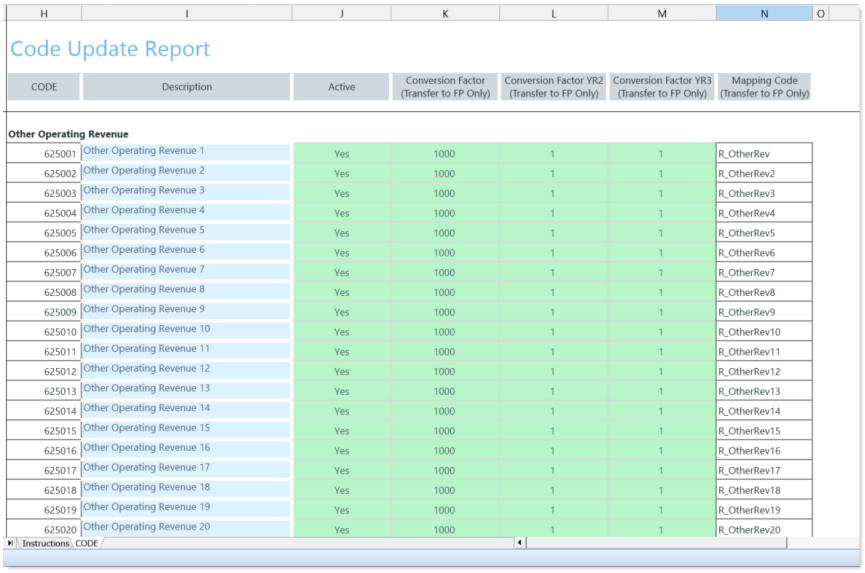
You can update the following for the Scenario dimension items for a selected Financial Planning Year:

- Description
- Active
- RptScenario

To view descriptions for these and other Scenario dimension table columns, see SCENARIO.

3. Make the desired edits. The following example is from the Code Dimension utility.

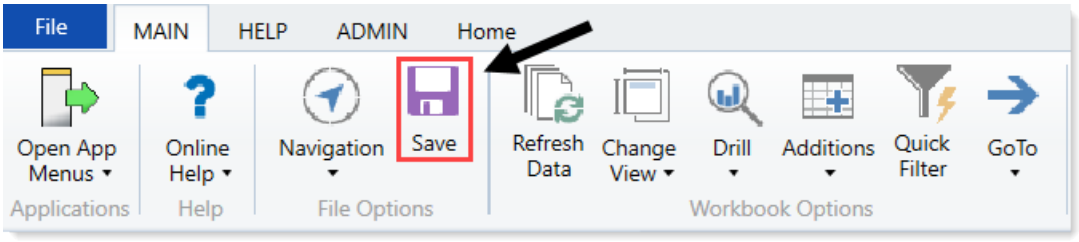
   - All green fields are drop-downs with selectable options. Click in a field and then click the drop-down arrow to the right of the field and select an option.
   - All blue fields are input fields. Type changes directly into the fields.
   - Do not edit protected fields. If you want to change data in protected fields, please contact Client Success.



Code Update Report

CODE	Description	Active	Conversion Factor (Transfer to FP Only)	Conversion Factor YR2 (Transfer to FP Only)	Conversion Factor YR3 (Transfer to FP Only)	Mapping Code (Transfer to FP Only)
Other Operating Revenue						
625001	Other Operating Revenue 1	Yes	1000	1	1	R_OtherRev
625002	Other Operating Revenue 2	Yes	1000	1	1	R_OtherRev2
625003	Other Operating Revenue 3	Yes	1000	1	1	R_OtherRev3
625004	Other Operating Revenue 4	Yes	1000	1	1	R_OtherRev4
625005	Other Operating Revenue 5	Yes	1000	1	1	R_OtherRev5
625006	Other Operating Revenue 6	Yes	1000	1	1	R_OtherRev6
625007	Other Operating Revenue 7	Yes	1000	1	1	R_OtherRev7
625008	Other Operating Revenue 8	Yes	1000	1	1	R_OtherRev8
625009	Other Operating Revenue 9	Yes	1000	1	1	R_OtherRev9
625010	Other Operating Revenue 10	Yes	1000	1	1	R_OtherRev10
625011	Other Operating Revenue 11	Yes	1000	1	1	R_OtherRev11
625012	Other Operating Revenue 12	Yes	1000	1	1	R_OtherRev12
625013	Other Operating Revenue 13	Yes	1000	1	1	R_OtherRev13
625014	Other Operating Revenue 14	Yes	1000	1	1	R_OtherRev14
625015	Other Operating Revenue 15	Yes	1000	1	1	R_OtherRev15
625016	Other Operating Revenue 16	Yes	1000	1	1	R_OtherRev16
625017	Other Operating Revenue 17	Yes	1000	1	1	R_OtherRev17
625018	Other Operating Revenue 18	Yes	1000	1	1	R_OtherRev18
625019	Other Operating Revenue 19	Yes	1000	1	1	R_OtherRev19
625020	Other Operating Revenue 20	Yes	1000	1	1	R_OtherRev20

4. After you make your changes, in the **Main** ribbon tab, click **Save**.



Axiom Financial Planning dimension tables

This section includes a description of the Axiom Financial Planning dimensions.

CODE

The CODE dimension table contains all the valid CODE items used in the Axiom Financial Planning system.

IMPORTANT: Do not make direct edits in this table; only some of the items can be edited. Use the Code Dimension Update Utility in the Financial Planning Admin task pane.

The following table describes the items in the CODE dimension table.

Column	Description
Code	The preset code used in Axiom Financial Planning.
Description	Identifies the Code description. Try to be as explicit as possible, avoid abbreviations, and use layman's terms. Descriptions should not be in all capital letters. To remove the all-caps format in the spreadsheet, use the Proper formula =Proper().
CodeUpdate	The mapping to code structure used in Hospital Advisor XI.
FSDetail	Used to identify line-item Financial Statement categories. For the naming convention, use the first letter of the type category with an underscore and then the category name. For example, R_IPRev, R_OPRev.
FSSummary	Used to identify summary-level Financial Statement categories. For the naming convention, use the first letter of the type category with an underscore and then the category name. For example, R_PatientRev or E_ Salaries.
Type	Used to identify the major Financial Statement category.
Category	Used to identify the detailed Financial Statement category.
SummaryCode	Identifies the code that each code summarizes to.
InterfaceCode	Reserved for future use.
Credit	Reserved for future use.
ActiveCode	Designates whether a CODE is active (**Yes**) or inactive (**No**) and can be added into a node or be available for mapping in the Transfer to FP Utility.
Picklist	Used to determine which codes are available in each category within a node.
CalcMethod	Designates the associated calc method with the code, when applicable.
Allocation	Identifies codes designated as allocation specific.
AcuteCM	Designates if a CODE item is used as a calc method in Axiom Financial Planning.
CapitalCM	Designates if a CODE item is used as a calc method in Axiom Capital Planning and Tracking.
BPAcct	Used to identify Axiom Budgeting accounts from the ACCT dimension.

MODEL

The MODEL dimension table defines the models within a file group.

IMPORTANT: Do not make direct edits in this table; only some of the items can be edited. Use the Model Dimension Update Utility in the Financial Planning Admin task pane to edit items.

The following table describes the items in this dimension table.

Column	Description
MODEL	The unique name of the model.
Description	The long-form description of the model.
Active	Whether or not the model will be included in reports and calculations.
ReportGrp	The optional grouping column that can be used for reporting.
ModelGrp	The optional grouping column that can be used for reporting.
Status	Whether or not the model will be available for assignment of nodes.
ProjYear	The number of years for which projections will be generated.
BaseYear	The base year from which projections will be generated.
Global	The set of assumptions assigned to associated nodes by default
ObligatedGroup	The optional grouping column to use for reporting.
ProjectID	Unused at this time.
KHABgtTemplate	Unused at this time.
zConsOrder	Unused at this time.
LastSubmitted	The last time model was submitted for recalculation.
LasProcessed	The last time recalculation was completed.

NODE

The NODE dimension table defines the nodes within each model.

IMPORTANT: Do not make direct edits in this table; use the Node Dimension Update Utility in the Financial Planning Admin task pane.

The following table describes the items in the NODE dimension table:

Column	Description
NODE	The node number which corresponds with plan file ID.

Column	Description
Description	The description of the node.
Model	The model associated with the node.
Type	The node type.
TypeDesc	The node type description.
Template	The template associated with node type.
LongDesc	The optional long-form node description.
ProcessOrder	The node type process order.
TabDisplay	The value displayed when the node is opened.
PrimaryGrp	The optional grouping column to use for reporting.
SecondaryGrp	The optional grouping column to use for reporting.
AllocationID	The value used to match CorpAllocation driver value.
CPReqID	The value assigned by integration from Axiom Capital Planning.
FPNode	The value assigned by integration from Operating Budget.

PAYOR

The PAYOR dimension lists all the defined payors used in Axiom Financial Planning, Axiom Capital Planning, and Axiom Capital Tracking systems.

IMPORTANT: Do not make direct edits in this table; use the Payor Dimension Update Utility in the Financial Planning Admin task pane.

The following table describes the items in the PAYOR dimension table.

Column	Description
Payor	The preset payor number used in Axiom Financial Planning.
Description	The description of each payor.
ENUFF	Not used at this time.
Type	Identifies type of payor. Gov is utilized in third-party payables calculation.
Revenue	Identifies the revenue type for each payor.
Bad_Debt_Grp	Allows grouping of bad debt to up to five groups of specific payors.
Charity_Grp	Allows grouping of charity to up to five groups of specific payors.
Capitated	Identifies capitated payors.
Picklist	Utilized to select available payors to be added in a node.

Column	Description
HlthPlan_RX	Allows grouping of covered lives to up to two groups of specific health plan payors.
HlthPlan_Other	Allows second grouping of covered lives to up to two groups of specific health plan payors.

SCENARIO

The SCENARIO dimension table includes records for each scenario defined in Axiom Financial Planning.

IMPORTANT: Do not make direct edits in this table; use the Scenario Dimension Update Utility in the Financial Planning Admin task pane.

The following table describes the items in the SCENARIO dimension table.

Column	Description
SCENARIO	A unique numerical identifier for each scenario
Description	A description of the scenario
Active	Not currently used
BaseYear	Displays the model base year
Creator	The user who created the scenario
Repeat Scenario	Not currently used
Scenario Last Submitted Date	Date/time scenario was last submitted for processing
Scenario Last Processed Date	Date/Time scenario was last processed

Standardizing and customizing node templates

When a user adds a new node to a model, the system prompts them to use a default configuration. The Manage Node Default Details utility allows you to configure (account detail) the default configuration for each node, including (for nodes with these items) defining the reimbursement methodology, the variable expense driver, and the variable expense percentage.

In the Manage Node Default Details utility, when you select Yes in the Include column, the system automatically adds the item when users add a node of that type. However, the system does not use the configuration defaults from this utility under the following circumstances:

- If a user creates a new node, changes the defaults, and then rebuilds the node, the system uses

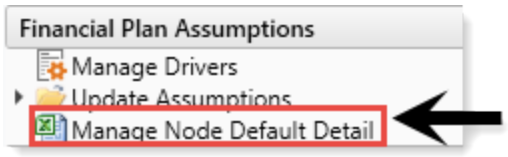
the changes instead of the defaults.

- If you load a different selection from the Data Collection Template, the system uses the selections imported from the template instead of the defaults.

IMPORTANT: Each tab in this utility represents a specific node in Axiom Financial Planning. Thus, any change you make is NOT replicated on any other tab. Make sure to configure the appropriate selections in each tab.

To standardize and customize node templates:

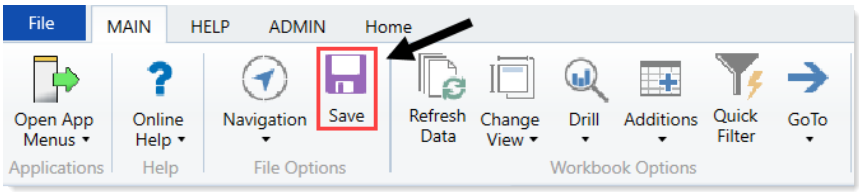
1. In the Fin Plan Admin task pane, in the **Financial Plan Assumptions** section, double-click **Manage Node Default Detail**.



2. For each tab, in the **Include** drop-down for each line item, turn on by selecting **Yes**. When finished, save the changes to initiate the defaults.

   NOTE: This feature is activated only when manually creating a node. If you use the integration utility and the Build Node from Loaded Data feature to add nodes, additional rows are automatically inserted where data exists. To modify a node, see Modifying a node.

3. After you are done making your changes, in the **Main** ribbon tab, click **Save**.



5

Rolling Forward to a New Planning Year

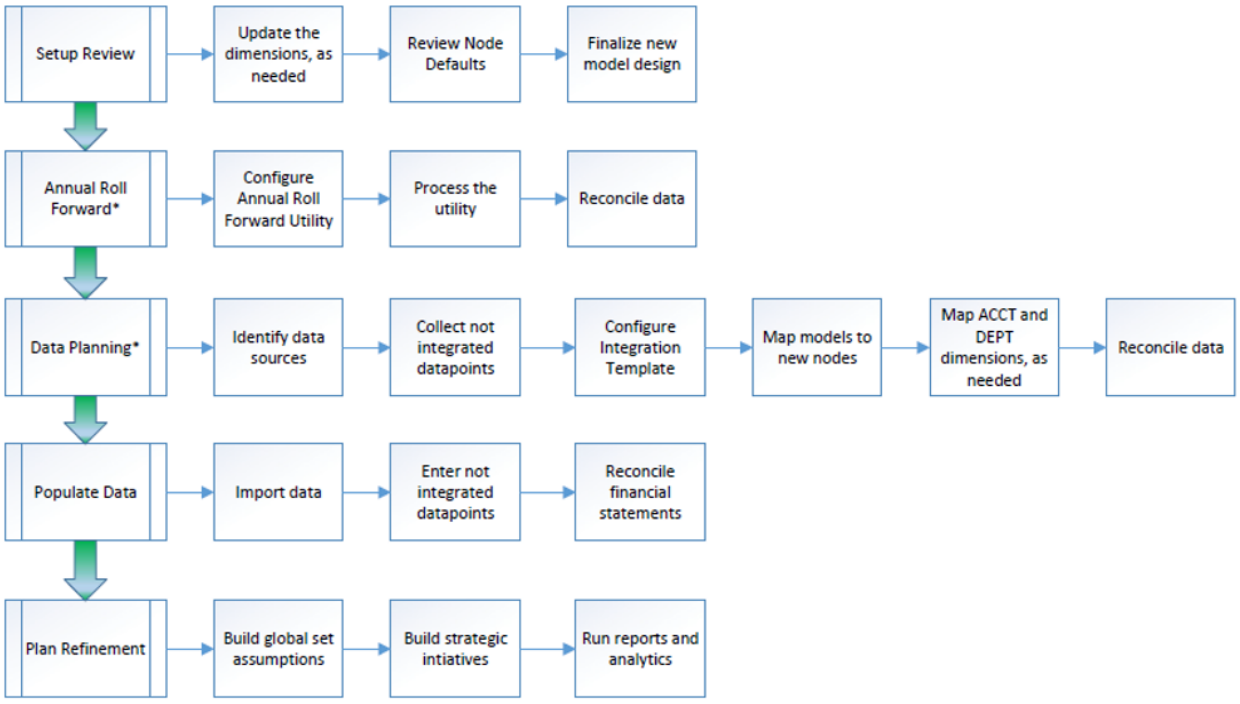
As part of the implementation process, a Kaufman Hall Implementation Consultant helps you create an Axiom Financial Planning file group for the current year.

For the next or subsequent file year, however, you need to create a new file group and, optionally, fill it with data.

The Annual Rollforward Utility allows you to pull data from the file group for the current year and import it to the file group for the next year. Your organization typically performs this process annually to create a new model or set of new models with an updated time series.

If your actuals are up to date, the system performs the annual roll forward process for base year 2 and 3. During the Data Planning process, the new base year 3 (current fiscal year) is updated with budget or projection data, depending on your Axiom Financial Planning configuration. The following diagram shows you the steps that are required for rolling your financials forward to the next year.

NOTE: Axiom Financial Planning already includes file groups for 2016-2019, but to roll forward to years 2020 and beyond, you will need to create a new file group.



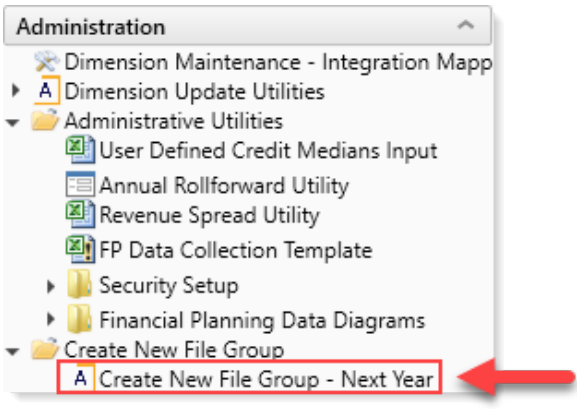
NOTE: All the steps after Data Planning only happen if you are using other Axiom Software products with Axiom Financial Planning.

Creating a new file group

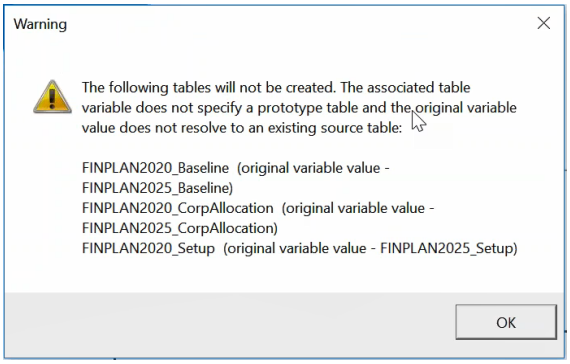
The Create New File Group utility automatically creates a new file group by copying specified tables and saving the drivers. When you create a new file group, the system automatically changes the FP_NextYear file group alias.

To create a new file group:

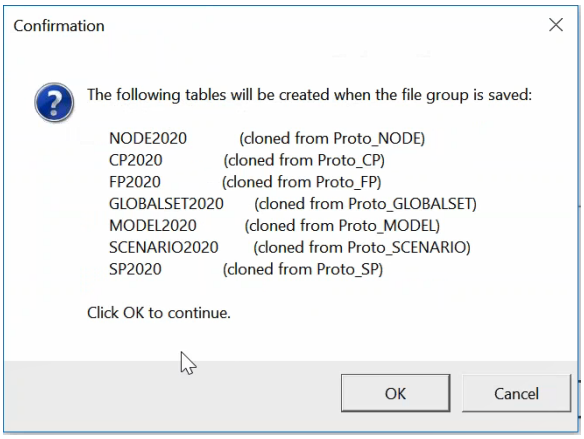
1. In the **Fin Plan Admin** task pane, in the **Administration** section, click **Create New File Group**, and double-click **Create New File Group - Next Year**.



2. In the **New File Group Year** field, type the year to assign the new file group, and click **Next**.
3. In the **General Properties** dialog, click **Finish**.
4. The system displays a warning prompt that lists the tables it will not create as part of the new file group. To continue, click **OK**.



5. The system then displays a list of the tables it will create as part of the new file group. To continue, click **OK**.



6. The system displays a confirmation prompt that the file group saved successfully. Click **OK**.

7. In the **Edit File Group** dialog, to continue creating the file group, click **OK**.

   IMPORTANT: If you click **Cancel**, the system will not create the file group.

8. Close and then re-open the Fin Plan Admin task pane.

Getting data into a new file group

After you create a new file group for next year's planning, there are multiple ways to add current and/or historical data in the plan file, including:

- **Copy driver file data** – Instead of copying data from the prior year driver set manually one cell at a time, you can copy the data and calc methods all at once. See Copy data for driver files.
- **Roll forward current file group data** – Use the Annual Rollforward Utility to pull data from the file group for the current year and import it to the file group for the next year. For more information, see Rolling data forward to a new planning year.
- **Transfer operating budget data and Rolling Forecast data** – Use the Transfer to Financial Planning utility to leverage financial General Ledger and payroll data to update the years for historical models and nodes from Axiom Budgeting and Performance Reporting. Use the utility to also leverage the Axiom Rolling Forecast data tables to update the historical model and node years. For more information, see Using the Transfer to Financial Planning utility.
- **Transfer capital project data from Axiom Capital Planning** – Use the Transfer Capital Projects to Financial Planning utility to integrate capital data into financial planning plan files. See Integrating capital project data.
- **Collect data from other sources** – Use the FP Data Collection Template to gather data outside of Axiom Financial Planning. This template works as a stand-alone Excel workbook that you can use to import external data into the product, and interface in the nodes for the three input periods. For more information, see Collecting and importing data from other sources.
- **Manually enter data** – If needed, you can enter historical data into Axiom Financial Planning manually, directly into plan files. For more information, see Entering historical data manually.

You can use a combination of all of these methods to import data into a new file group for a new year's planning purposes. For example, you can use the Annual Rollforward Utility to bring in data from the 2019 and 2020 file groups into a new 2021 file group, and then use the Transfer to Financial Planning utility to bring in the budget data for 2020. If you have questions, contact your Kaufman Hall Implementation Consultant to help you with this process.

Copy driver file data for the annual roll forward

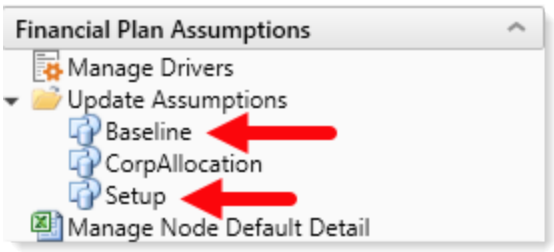
When preparing to roll data forward from one year to the next, you can now copy data from the prior file group for the Setup and Baseline drivers. You can also copy driver data for custom drivers once you recreate them for your new file group set. The copy action copies the driver data and also insert calc

method data, so be aware that it will override any existing data in the drivers created for the Current Year file group.

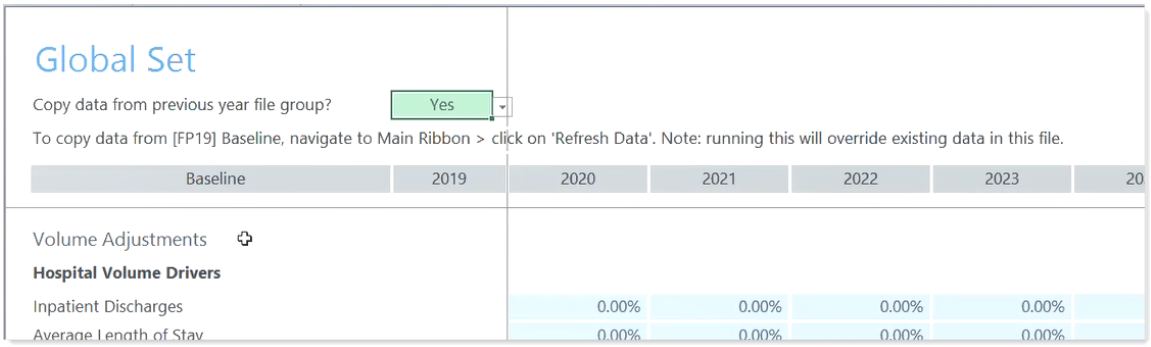
NOTE: These instructions are for new File Groups created from the Create New File Group - Next Year function. Create your new File Group before updating your driver files, and then perform the annual roll forward. You can update driver growth rates at any time.

To copy driver file data for a driver:

1. In the task pane, in the **Financial Plan Assumptions** section, expand **Update Assumptions**.
2. Double-click the desired driver (Setup or Baseline).



3. At the top of the driver, the **Copy data from previous year file group?** button reads "No." Click the drop-down arrow to the right and select **Yes**.

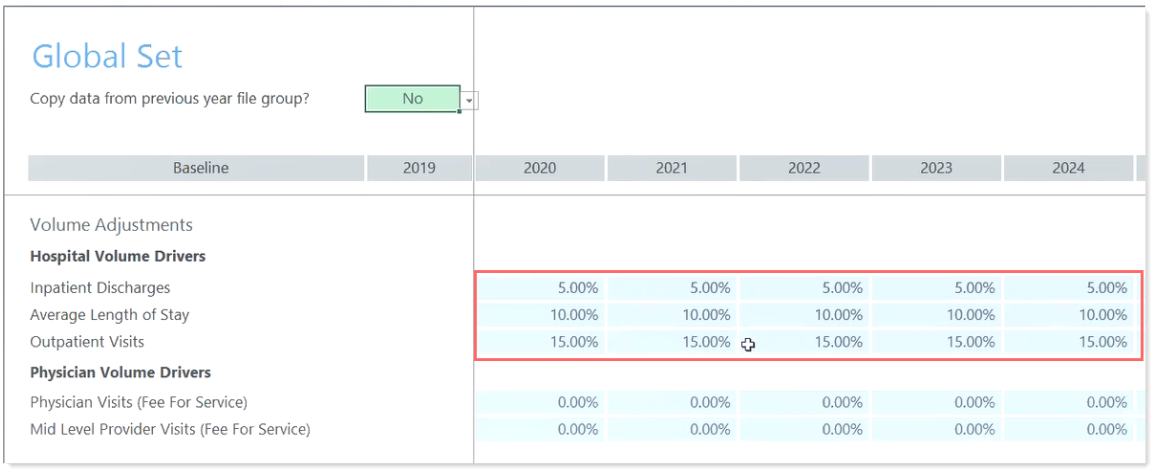


IMPORTANT: Before bringing in data from the previous year, be aware that all data will be overwritten with prior file group data and any formulas will be overwritten.

4. In the **Main** ribbon tab, click **Refresh Data**. This runs a query that pulls in values (if there are any) from the previous year's driver of the same name.

NOTE: The driver names for both the driver being copied from and the driver being copied to must be identical. If they are not, the copy button does not display.

After the data copies over, the copy data button resets to No.



NOTE: The Supplemental Detail section is not populated, with the exception of the Federal Medicare Adjustment (Dollar Amount). This is a known limitation.

5. Save the driver.

To copy a custom driver:

1. Re-create your custom driver using the Manage Drivers utility in the Financial Plan Assumptions section. See Creating custom Global Sets (drivers) for details. Make sure that you give the new driver the exact name as the one from the prior year. If the names are not identical, the copy button does not display.
2. At the top of the new driver, click the drop-down arrow to the right of the **Copy data from previous year file group?** button and select **Yes**.
3. In the **Main** ribbon tab, click **Refresh Data** to bring in data values and calc methods from the prior year driver.
4. Save the driver.

Using the Annual Rollforward Utility

The Annual Rollforward Utility provides administrators a way to select and copy data from one file group year to the next. This forms-based utility available from the Fin Plan Admin task pane replaces the old Excel-based utility of the same name.

The new utility includes all the functionality in the old utility but presents it in a user-friendly wizard that walks you step-by-step through the process of pulling data from the Current Year file group and importing it to the Next Year file group.

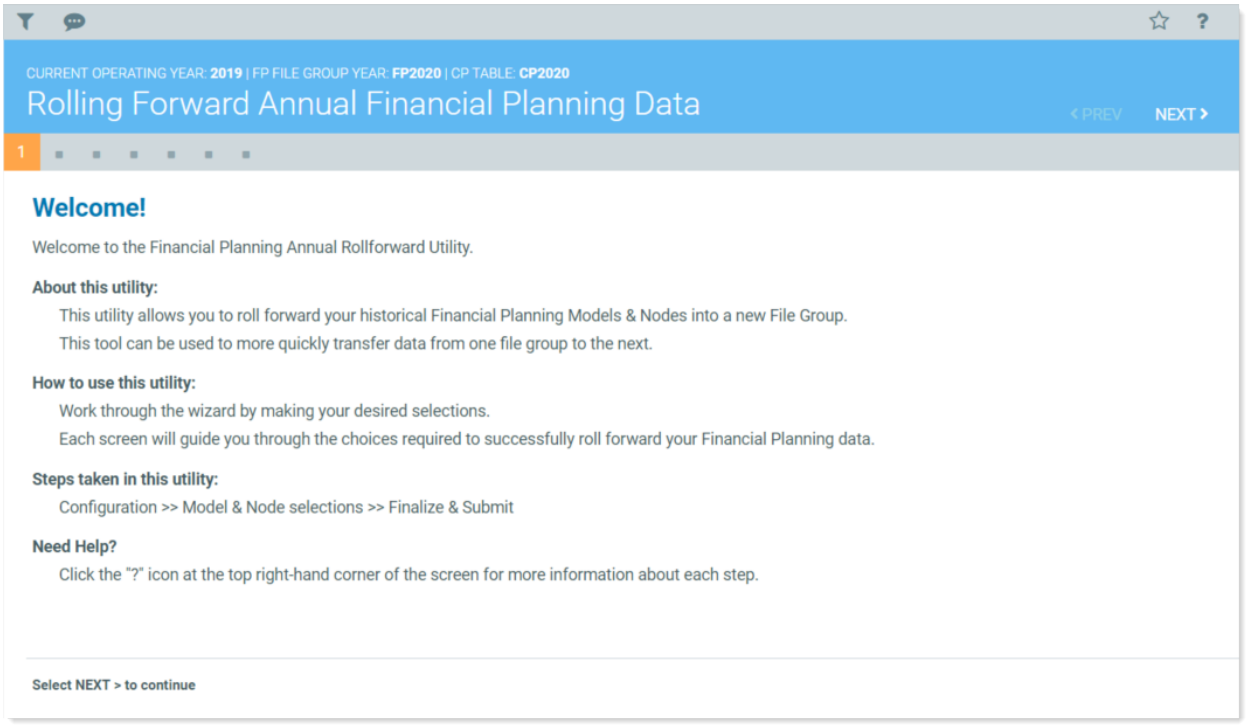
The roll forward utility has the following main processes:

1. **Configuration** – Select the source file group for your roll forward. To get started, see Select the

data and years to roll forward.

2. **Models and nodes selections** – Select which models and nodes to include and which models to save data to.
3. **Finalize and submit** – Select whether to create nodes on submission or to not create nodes if you want to add data from another source and build the nodes later. Click Submit when ready to process the data.

NOTE: Data is automatically saved as you move through the utility. To start over, refresh the utility by pressing the F5 key. Be aware that you will lose all of your previous selections when you refresh.

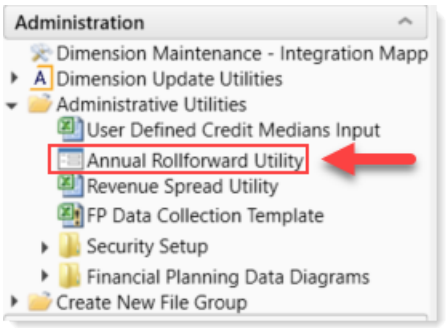


Select the data and years to roll forward

Use these instructions to begin using the Annual Rollforward Utility for rolling financials forward to the next year.

Step 1: Open the utility

1. In the Fin Plan Admin task pane, in the **Administration** section, expand **Administrative Utilities**.
2. Double-click **Annual Rollforward Utility**.

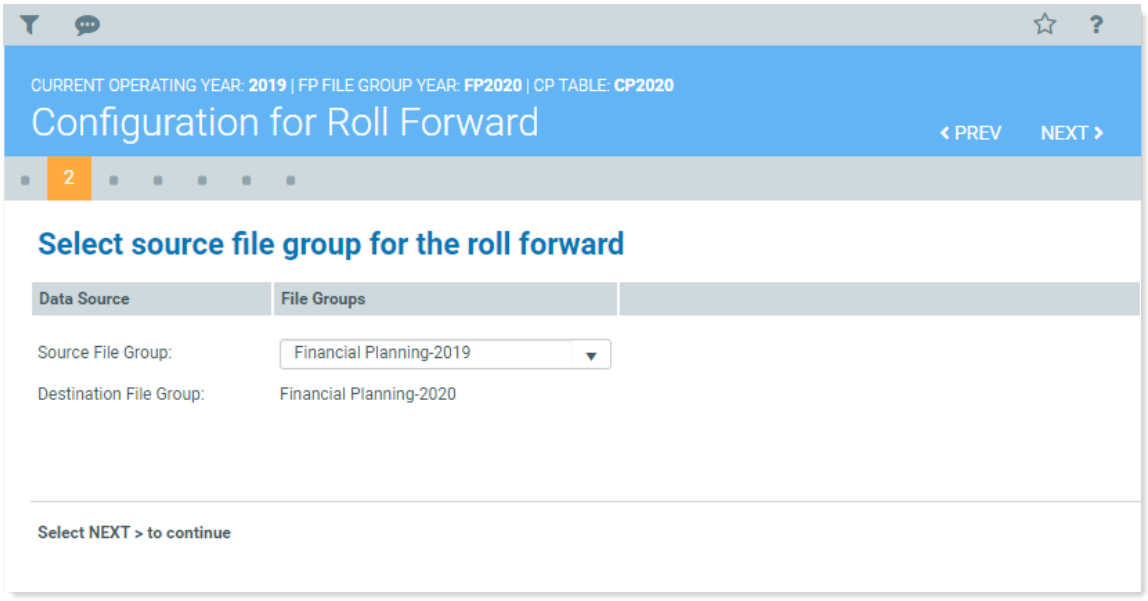


3. On the first page of the utility, review the instructions, and then, in the upper right of the page, click **NEXT**.

Step 2: Select source file group

On the next page, select the file group to use as the source for your Next Year files. The default source file group is Current Year. For the destination file group, the default is Next Year.

1. On the first configuration page (page two of the utility), from the **Source File Group** drop-down, select the desired file group year to use as the source data year. This is the year that contains the nodes and data to roll forward. The year you select becomes the first forecast year of the current model.

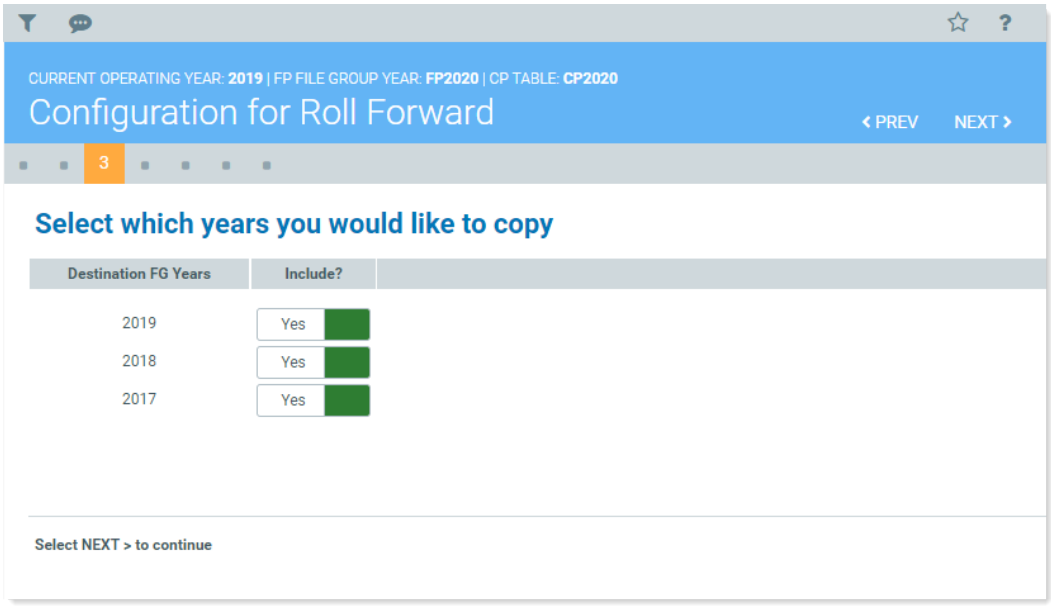


2. Click **NEXT**.

Step 3: Select the years to copy

In this step, you select the years that contain the data to be rolled forward.

1. On the next configuration page, review the default destination file group years. By default, all years displayed are selected to be copied. Do one of the following:
    - To include data from all years, leave the toggles set to **Yes**.
    - To exclude a year, click the toggle for that year to **No**.

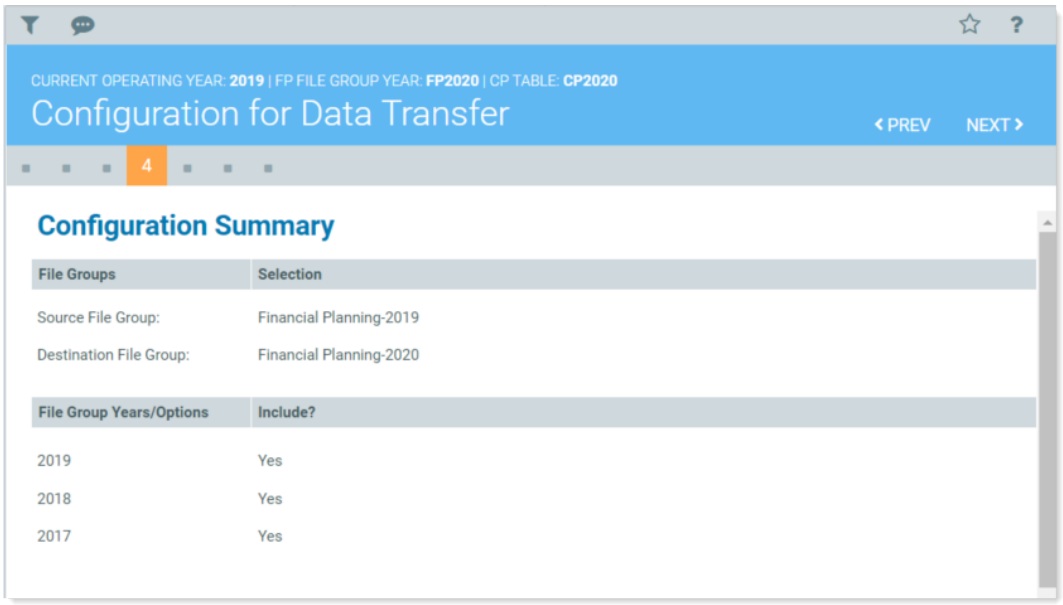


2. Click **NEXT**.

Step 4: Review the configuration summary

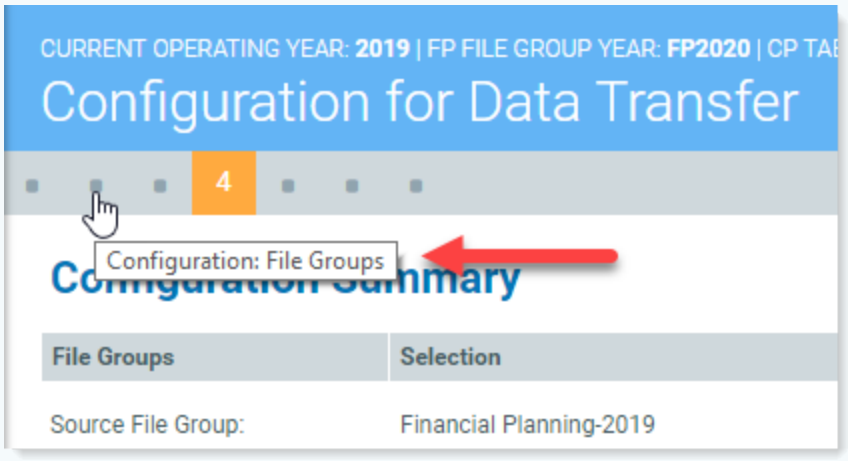
The Configuration Summary page displays a summary of the file groups and file group years/options you selected.

1. Review your selections to be sure they are correct.



If they are not, go back to the desired page by clicking the **PREV** button or by clicking the desired page button to go directly to that page.

TIP: Hover your cursor over a button to see the name of the page it accesses, as shown in the following example:



2. Click **NEXT**.

Continue to Step 5: Select models and configure options.

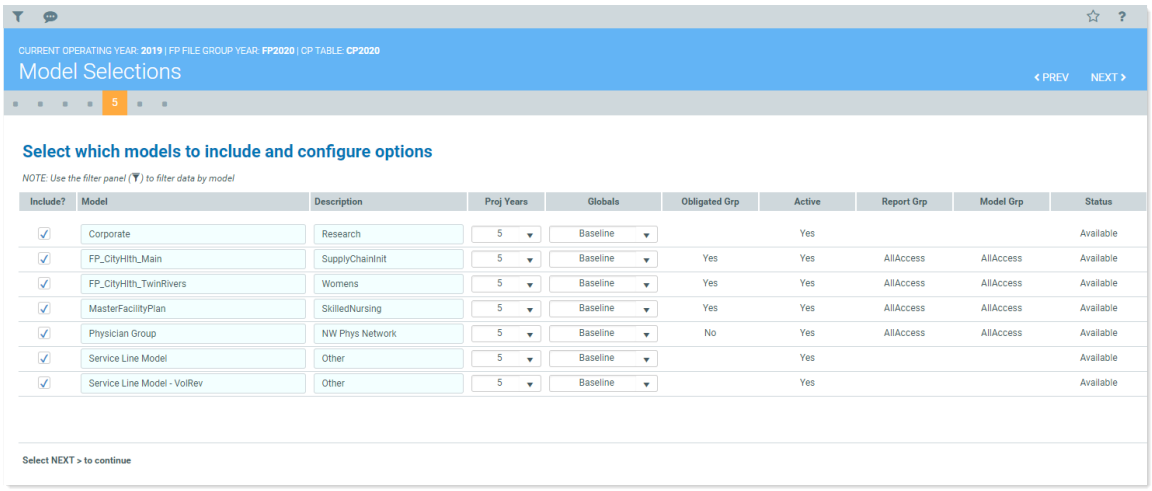
Select models and nodes

The next steps in the Annual Rollforward Utility involve selecting models and nodes, and designating the models to save the nodes to.

Step 5: Select models and configure options

The Model Selections page displays the list of models available for including in the roll forward. In addition to selecting models, you can configure model options such as renaming a model, changing the default number of Projected Years, and changing the associated driver (if applicable).

1. At the **Model Selections** page, all models are selected by default. To exclude a model, in the **Include?** column on the left, click the checked box to clear it. If the list is long, you can click the **Filters** icon ( ) in the gray header bar and filter the list to display only the models you want to view.

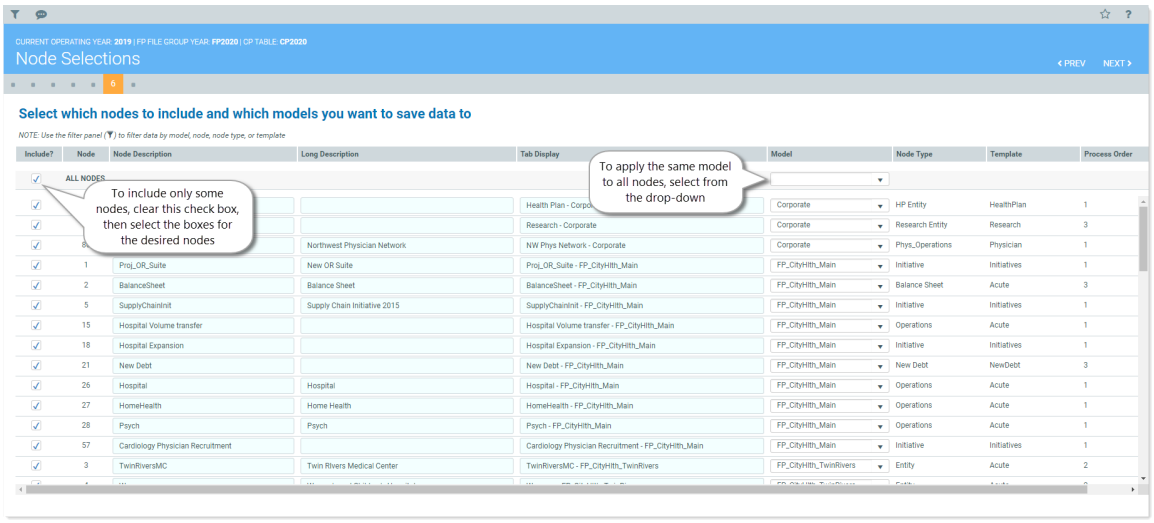


2. If desired, make any of the following changes:
   - To change a model's name, type the new name in the **Model** column field.
   - To change a model's description, in the **Description** column field, edit the description.
   - To change the number of projected years, in the **Proj Years** column, select the desired number of years from the drop-down.
   - To change the driver used for a model, in the **Globals** column, select the desired driver from the drop-down.
3. Click **NEXT**.

Step 6: Select nodes and configure options

The Node Selections page displays a list of nodes available for including in the roll forward, based on the models you selected on the previous page.

1. At the **Node Selections** page, all nodes are selected by default. To exclude a node, in the **Include?** column, click the corresponding checked box to clear it. If the list is long, you can click the **Filter** icon ( ) in the gray header bar and filter the list to display only the desired nodes.



2. If desired, make any of the following changes:
    - To change a node's description, in the **Node Description** column, edit the text.
    - To change a node's long description, in the **Long Description** column, edit the text.
    - To change the text displayed on the tab when the plan file is opened, in the **Tab Display** column, edit the text.

      NOTE: This is the value that displays when a node is opened and can be modified.

    - To apply the same model to all nodes, in **Model** column, in the top drop-down, select the desired model. The selected model name is copied to the Model field for all nodes.
    - To apply different models to different nodes, In the **Model** column, select from the corresponding drop-down for each desired node.
3. Click **NEXT**.

Continue to Step 7: Finalize and submit.

Final check and submit

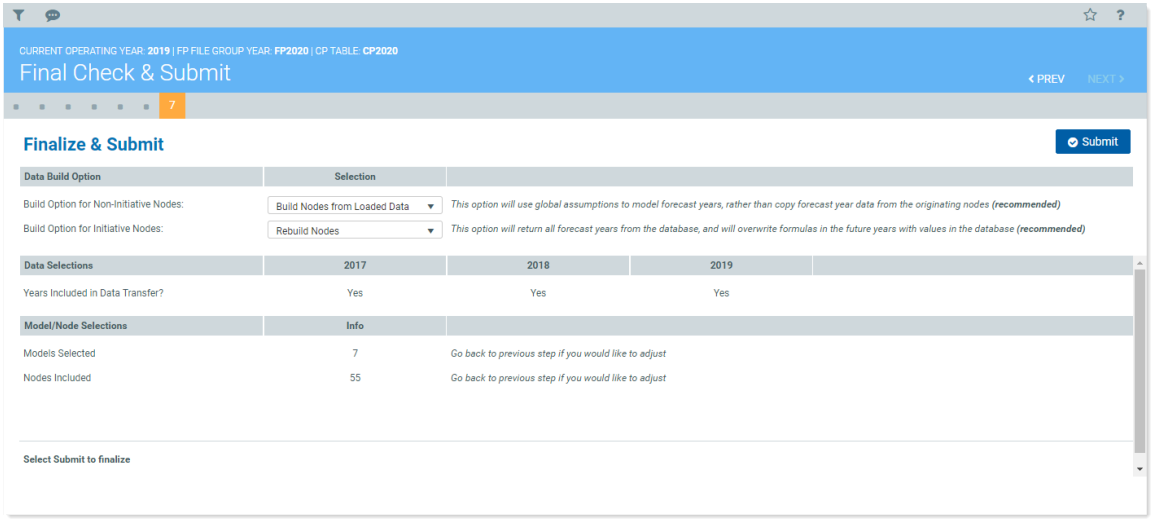
The Final Check & Submit page provides the opportunity to review your selections and build nodes without having to open the Node Rebuild Utility.

The top section contains data build options for two kinds of nodes: non-Initiative nodes and Initiative nodes. These are separated because Initiative nodes have no history or growth data, and so can be rebuilt (copied) for the Next Year File Group. The default setting for these nodes is Rebuild Nodes.

Non-Initiative nodes generally have history and other data and so would need to have global assumptions applied as they are built, to model forecast years appropriately. The default setting for these nodes is Build Nodes from Loaded Data. You can change the settings for these node types if desired. You can also select to not build nodes at this time and then build them later using the Node Rebuild Utility.

Step 7: Finalize & Submit

1. At the **Final Check & Submit** page, review your data, models, and node selections. To make changes, click **PREV** or navigate to the desired page using the page buttons, and make desired changes.



2. Do one of the following:
   - To build the nodes according to the defaults, leave the settings as they are.
   - To not build nodes at this time, in the **Selection** column for the desired node type, select **Do Not Build Nodes** from the drop-down. The screen tip changes to inform you that you will need to use the Node Rebuild Utility when you are ready to build nodes.
3. Click **Submit**.
4. In the Axiom Software confirmation box, click **OK**.

The annual roll forward job is scheduled. You will receive a notification when it is complete. You can also go to the Scheduler and review progress and results.

6

Managing Models and Nodes

Within the file group for a particular year's financial plan, you can define models per your organization's structure, and then add plan files for each node (unit) in your organization. You can associate the plan files (node) with the models.

A model is a group of nodes that share a balance sheet. After a model is created, you can change the model's Status and you can change various settings for the model's nodes using the Control Panel to Manage Nodes feature. For instructions on both, see Modifying node settings. You cannot copy or delete models.

Nodes can represent an entity, division, user-defined business group, strategic initiative, health plan, new debt, or a balance sheet within your organization. For more information, see B. Setup – Defining financial nodes and models.

Creating a model

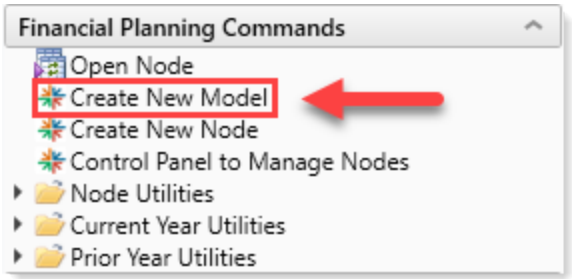
Typically, you create models at the organizational level at which balance sheets are maintained (For example, a hospital, physician group, health plan, and so on).

Models do not correspond to a single object or file in Axiom Financial Planning, but rather are groupings of nodes (plan files) that share a balance sheet.

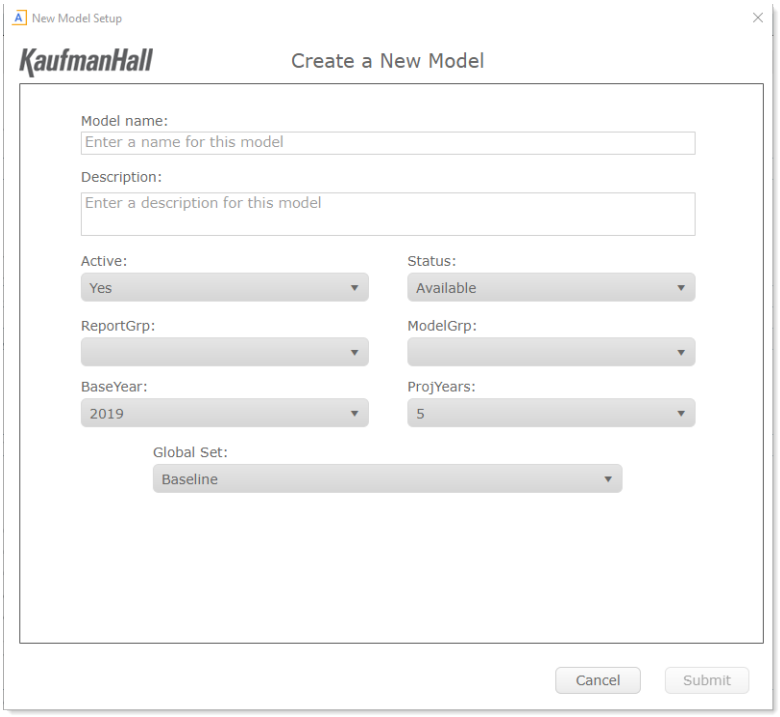
You can create models for the current or future financial years.

To create a model:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Create New Model**.



2. In the **Create a New Model** dialog, do the following:



Option	Description
Model name	Type a name for the model.
Description	Type a description of the model.
Active	To include the model in group reports, do one of the following: • To include the model, select **Yes**. • To not include the model, select **No**.
Status	Select the status of the model. You can change this status later using the Control Panel to Manage Nodes feature. See Modifying node settings.
ReportGrp (optional)	Select the report group to assign the model to.
ModelGrp (optional)	Select the model group to assign the model to.
BaseYear	Select the current operating year to associate to the model.
ProjYear	Select the number of years to calculate for projections.

Option	Description
Global Set	Select the default set of assumptions (For example, inflation rates, volume changes) used by nodes assigned to this model. **NOTE:** You can override this setting for individual models using **Control Panel to Manage Nodes** in the Financial Planning Commands section of the Fin Plan Admin task pane. See Modifying node settings.

3. Click **Submit**.

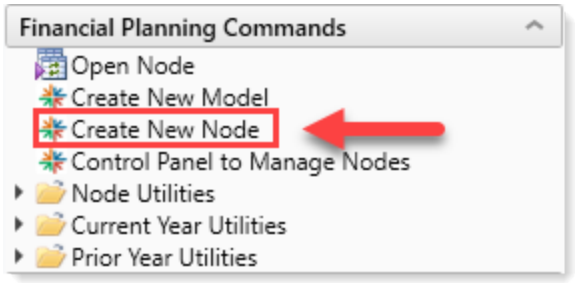
Creating a node

A node is an organizational unit within a health system, such as an entity. For more information on what nodes are, see B. Setup – Defining financial nodes and models.

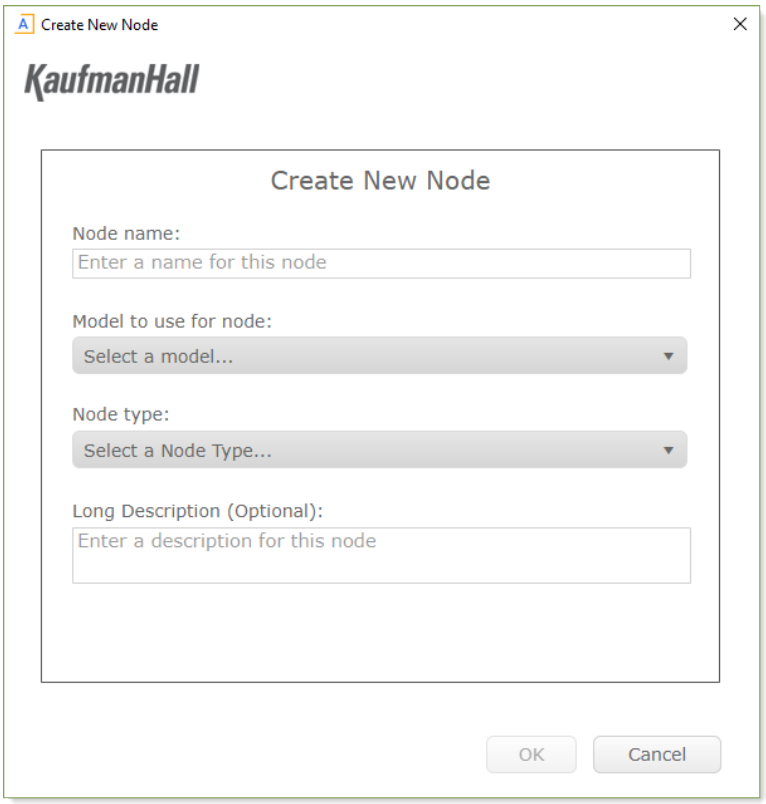
Use this option to create a node for the current or future year financial planning.

To create a node:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, double-click **Create New Node**.

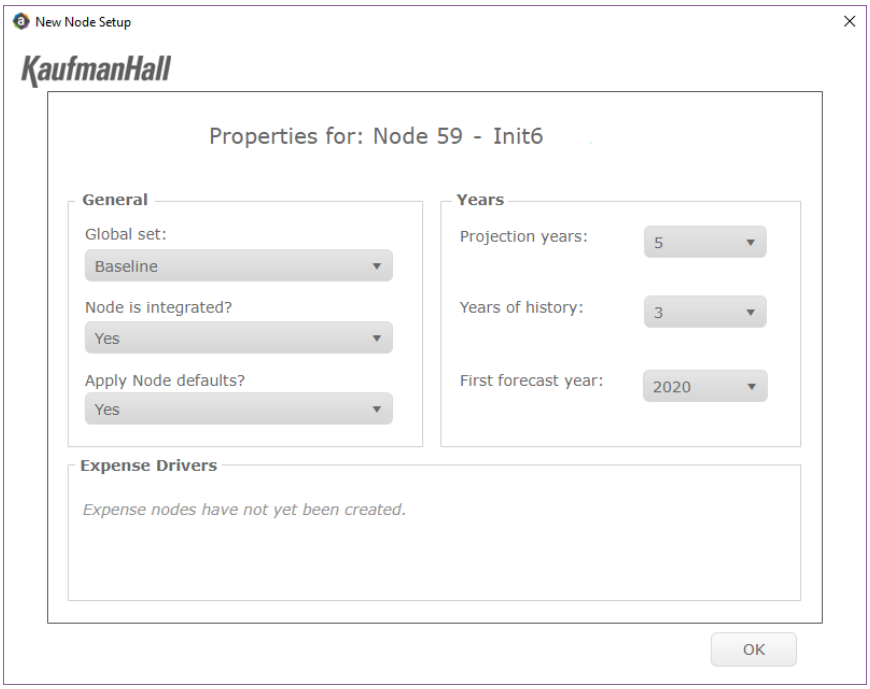


2. In the **Create New Node** dialog, complete the following fields:



Option	Description
Node name	Type a name for the node.
Model to use for node	Select a model to associate to the node.
Node type	Select a node type to associate with the node. For a description of each type, see Node types.
Description	Type a long description of the node.

3. In the **New Node Setup** dialog, complete the following fields:



Option	Description
Global set	This is the driver file that contains the set of growth or inflation factors that get populated in the node. Select the Global Set driver to apply to the node.
Node is integrated?	To include the node in reports and consolidated financial analysis, do one of the following: • To include the node, select **Yes**. • To not include the node, select **No**. **NOTE:** If you select to integrate the node, you can change this selection later if the decision is made to not include this node in the long range plan. For details, see Modifying node settings.

Option	Description
Apply Node defaults?	Select whether to create the node with the standard set of default values selected in Manage Node Default Detail. **NOTE:** Your administrator sets up the standard set of default values. The standard set includes default reimbursement methodologies, variable expense drivers, and variable expense percentages. • To create the node with default values, select **Yes**. • To not create the node with default values, select **No**.
Projection years	Select the number of years to include in the node.
Years of history	Select the number of historical years to include in the node. **NOTE:** For node types that do not contain history, this drop-down displays N/A.
First forecast year	Select the start year for the node.

4. Click **OK**.

Node types

The following is a list of the available types of nodes you can create:

Balance Sheet

Consolidates income statements from other nodes into a unified balance sheet. A model can only have one balance sheet node.

Eliminations

Used to reconcile inter-company activities across multiple nodes.

The Eliminations Node is a manual entry node used to offset eliminating entries between entities. The total dollars are entered for the other entities in other operations nodes. Then, a separate Eliminations Node is created using the Eliminations Node type. You can enter amounts for all years as needed for both income statement and balance sheet line items.

To create an eliminations node:

1. Follow the instructions in Creating a node, and in Step 2, select **Eliminations** as the node type.
2. When the new node opens, input data in the appropriate line items for the income statement and balance sheet.

Entity

Each entity node has its own revenues and expenses, and maintains its own balance sheet (for example, does not send its income statement to the Balance Sheet node).

Expense

Contains only expense data. If there are variable expenses, another node with the necessary driver must be mapped to it via the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to track expenses related to multiple service lines.

HP Balance Sheet

Uses the Health Plan template. Consolidates income statements from other health plan nodes into a unified balance sheet. A model can only have one balance sheet node.

HP Entity

Uses the Health Plan template. Each entity node has its own revenues and expenses, and maintains its own balance sheet (for example, does not send its income statement to the Balance Sheet node).

HP Expense

Uses the Health Plan template. Contains only expense data. If there are variable expenses, another node with the necessary driver must be mapped to it via the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to track expenses related to multiple service lines.

HP Operations

Uses the Health Plan template. Each operations node models a component of the organization with associated revenues and expenses (Acute, Psych, Rehab, and so on).

HP Volume and Revenue

Uses the Health Plan template. Contains only revenue data. If revenue is variable, another node with the necessary driver must be mapped to it using the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to have revenue from multiple nodes drive a common set of expenses.

Initiative

Tracks the volume, revenue, expense, capital spending, bad debt, and charity associated with a project. The project must begin in a future year (does not contain historical data) and contains a full balance sheet. This node also calculates the net present value and ROI.

New Debt

Calculates the estimated costs for a bond issuance for a given cash outlay. This node assumes that an asset will be created and calculates depreciation, amortization, and so on. New Debt nodes are forward-looking and do not contain historical data. You also cannot change the Global set or the projection years for this type of node.

NonPatient

Contains operating revenue and expenses and excludes all patient level revenue and volume.

Operations

Each operations node models a component of the organization with associated revenues and expenses (Acute, Psych, Rehab, and so on).

Phys_Balance Sheet

Uses the Physician template. Consolidates income statements from other health plan nodes into a unified balance sheet. A model can only have one balance sheet node.

Phys_Entity

Uses the Physician template. Each entity node has its own revenues and expenses, and maintains its own balance sheet (for example, does not send its income statement to the Balance Sheet node).

Phys_Expense

Uses the Physician template. Contains only expense data. If there are variable expenses, another node with the necessary driver must be mapped to it via the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to track expenses related to multiple service lines.

Phys_Operations

Uses the Physician template. Each operations node models a component of the organization with associated revenues and expenses (Acute, Psych, Rehab, and so on).

Phys_Volume_Revenue

Uses the Physician template. Contains only revenue data. If revenue is variable, another node with the

necessary driver must be mapped to it using the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to have revenue from multiple nodes drive a common set of expenses.

Project

Used to integrate projects from Capital Planning.

Research Balance Sheet

Uses the Research template. Consolidates income statements from other health plan nodes into a unified balance sheet. A model can only have one balance sheet node.

Research Entity

Uses the Researchtemplate. Each entity node has its own revenues and expenses, and maintains its own balance sheet (for example, does not send its income statement to the Balance Sheet node).

Research Expenses

Uses the Research template. Contains only expense data. If there are variable expenses, another node with the necessary driver must be mapped to it via the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to track expenses related to multiple service lines.

Research Operations

Uses the Research template. Each operations node models a component of the organization with associated revenues and expenses (Acute, Psych, Rehab, and so on).

Volume_Revenue

Contains only revenue data. If revenue is variable, another node with the necessary driver must be mapped to it using the Control Panel to Manage Nodes dialog in the Fin Plan Admin task pane. This node type might be used to have revenue from multiple nodes drive a common set of expenses.

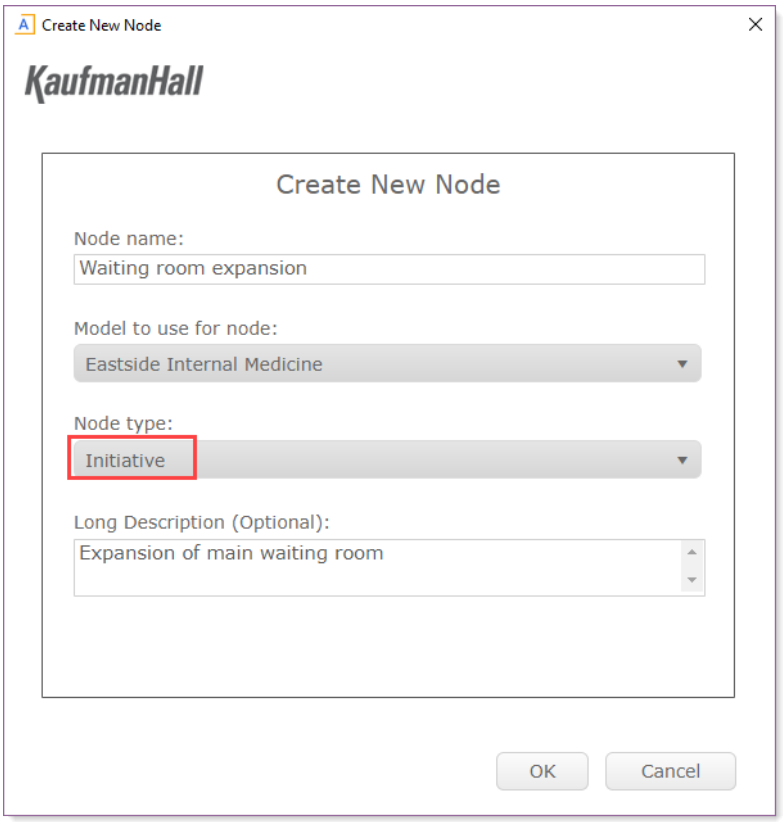
Add an initiative

Initiatives are added to Financial Planning as nodes. To add an Initiative, you create a type of node called an Initiative Node. The Initiative Node Type tracks the volume, revenue, expense, and capital associated with a new project. Create an Initiative node when you want to model projected incremental impact to your organization such as cost savings, the start of new services, the hiring of additional FTEs, or construction of new facilities. Initiatives are typically created after the base models when historical and base data are completed.

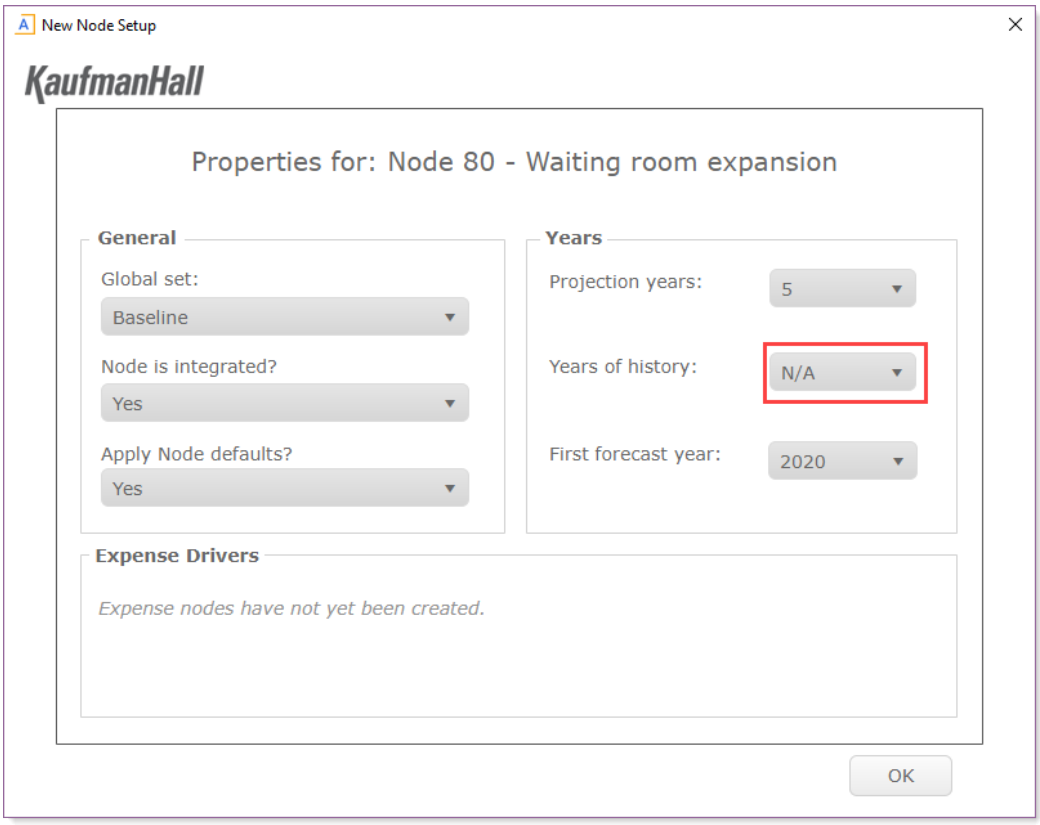
To create an initiative node:

Follow the instructions for creating a node, with the following exceptions:

1. On the first page of the **Create New Node** dialog, for **Node Type**, select **Initiative**.



2. On the second page of the **Create New Node** dialog, note that you do not select Years of history. Initiative nodes start with the first projection year and do not have history.



After completing the form and clicking OK, the new node opens, ready for you to add data.

Note the following differences between Initiative nodes and other node types:

- Financial analysis summary results are provided at the beginning of the node worksheet.
- The first year of data input is the first projection year based on the File Group used. For example, if you are using File Group 2020, then the first data input year in the node is 2020.
- In calculating revenue, contractual allowances, bad debt, charity, and expenses, the required inputs are base rates or drivers (e.g., gross revenue per visit or patient day, contractual allowance percentage, or variable expense per unit) that will then be used to calculate the projection years.

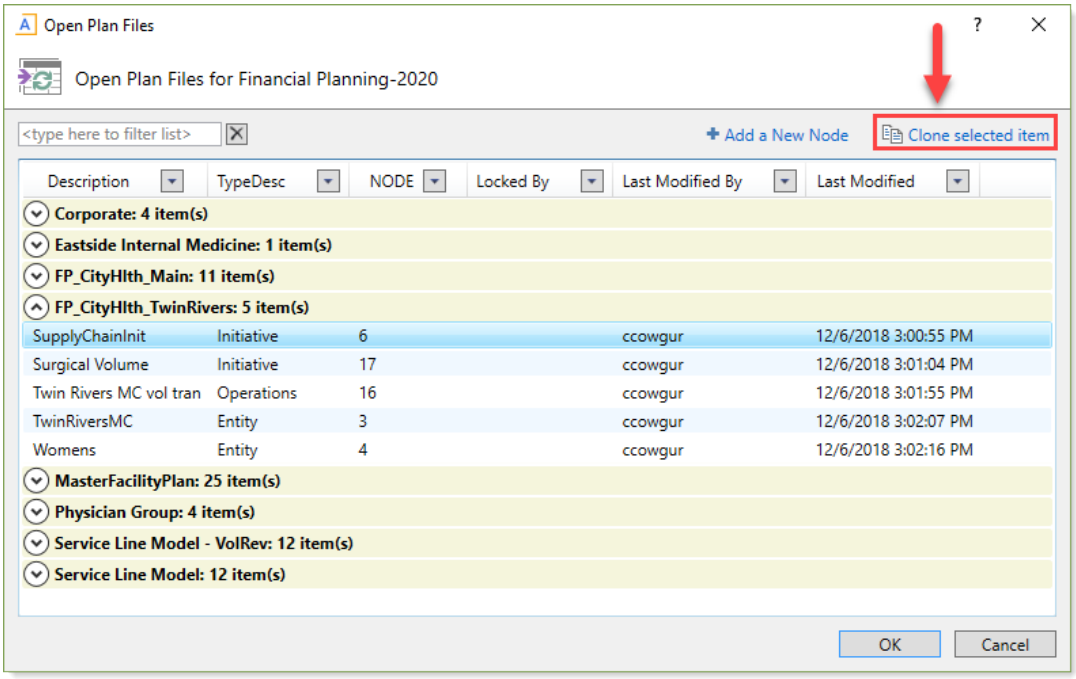
Cloning a node

Use this option to create a new node by cloning an existing node and making changes to it.

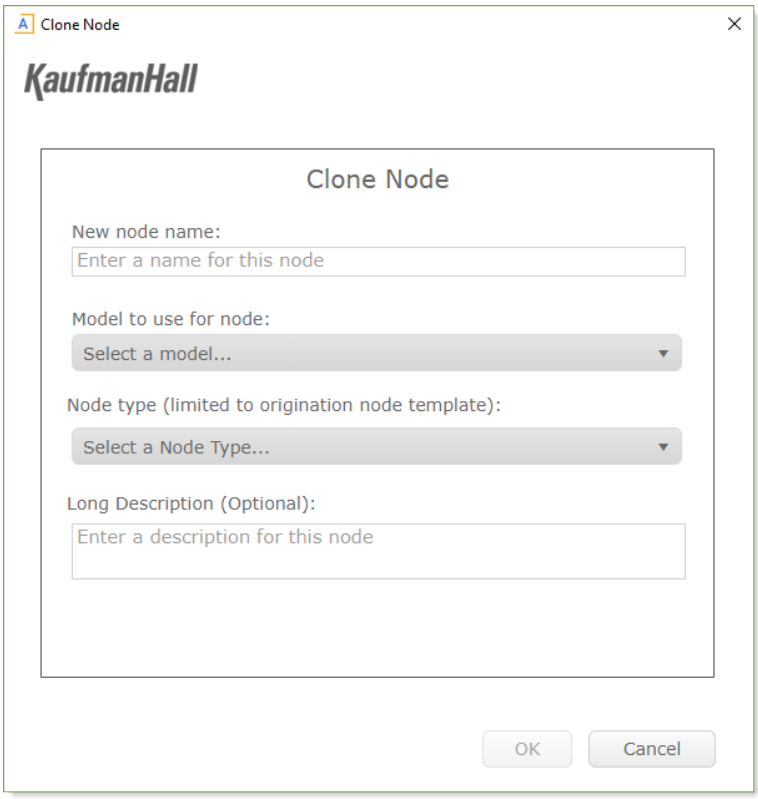
To clone a node:

1. Open a node.
2. In the **Open Plan Files** dialog, select a node.

3. Click **Clone selected item**.



4. In the **Clone Node** dialog, complete the following fields:

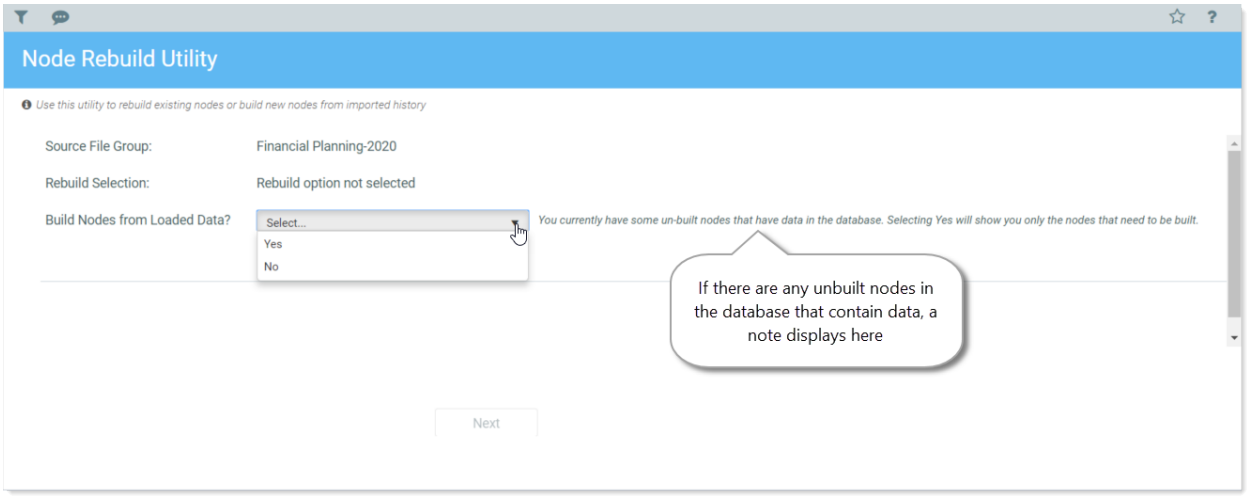


Option	Description
New node name	Type a name for the node.
Model to use for node	Select a model to associate to the node.
Node type (limited to origination node template)	Select a node type to associate with the node. For a description of each type, see Node types.
Long Description (Optional)	Type a description of the node.

5. Click **OK**.

About the Node Rebuild Utility

Users who build nodes from imported data or rebuild existing nodes can use a single utility. The Node Rebuild Utility replaces the Rebuild Node from Imported History utility and the Rebuild Node utility. This utility includes all the functionality in the old utilities but presents it in a more user-friendly way that guides you through the process of creating nodes or rebuilding existing nodes.



Select which function to perform, and the utility provides the appropriate options. For example:

- When you select to build nodes from loaded data, the utility checks for any nodes that have data but no plan files, and then recommends they be built.
- When you select to rebuild nodes, the utility displays a list of all existing nodes that can be rebuilt.

Additionally, a built-in filters panel lets you filter lists of models by model, node type, and template.

For more information, see the following:

- Rebuilding a node
- Building nodes from imported history and other data

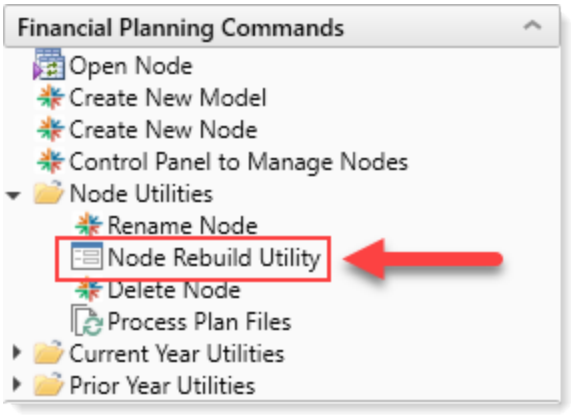
Building nodes from imported history and other data

When data is imported for new nodes, Axiom Financial Planning must be prompted to create the new node plan files using the imported data.

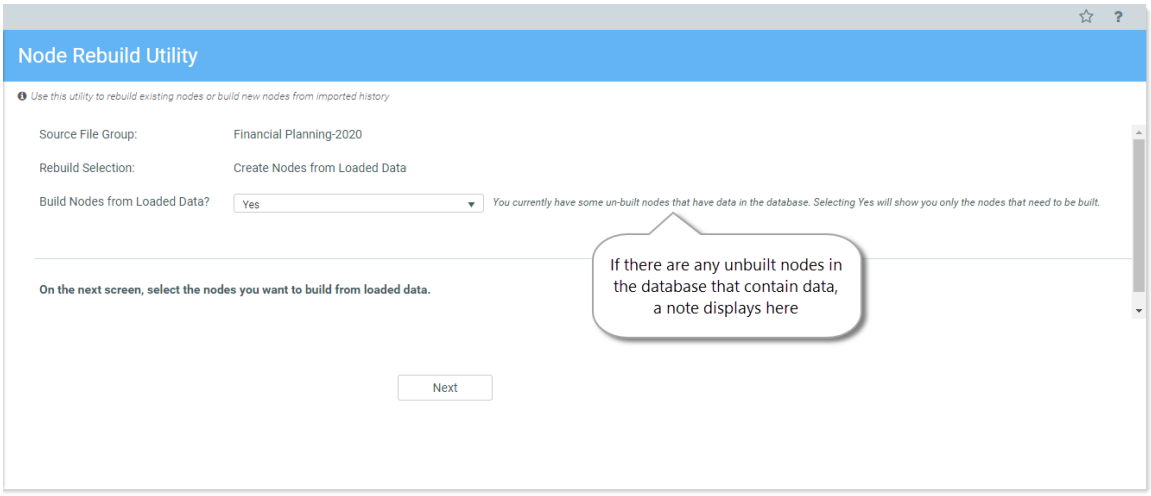
NOTE: Before you can use the Node Rebuild Utility, you must first import the data using the integration utility or the FP Data Collection Template.

To build a node from imported history or other loaded data:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Node Utilities**, and double-click **Node Rebuild Utility**.



2. In the **Node Rebuild Utility**, from the **Build Nodes from Loaded Data** drop-down, select **Yes**, and then click **Next**.

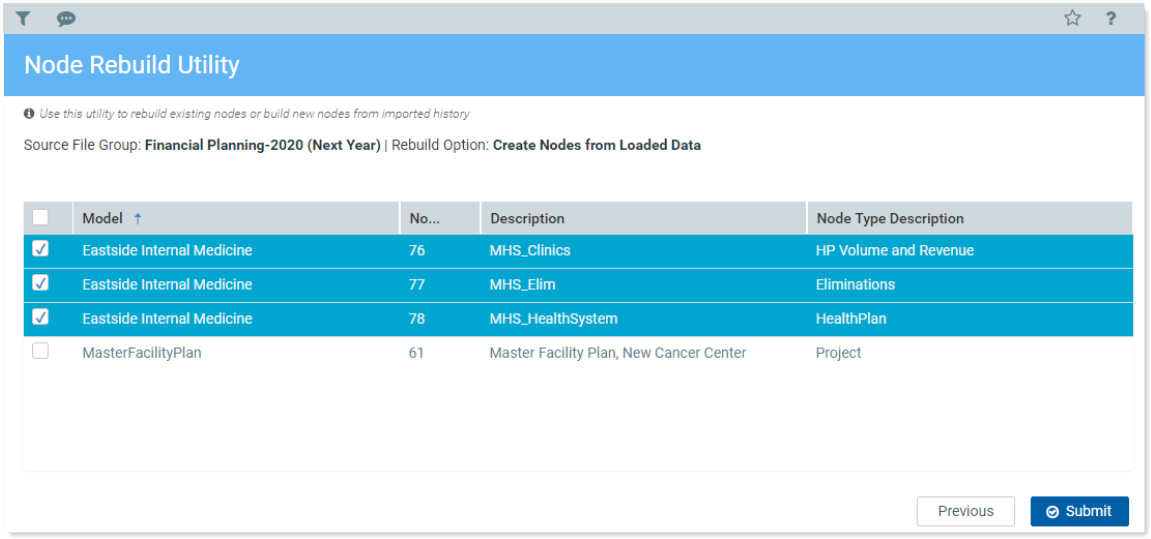


3. The next page displays a table listing models that have unbuilt nodes containing data.

TIP: If the list is long, you can filter the list to display only the models you want. Click the **Filters** icon ( ) and filter the list.

On the left of the table, do one of the following:

- To select all models listed, in the column of check boxes on the left, select the check box in the header row.
- To select models individually, select the model's corresponding check box.



4. To build the selected nodes, click **Submit**.
5. At the confirmation prompt, click **OK**.

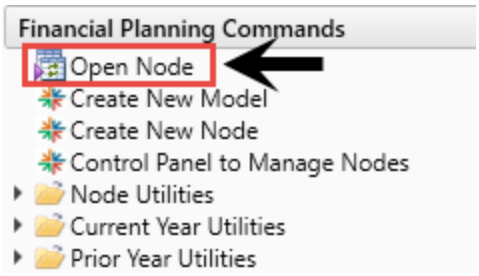
   A notification displays at the bottom of the page stating that the build job has been scheduled.

Opening a node

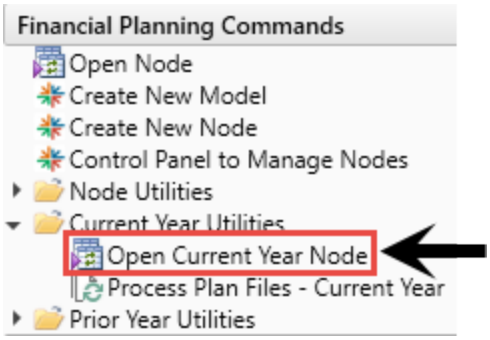
Use this option to view nodes used for last year's, this year's, and next year's planning.

To view a node:

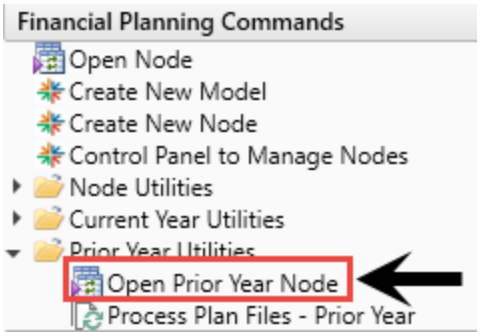
1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, do the following:
   - To open nodes for the next planning year, double-click **Open Node**.



- To open nodes for this year, click **Current Year Utilities**, and double-click **Open Current Year Node**.



- To open nodes from last year, click **Prior Year Utilities**, and double-click **Open Prior Year Node**.



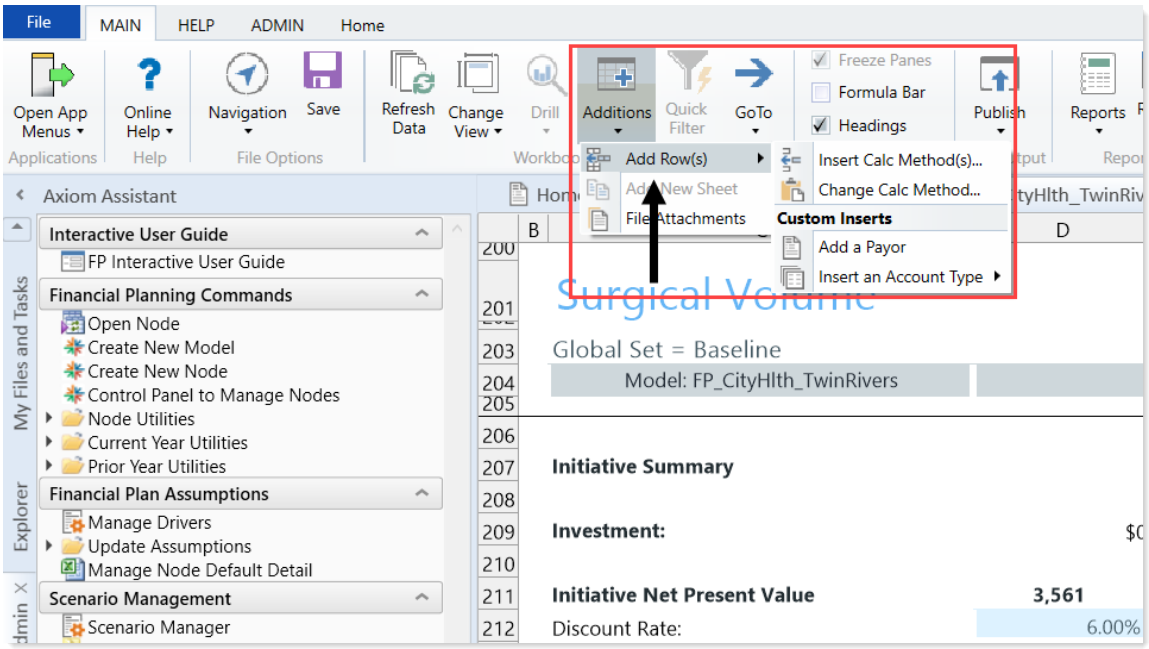
2. In the **Open Plan Files** dialog, you can do the following:
   - To filter the list, in the **<type here to filter list>** field, type the name of the node.
   - To sort the list by column, click the column header.
   - To sort the list in ascending or descending order, click the header arrow.
   - To open a node, select it, and click **OK**.

Modifying a node

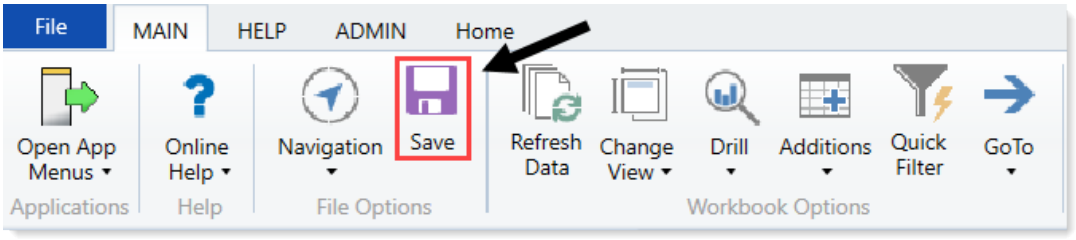
To modify a node:

1. Open a node.

2. In the blue cells, make the appropriate changes.
3. To insert additional input rows within a node, in the **Main** ribbon tab, in the **Workbook Options** group, click **Additions > Add Row(s)**.



4. After you are done making changes, in the **Main** ribbon tab, click **Save**.



Adding custom stat codes to a node

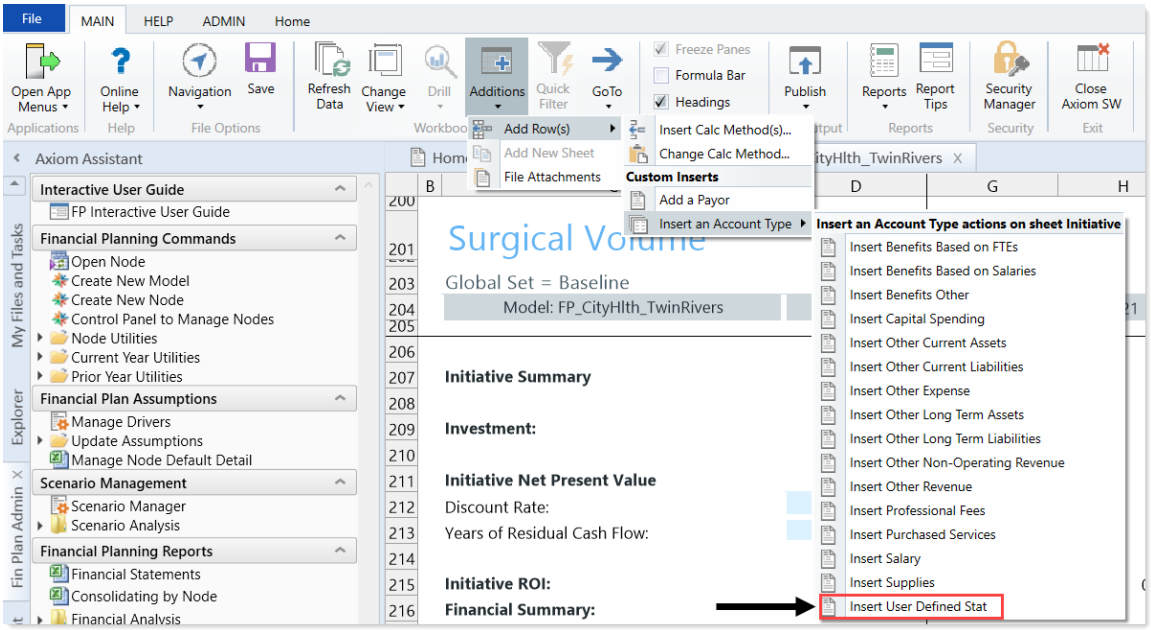
If you need more than the three user-defined statistic codes provided at the bottom of each node, you can add more.

NOTE: This feature only works in newly created nodes that use the updated node templates. You cannot insert new custom stat code rows to nodes created from previous templates.

To add a custom code row to the Other Statistics (User Defined) section of a node:

1. Open a node.

2. In the **Main** ribbon tab, click **Additions** > **Add Row(s)** > **Custom Inserts** > **Insert an Account Type** > **Insert an Account Type Actions on sheet Plan** > **Insert User Defined Stat**.



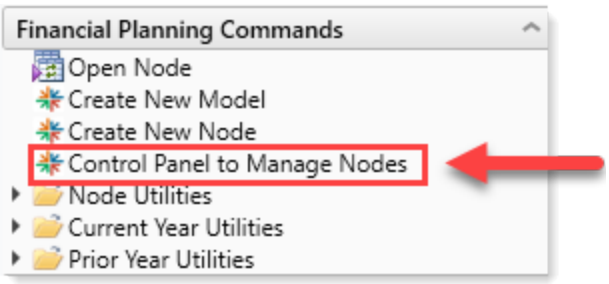
3. In the **Calc Method Variables** dialog, click **Choose Value**, and then, in the **Choose Value** dialog, select a code value, and click **OK**.
4. In the **Calc Method Variables** dialog, click **OK**. The new row is added to the end of the node.
5. In the Main ribbon tab, click **Save**.

Modifying node settings

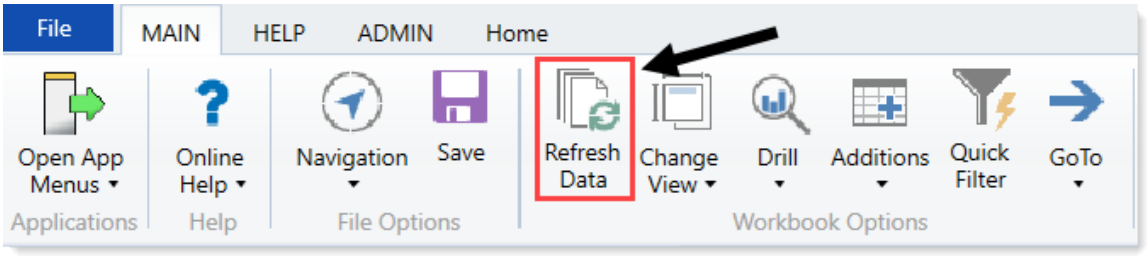
Use the Control Panel to Manage Nodes utility to change some of the settings from when you initially configured the node.

To modify node settings:

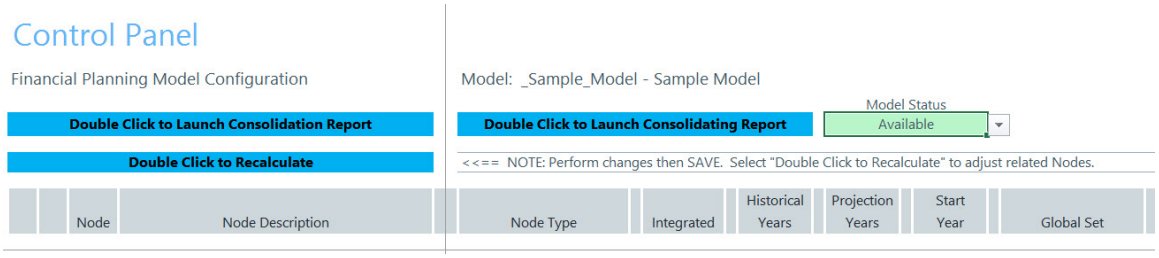
1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Control Panel to Manage Nodes**.



2. In the **Main** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.

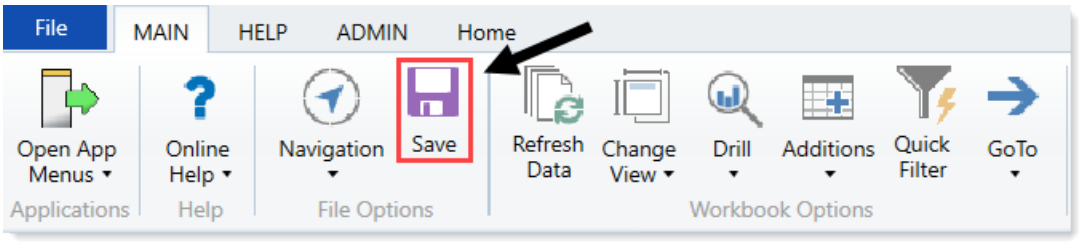


3. In the **Refresh Variables** dialog, in the **Choose a Model** field, click **Choose Value**.
4. In the **Choose Value** dialog, select a model, and click **OK**.
5. The **Model Status** drop-down displays the current status of the model. To change it, click the drop-down, and select a new status.
6. In the **Control Panel**, for each node listed, you may adjust the following:

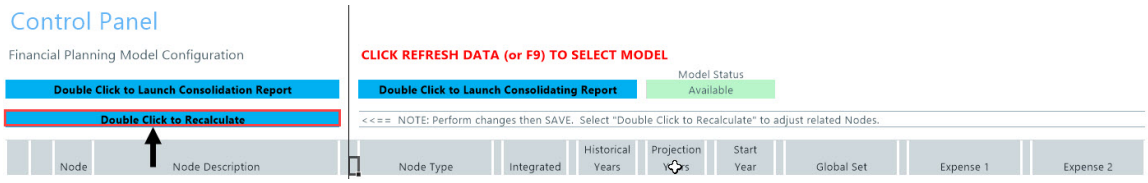


Column	Description
Integrated	Select whether or not the node is included in the financial statement for the model.
Historical Years	Select the number of historical years to track within the node.
Projection Years	Select the number of future years to project in the node.
Start Year	Select the start year for the model contained in the node.
Global Set	Select the set of assumptions to use when calculating projections in this node. If the driver you want does not exist, you can create it. See Creating custom drivers.
Expense 1	Select the volume drivers for this node to calculate variable expenses in the expense nodes.
Expense 2	Select the volume drivers for this node to calculate variable expenses in the expense nodes.

7. In the **Main** ribbon tab, click **Save**.



8. At the top of the workbook, click **Double Click to Recalculate**.



9. Process the plan files to propagate the changes. For more information, see Processing plan files .

Adding custom stat codes to a node

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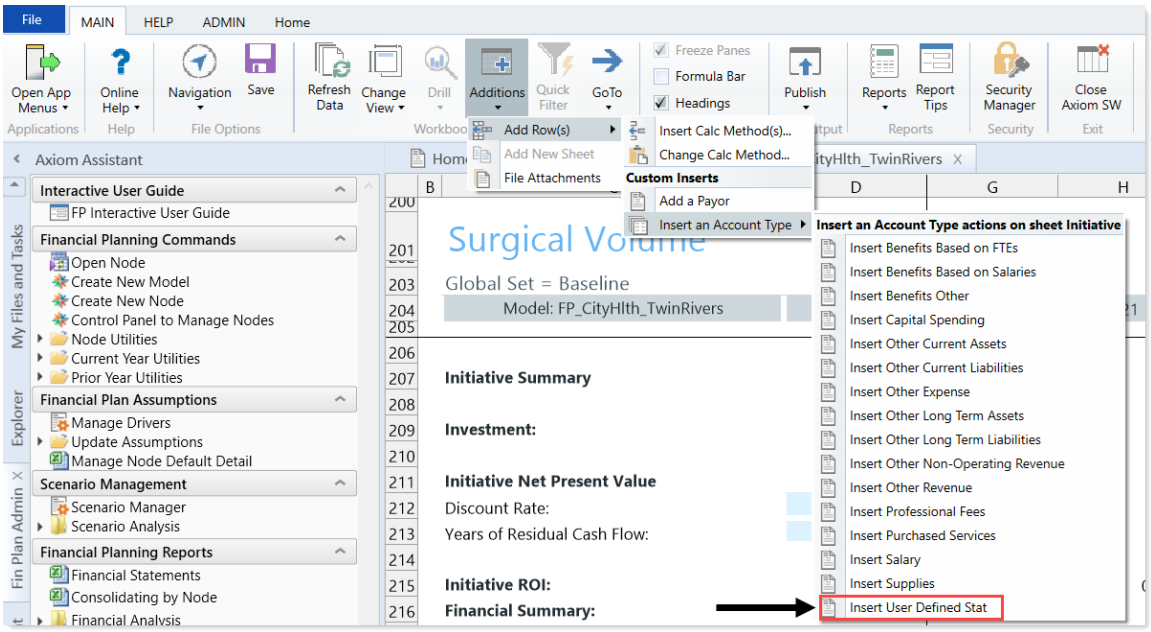
1. Open a node.
2. In the **Main** ribbon tab, click **Additions** > **Add Row(s)** > **Custom Inserts** > **Insert an Account Type** > **Insert an Account Type Actions on sheet Plan** > **Insert User Defined Stat**.



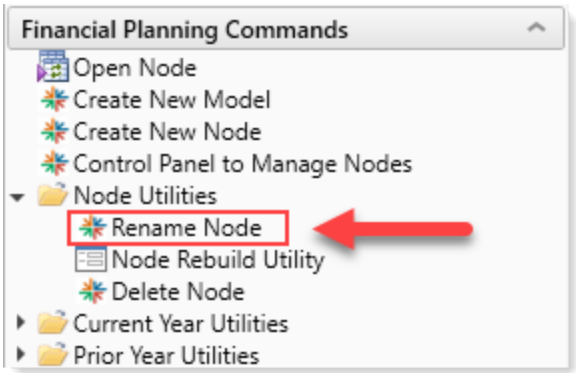
3. In the **Calc Method Variables** dialog, click **Choose Value**, and then, in the **Choose Value** dialog, select a code value, and click **OK**.
4. In the **Calc Method Variables** dialog, click **OK**. The new row is added to the end of the node.
5. In the Main ribbon tab, click **Save**.

Renaming a node

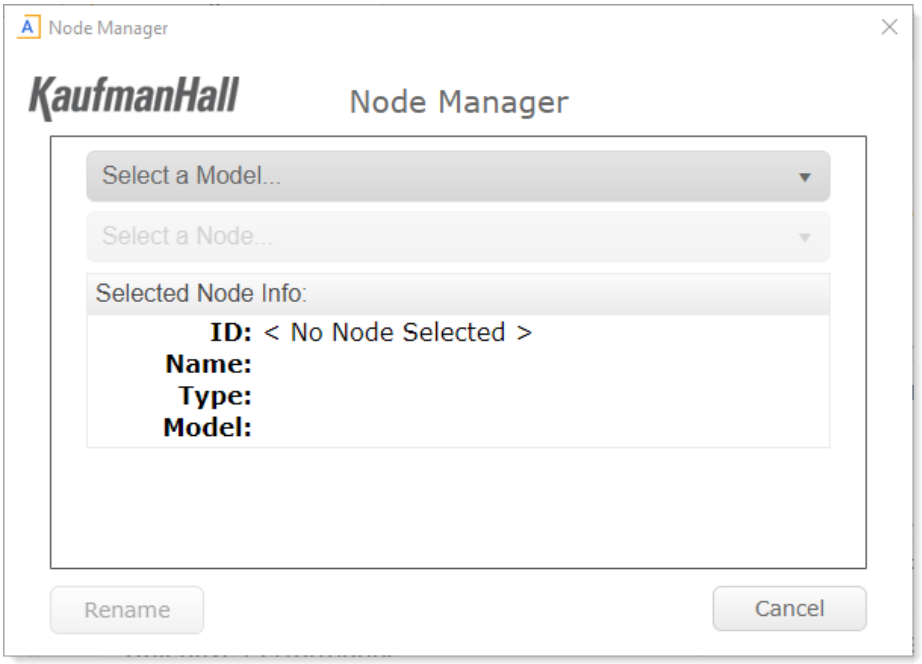
NOTE: Each node also has a unique ID number that never changes.

To rename a node:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Node Utilities**, and double-click **Rename Node**.



2. In the **Node Manager** dialog, in the **Select a Model** drop-down, select the model the node belongs to.



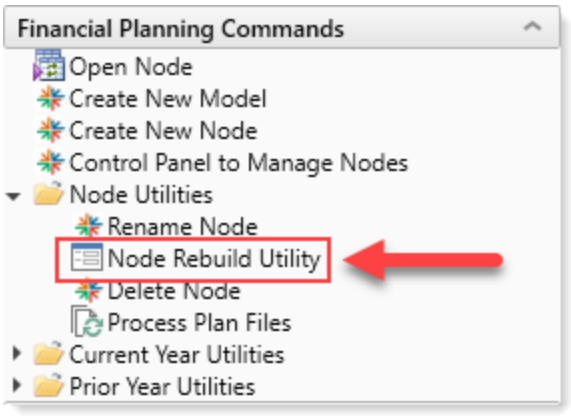
3. In the **Select a Node** drop-down, select the node name to change.
4. Click **Rename**.
5. In the **New Node name** field, type the new name, and click **Rename**.
6. Click **Close**.

Rebuilding a node

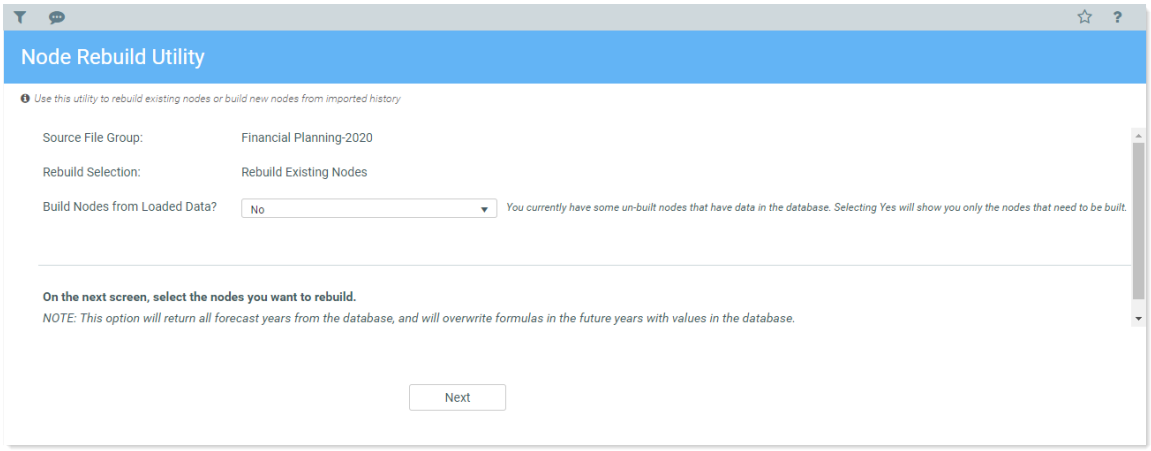
As Kaufman Hall continues to add new features and calculations to the Axiom Financial Planning templates, you can rebuild old models to include these updates, as needed.

To rebuild a node:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Node Utilities**, and then double-click **Node Rebuild Utility**.



2. In the **Node Rebuild Utility**, from the **Build Nodes from Loaded Data** drop-down, select **No**, and then click **Next**.



3. The next page displays a table listing available models.

> **TIP:** If the list is long, you can filter the list to display only the models with the nodes you want to rebuild. Click the **Filters** icon ( ) and filter the list.

On the left of the table, do one of the following:

- To select all models listed, in the column of check boxes on the left, select the check box in the header row.
- To select models individually, select the model's corresponding check box.

> **IMPORTANT:** Remember that for the selected nodes, all forecast years will be overwritten with data from the database.

4. Click **Submit**.
5. At the confirmation prompt, click **OK**.

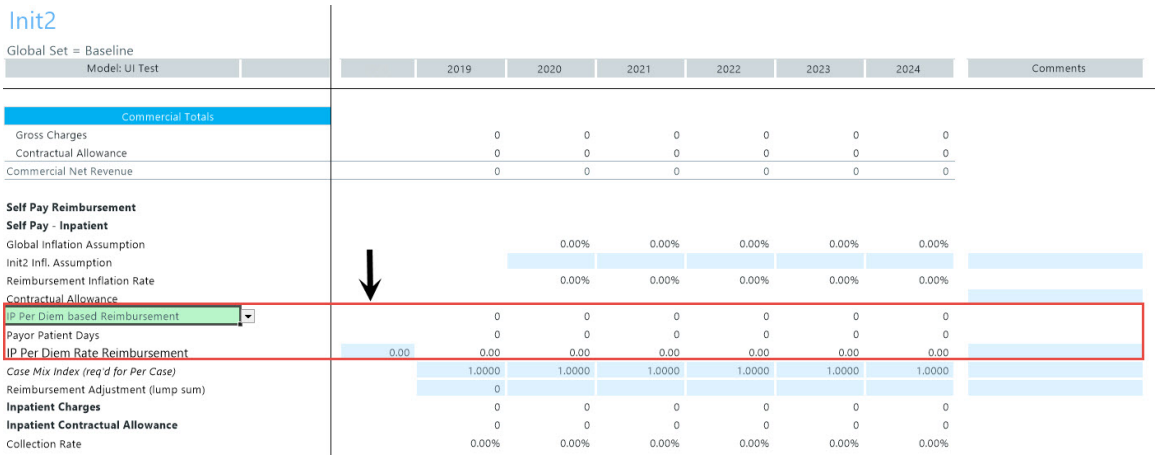
A notification displays at the bottom of the page stating that the build job has been scheduled.

Setting the reimbursement modeling inputs

Use this option to specify how to handle reimbursements for each payor type.

To set the reimbursement modeling inputs for an Initiative node:

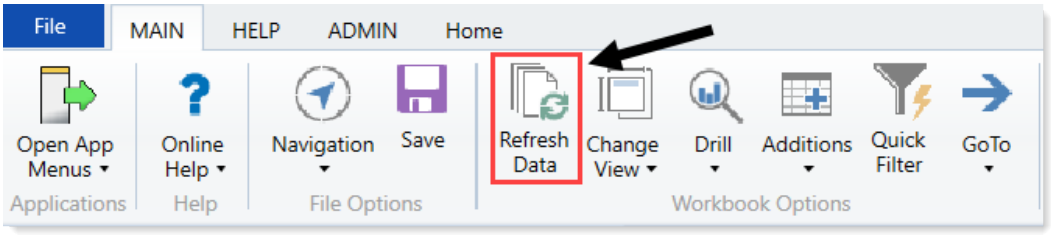
1. Open a node.
2. In the **Contractual Allowances** section, do the following:



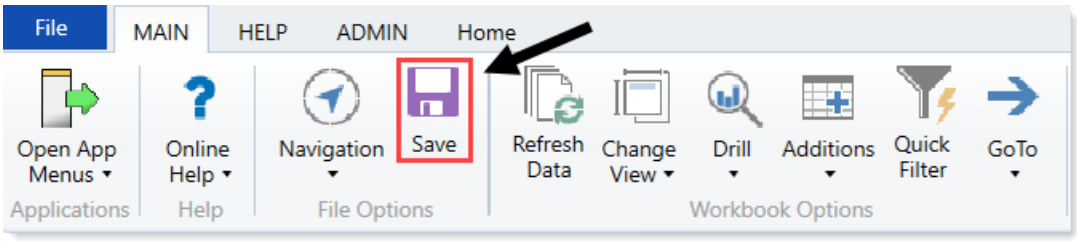
To use a...	Then...
Charge based reimbursement method	a. In the **IP Reimbursement** drop-down, select **IP Charge based Reimbursement**. b. In the **IP Percent of Charges Reimbursement** row, do one of the following: • In the first-year column, type a reimbursement rate to carry forward through the forecasted years. For example, 50% of charges. • In each year column, type the reimbursement rate for the specified year.

To use a...	Then...
Per Case based reimbursement method	a. In the **IP Reimbursement** drop-down, select **IP Per Case based Reimbursement**. b. In the **IP Percent of Per Case Reimbursement** row, do one of the following: • In the first column, type a reimbursement rate to carry forward through the forecasted years. For example, 50% of charges. • In each year column, type the reimbursement rate for the specified year.
Per Diem based reimbursement method	a. In the **IP Reimbursement** drop-down, select **IP Per Diem based Reimbursement**. b. In the **IP Per Diem Rage Reimbursement** row, do one of the following: • In the first column, type a Per Diem amount to carry forward through the forecasted years. For example, $1,000 per day. • In each year column, type the Per Diem amount for the specified year.
Lump Sum based reimbursement method	a. In the **IP Reimbursement** drop-down, select **IP Lump Sum Reimbursement**. b. In the **Reimbursement** row, type the lump sum reimbursement amount.

3. Refresh the data by doing the following:
   - In the **Main** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.



   - Press **F9**.
4. In the **Main** ribbon tab, click **Save**.



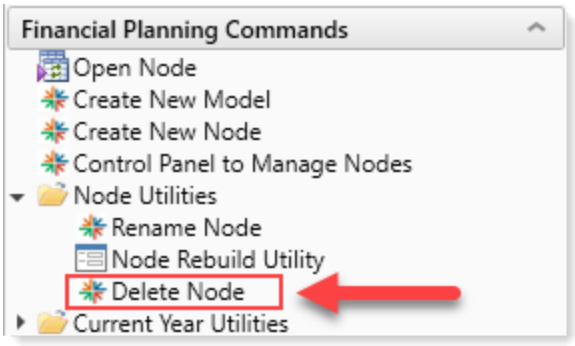
Deleting a node

Use this utility to delete a node and its data from Axiom Financial Planning.

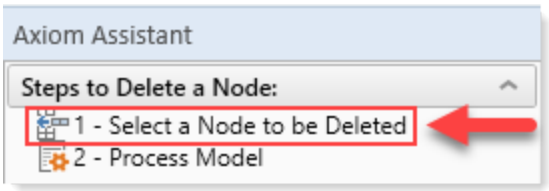
After you delete a node, reprocess the model that housed the node to remove any residual impact the node had on the calculations of the model. Reprocessing the model also schedules a job to reprocess all of the deleted node's subsidiary nodes.

To delete a node:

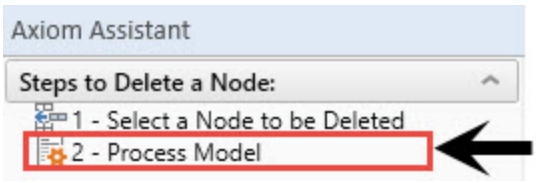
1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, click **Node Utilities**, and double-click **Delete Node**.



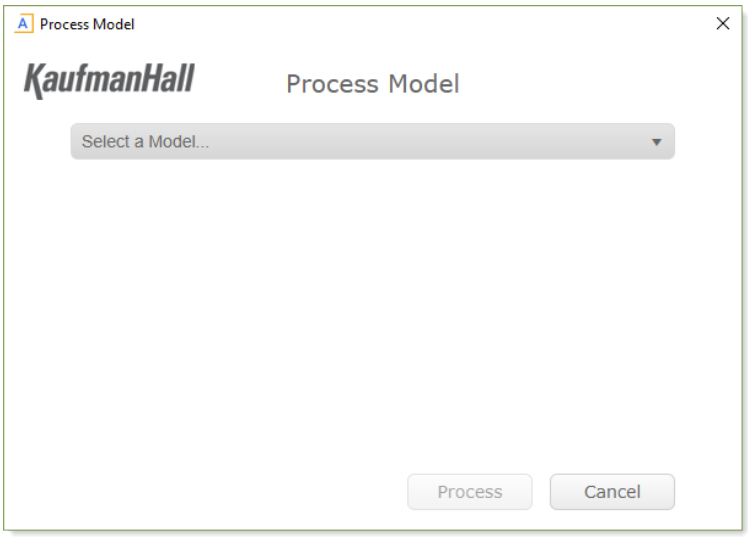
2. On the left side of the screen, in the **Steps to Delete a Node** section, double-click **1 - Select a Node to be Deleted**.



3. In the **Delete Plan Files** dialog, select the plan to delete the node from, and click **OK**.
4. In the **Step to Delete a Node** section, double-click **2 - Process Model**.



5. In the **Process Model** dialog, select the model to remove the node from, and click **Process**.

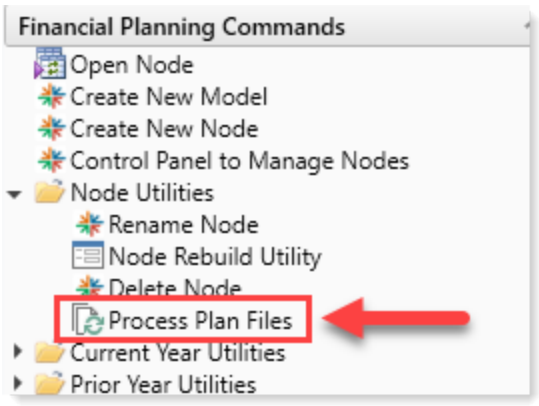


Processing plan files

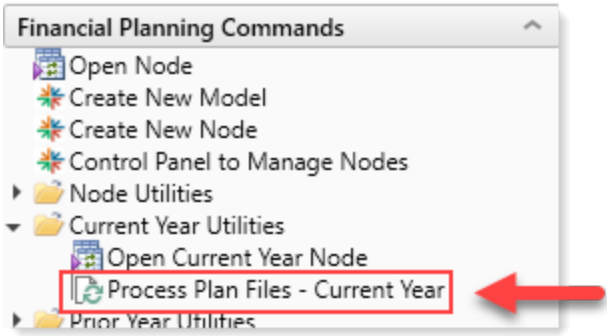
You should process plan files when you change drivers or node settings. Use this feature to refresh the data in next year's, this year's, or last year's plan files.

To process plan files from a prior year:

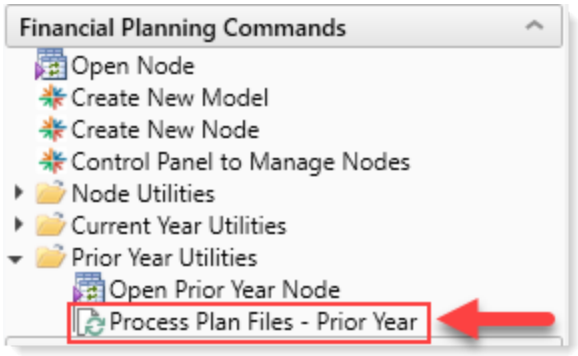
1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Commands** section, do one of the following:
   - To process next year's plan files, click **Node Utilities**, and double-click **Process Plan Files**.



- To process this year's plan files, click **Current Year Utilities**, and double-click **Process Plan Files - Current Year**.



- To process last year's plan files, click **Prior Year Utilities**, and double-click **Process Plan Files - Prior Year**.



2. In the **Process Plan Files** dialog, do the following:

Tab	Steps
Options	a. To save the plan file document after the plan files process, click the **Save document after processing** checkbox. b. To save the processed data to the Axiom database, select the **Run Save To Database in plan files after processing** checkbox. **NOTE:** The **Create a plan file restore point before processing** checkbox is for Kaufman Hall Support only. c. In the **Process Plan Files on** section, select whether to process the plan files on your organization's Axiom server or locally. d. In the **Server Options** section, to process the plan files using the Axiom Web engine, select the corresponding checkbox. e. In the **Notifications** section, select how you want to be informed when the files finish processing. **NOTE:** The **Process with custom utility (requires Excel)** checkbox is for Kaufman Hall Support only.
Plan Files	Select the checkbox next to each plan files to process.
Axiom Queries	For the plan files you selected in the **Plan Files** tab, select the Axiom Queries to run when the files process. Before changing default settings, see About Plan File processing queries.

3. Click **OK**.
4. At the confirmation prompt, click **OK**.

About plan file processing queries

The Process Plan Files utility is used to refresh data in plan files and save the data and documents. The utility populates the plan files together with various data, such as historical data, driver data, and current data. The Process Plan Files default setting is to run all Axiom Queries. However, not all queries will execute in all instances.

When processing plan files, you can determine which processes are executed by viewing the Axiom Queries tab in the utility settings. You can change the settings but be careful when doing so, especially the first time you build plan files for a file group.

You can also open individual plan files and refresh them manually to populate them with data, but be aware that not all queries are configured to run manually. When building plan files, use the Process Plan Files utility to run all of the queries to ensure that all data is populated in the file. However, after plan files are built it is not necessary to rerun certain queries, such as those that populate files with historical data, because that data does not change during the Financial Planning Cycle. The Financial Planning templates

are designed to determine which queries should continually refresh and to deactivate queries that no longer need to be rerun. This ensures that data that should remain static does not change throughout the planning cycle, and it reduces the time needed to recalculate plan files and update the data in the Financial Planning tables.

7

Populating Historical Data

Axiom Financial Planning generates multi-year forecasts and scenarios based in part on historical data stored within nodes. You can enter this historical data using the following methods:

- Entering the data manually directly into the relevant data tables
- Completing a specially formatted data collection workbook
- Transferring operating budget and rolling forecast data, and transferring capital project data using transfer utilities

Which method you choose is largely a matter of preference and availability of data. During implementation, your Kaufman Hall Implementation Consultant will help you select the most appropriate input method and assist in entering your initial data. From there, it is your responsibility as administrator to ensure that historical data is updated, as necessary.

Collecting and importing data from other sources

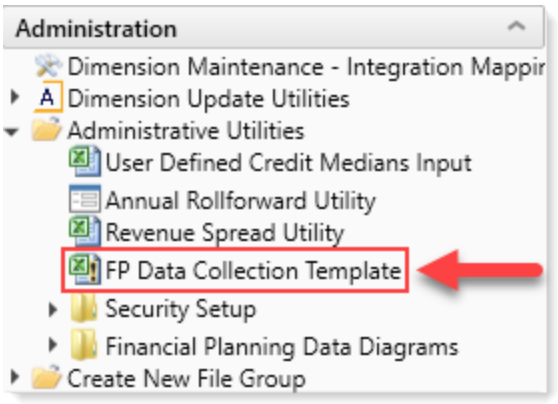
The FP Data Collection Template allows you to gather data outside of Axiom Financial Planning. This template works as a stand-alone Excel workbook that you can use to import external data into the product, and interface in the nodes for the three input periods.

NOTE: In some cases, you might want to collect historical data from other members of your organization. To help with this process, Kaufman Hall can provide an Excel Data Collection workbook to share with VPs, directors, managers, and other stakeholders.

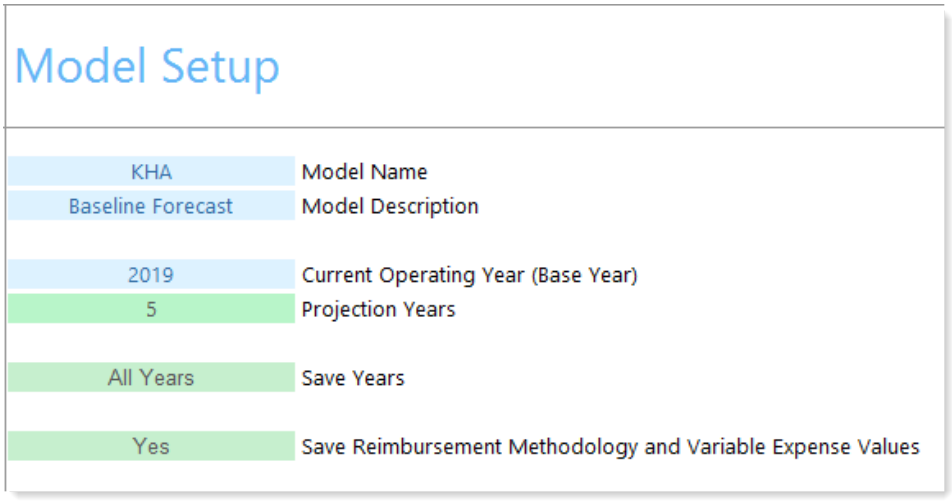
You can import data entered into the workbook without the need to grant other users access to Axiom Financial Planning. Instructions on setting up and using the Data Collection workbook are included on a sheet within the workbook.

To collect and import data from other sources:

1. In the Fin Plan Admin task pane, in the **Administration** section, click **Administrative Utilities**, and double-click **FP Data Collection Template**.



2. In the **Model Setup** tab, do the following:



   a. In the **Model Name** cell, type the name.

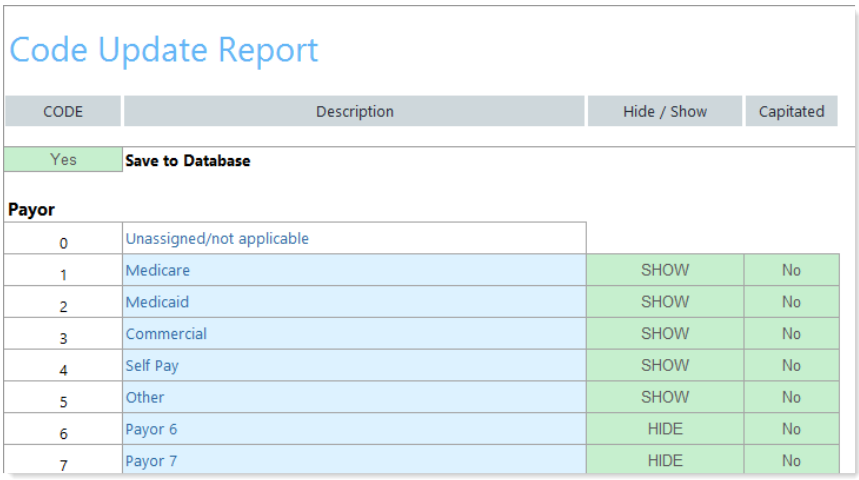
   b. In the **Model Description** cell, type a description.

   c. In the **Current Operating Year (Base Year)** cell, type the year for the current operating budget.

   d. In the **Projection Years** drop-down, select the number of projection years to include in the model.

   e. In the **All Years** drop-down, select one or more years to include in the model.

3. In the **CODE Setup** tab, do the following for Payors and detailed forecast category inputs:



Code Update Report

CODE	Description	Hide / Show	Capitated
Yes	**Save to Database**		
Payor			
0	Unassigned/not applicable		
1	Medicare	SHOW	No
2	Medicaid	SHOW	No
3	Commercial	SHOW	No
4	Self Pay	SHOW	No
5	Other	SHOW	No
6	Payor 6	HIDE	No
7	Payor 7	HIDE	No

a. In the **Save to Database** drop-down, to save the changes from this template to the database, select **Yes**.

> **IMPORTANT:** If you have already set up dimensions, first refresh the template by pressing **F9** to refresh the Code and Payor tabs. Otherwise, if you save the template, it will overwrite the Code and Payor dimensions.

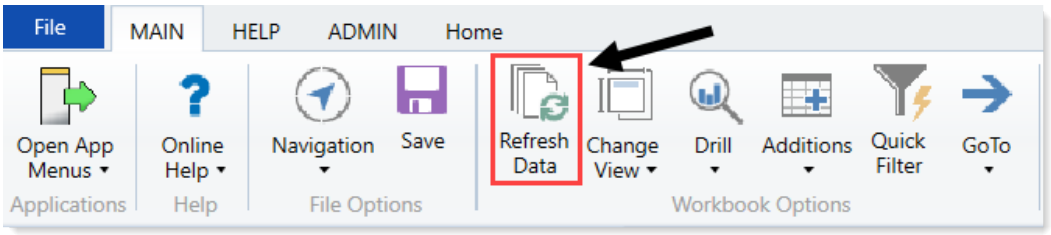
b. In the **Hide/Show** column, do one of the following:
   - To enable each input, as required, select **SHOW**.
   - To disable the input, select **HIDE**.

c. For Payor codes, in the **Capitated** column, do one of the following:
   - If the payor is capitated, click **Yes**.
   - If the payor is not capitated, click **No**.

4. Refresh the data to generate the Node tabs by doing one of the following:

> **NOTE:** To add data to other Node tabs, unhide them.

- In the **Main** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.



- Press **F9**.

5. Rename each worksheet to the node name to use in Axiom Financial Planning.

IMPORTANT: Nodes that are NOT renamed will NOT be built in the Axiom Software.

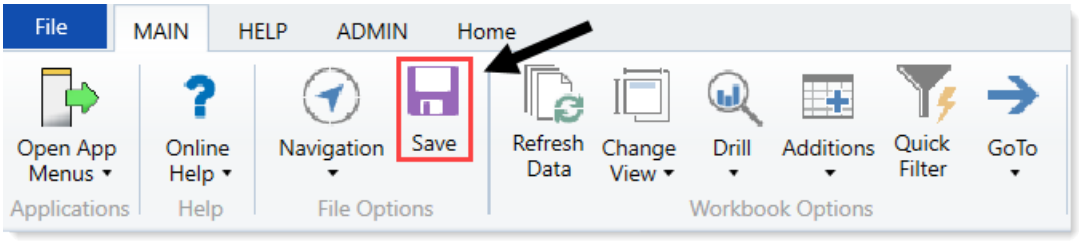
6. Hide all unused Node*number* worksheets.
7. For each node worksheet that has been renamed, do the following:
   a. In the **Node Type** drop-down at the top of the screen, select the node type (Operations, Entity, NonPatient, and so on).
   b. To hide or show the proper inputs based on the node type selection, at the top of the Node tab screen, click **Refresh View**.

      NOTE: This may take 20-30 seconds to process for each worksheet.

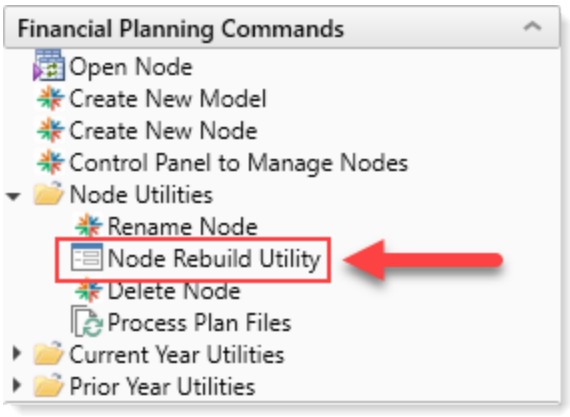
   c. Enter node data in the appropriate cells.

      NOTE: Enter volumes and statistics in whole numbers. Enter all financial data in thousands (1,000).

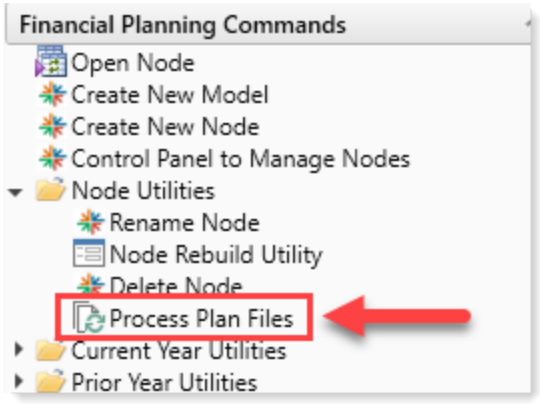
   d. At the bottom of each worksheet, verify data tie out using the statements.
8. In the **Consolidating Statement** tabs, verify data tie out for the complete model for each year (Consol01, Consol02, Consol03).
9. Import the FP Data Collection Template into Axiom Financial Planning, and open it.
10. In the **Main** ribbon tab, click **Save**.



11. In the task pane, click **Financial Planning Commands > Node Utilities**, and double-click **Node Rebuild Utility**.



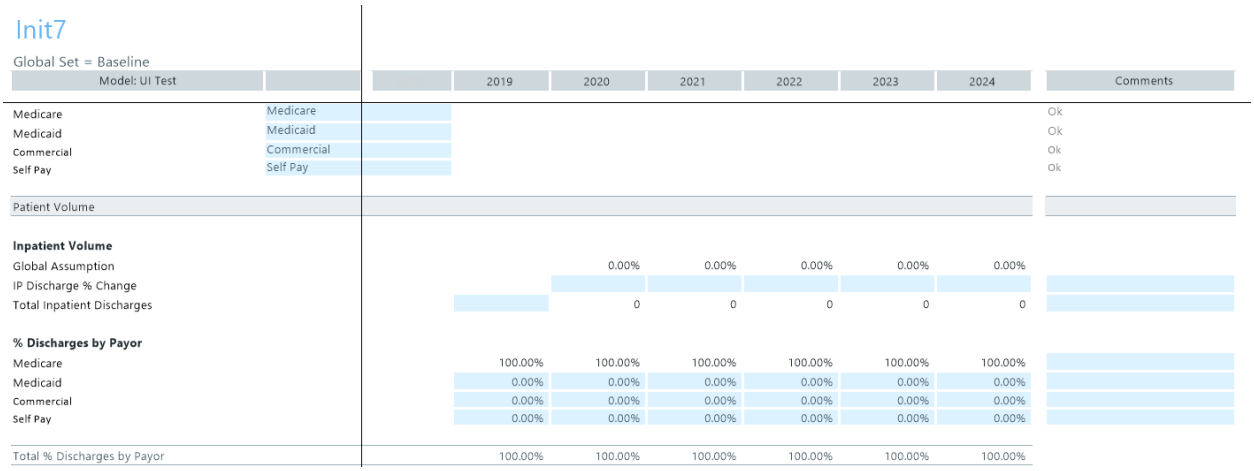
12. In the **Node Rebuild Utility**, select the nodes and submit them for rebuild.
13. After the nodes have been rebuilt, in the task pane, click **Financial Planning Commands > Node Utilities**, and double-click **Process Plan Files**.



14. In the **Process Model** dialog, in the **Select a Model** drop-down, select the model, and click **Process**.
15. At the **Proceed with processing *'model name'*?** prompt, click **OK**.

Entering historical data manually

You can enter historical data into Axiom Financial Planning manually, directly into plan files. Simply enter each of the values requested in the left-hand columns for each of the past budget years on the right. Values for future projections populate automatically after you have entered all of the necessary historical data.



Init7

Global Set = Baseline

Model: UI Test			2019	2020	2021	2022	2023	2024	Comments
Medicare	Medicare								Ok
Medicaid	Medicaid								Ok
Commercial	Commercial								Ok
Self Pay	Self Pay								Ok
Patient Volume									
Inpatient Volume									
Global Assumption				0.00%	0.00%	0.00%	0.00%	0.00%	
IP Discharge % Change									
Total Inpatient Discharges				0	0	0	0	0	
% Discharges by Payor									
Medicare			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	
Medicaid			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Commercial			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Self Pay			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Total % Discharges by Payor			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	

The major categories include:

- Volume
- Revenue
- Reimbursement
- Expense
- Balance Sheet

To facilitate data entry, cells in plan files are color coded as follows:

Color	Description
White	Protected cells. The values are hard-coded, pre-populated from the database, or calculated from other fields, and cannot be changed.
Blue	Editable cells. Blue shaded cells might be empty or pre-populated with a value or formula that the user is allowed to change.
Green	Contain drop-down menus, allowing you to select from one of several predefined options.

8

Integrating rolling forecast and operating budget data

Axiom Financial Planning allows you to import rolling forecast and operating budget data using the Transfer to Financial Planning integration utility. As of the 2019.2 release, this utility replaces the Excel-based Transfer from Operating Budget and Transfer from Rolling Forecast utilities.

Using the Transfer to Financial Planning utility

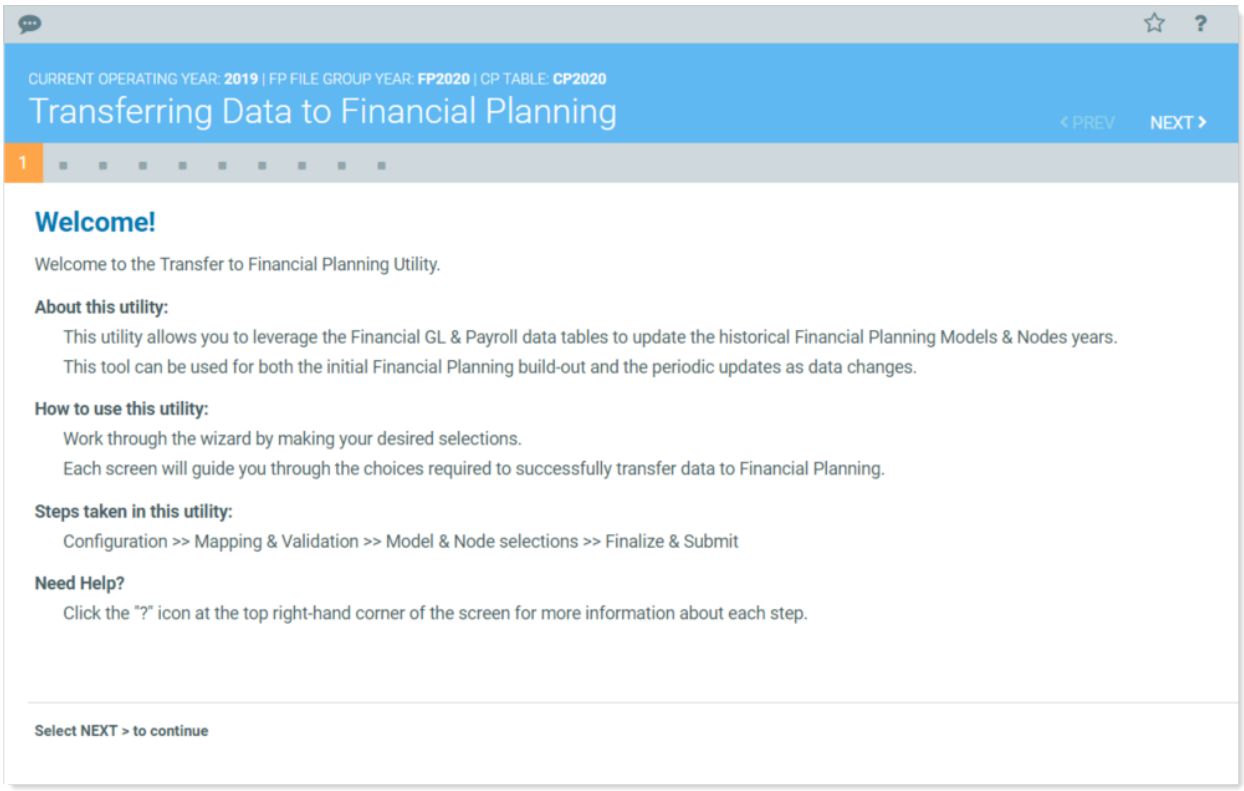
The Transfer to Financial Planning utility provides administrators a way to map and transfer data from Axiom Management Reporting and Axiom Rolling Forecast systems to Axiom Financial Planning. The form-based utility replaces the Excel-based Transfer from Operating Budget and Transfer from Rolling Forecast utilities. The new utility is available from the Fin Plan Admin task pane.

The transfer utility includes all the functionality in the former utilities but presents it in a user-friendly wizard that walks you step-by-step through the process of selecting, mapping, verifying, and transferring data, and also provides the option to build plan files after import.

The transfer utility has four main processes:

1. **Configuration** – Select the time periods, data sources, and data to be transferred. Select the data source for each Axiom Financial Planning input year. These are selected from Management Reporting or Axiom Rolling Forecast tables associated with a selected year.
2. **Mapping and Validation** – The utility checks code mapping for mismatches and presents warnings for any found and allows you to make corrections before continuing.
3. **Models and Node selections** – Select which nodes to include and which models to save data to, and the desired node types.
4. **Finalize and submit** – Select whether to create nodes on submission or to not create nodes if you want to add data from another source and build the nodes later. Click Submit when ready to transfer data.

To get started, see Select years, sources, and data.



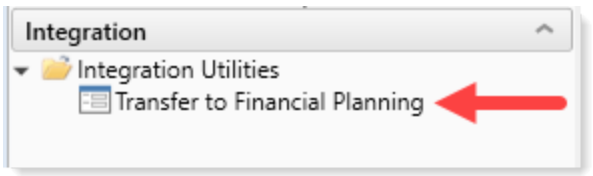
Select years, sources, and data

Use these instructions to configure the Transfer to Financial Planning utility for transferring data to Axiom Financial Planning. In the following steps, you select the time periods, data sources, and data to be transferred.

NOTE: At any time, you can click the PREV link to go back to previous pages or click a page number button in the button row under the page title.

Step 1: Open the utility

1. In the Fin Plan Admin task pane, in the **Integration** section, expand **Integration Utilities**.
2. Double-click **Transfer to Financial Planning**.

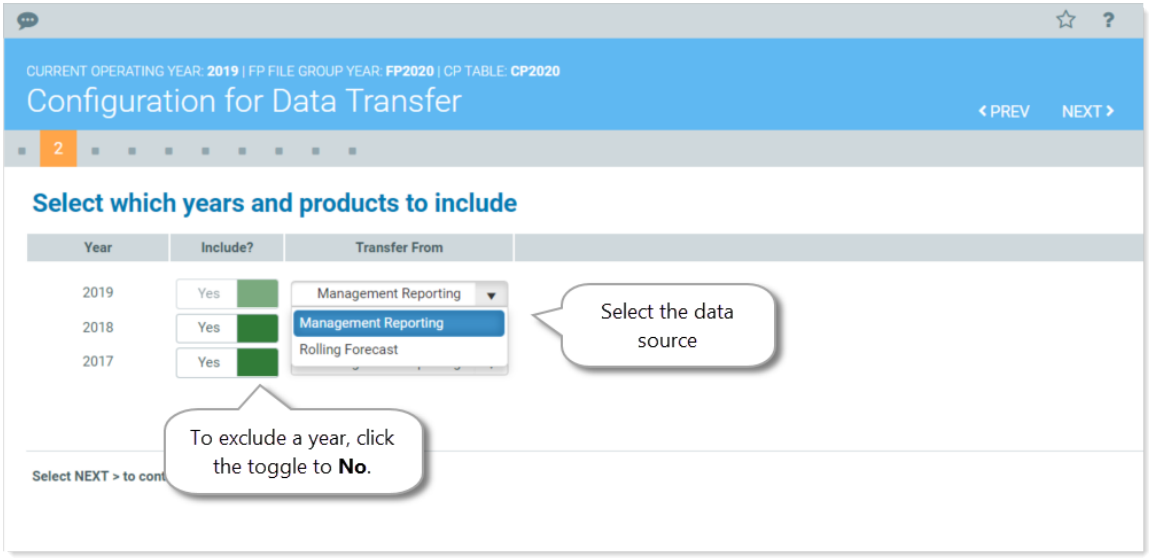


Step 2: Select years and data sources

NOTE: Many of the options available depend on selections made on the first Configuration for Data Transfer page. For example, if you select Rolling Forecast as the transfer source for any of the included years, then the Select Data Options page (page 4) displays as read-only.

1. On the first page of the utility, review the instructions, and then, in the upper right of the page, click **NEXT**.
2. On the first Configuration for Data Transfer page (page 2 of the utility), in the **Include?** column, select whether to include each year listed.

   NOTE: The years available for selection depend on your Axiom Financial Planning settings. For example, if you are currently working on your 2020 File Group, the years available are based on that. You can exclude any year shown except Year 3 (the first year listed). You can also use this utility in tandem with the Annual Rollforward Utility if you want to roll forward the first two years and then use this utility to populate data for Year 3. In that scenario, you would select **No** for Year 1 and Year 2. For Year 3, you can save data to existing nodes if needed.



3. In the **Transfer From** column, select the data source for each included year.

   NOTE: When you select Rolling Forecast as a source, the data imported is based on the Axiom Rolling Forecast system setup. You can change the values using the Axiom Rolling Forecast drivers.

4. Click **NEXT**.

Step 3: Configure the data to be transferred

Options on the second Configuration for Data Transfer page depend on the data sources (products) selected on the previous page.

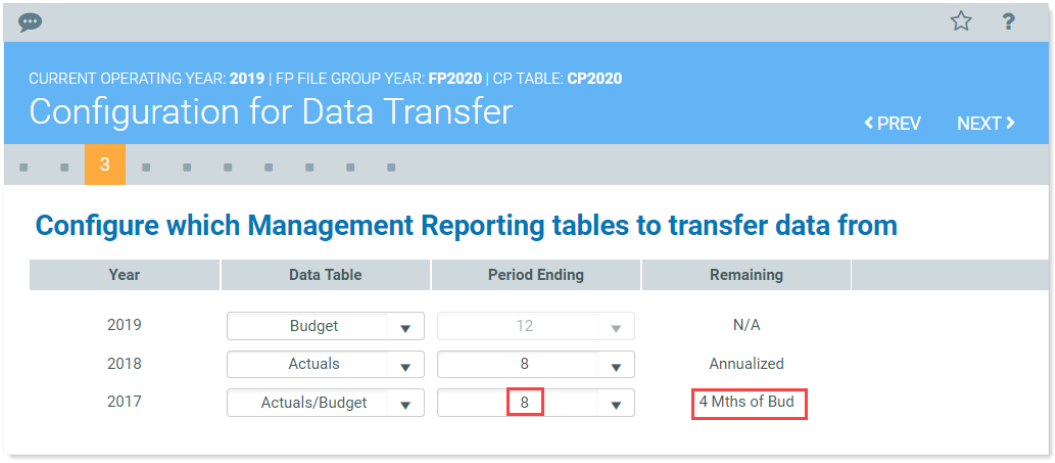
- If you selected Management Reporting for all years, you must select the Management Reporting tables from which to transfer data for each year.
- If you selected Rolling Forecast for all years, a non-editable table displays the year(s) and quarters that the data will be transferred from. Data is based on the Rolling Forecast system setup. You can change the values using the Rolling Forecast drivers.
- If you selected a combination of both Management Reporting and Rolling Forecast as data sources, the utility displays both sections on the page.

Example of non-editable table when Rolling Forecast selected for all years

To configure Management Reporting tables:

1. In the **Data Table** column for each year, select the table from which to transfer data:
   - **Actuals** – Select to use data from the Actuals table (e.g., ACT2020) for the entire year. If you select this option, select a period in the following step.
   - **Budget** – Select to use data from the Budget table (e.g., BUD2020) for the entire year.
   - **Current Yr Forecast** – Select to use data from the Current Year Forecast table (e.g., CYF2020) for the entire year.
   - **Actuals/Budget** – Select to use a combination of months from the Actuals and Budget tables. If you select this option, select a period in the following step.
2. If you selected Actuals or Actuals/Budget in the previous step, then in the **Period Ending** column, from the drop-down, select the number of months to use:
   - For **Actuals**, select the number of months to use. The remaining months will be annualized.
   - For **Actuals/Budget**, select the number of months to pull from Actuals. The remaining number of months will come from Budget, as shown in the following example. For year

2017, eight months are selected from Actuals, leaving the remaining four months to come from Budget:



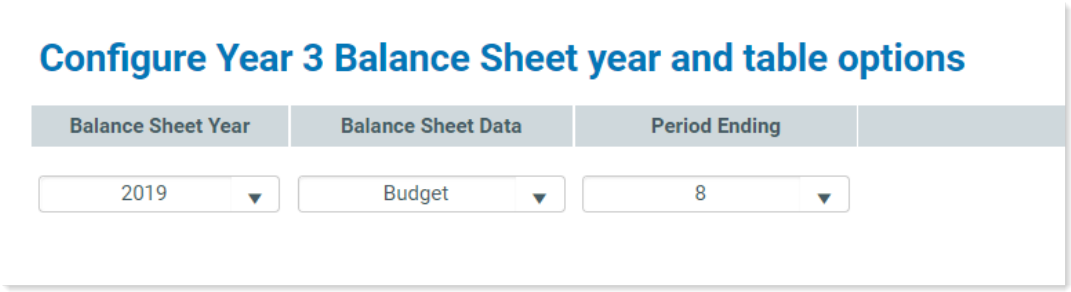
To configure Year 3 balance sheet and table options:

NOTE: You can base your balance sheet on a data source different from what you selected for the Management Reporting tables if you like; however, the default is to use what you selected for Year 3 in the **Configure which Management Reporting tables to transfer data from** section.

1. In the **Configure Year 3 Balance Sheet year and table options** section, in the **Balance Sheet Year** column, select the desired year.
2. In the **Balance Sheet Data** column, select **Actuals** or **Budget**.

   NOTE: If you selected Rolling Forecast as the data source for the first year (2019 in the example) in *Step 2: Select years and data sources*, then Rolling Forecast will be the only option available in the Balance Sheet Data column drop-down.

3. In the **Period Ending** column, select the month to apply from the selected source table.



4. Click **NEXT**.

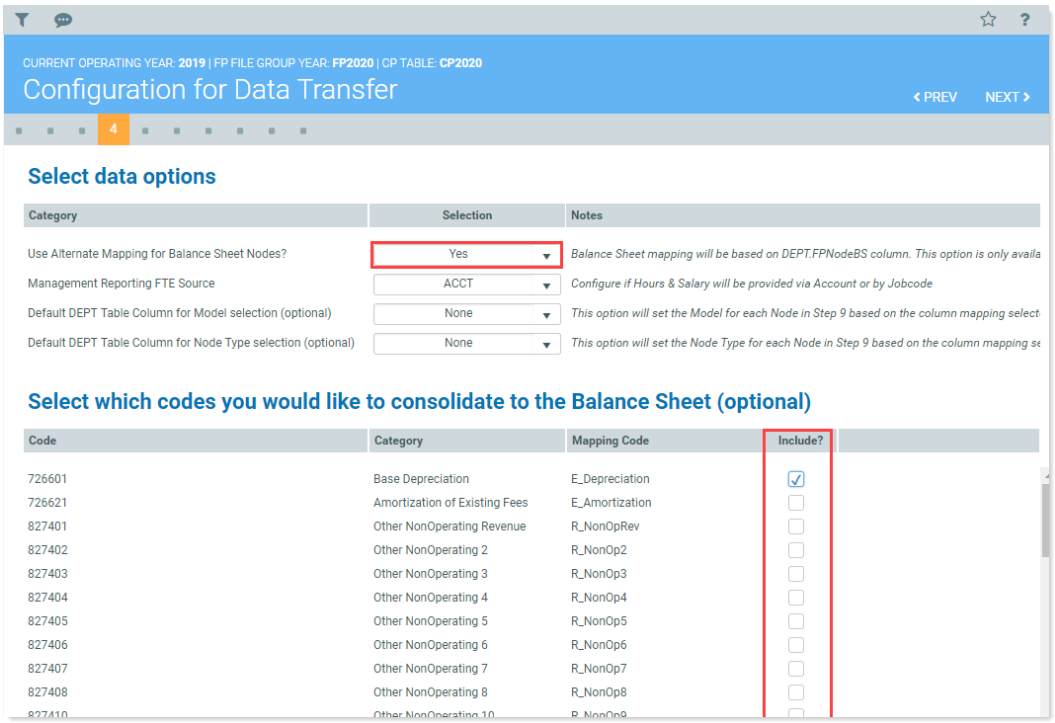
Step 4: Select Management Reporting data options

NOTE: The utility skips this step if you selected Rolling Forecast as the product source for any year in *Step 2: Select years and data sources*. The *Select data options* page (page 4) displays as read only unless you select Management Reporting as the transfer source for all included years.

To select Management Reporting data options:

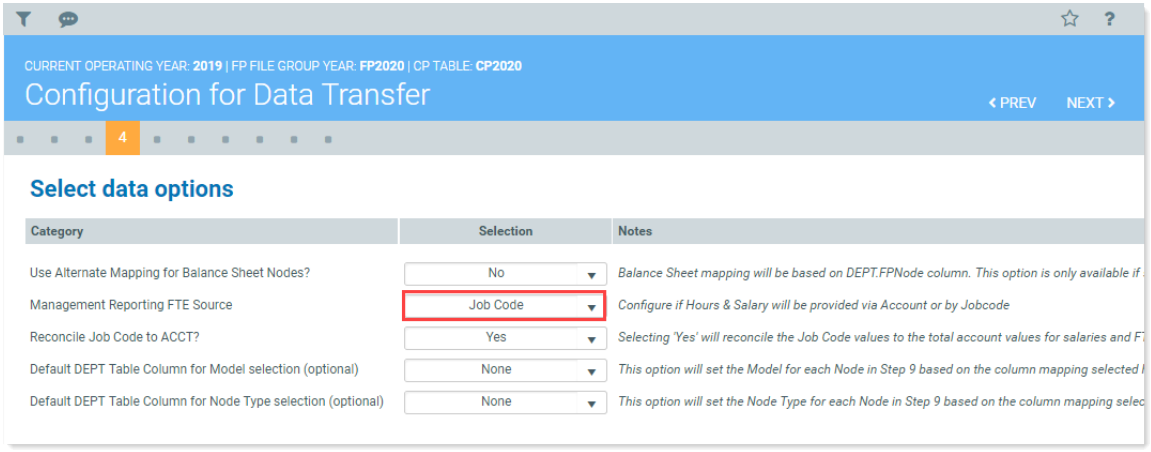
NOTE: If you use alternate mapping, the items selected for the balance sheet node are mapped to the FPNodeBS column instead of the FPNode column in the DEPT table.

1. (Optional) To move and consolidate data associated with certain codes to the balance sheet node, do the following:
   a. In the **Use Alternate Mapping for Balance Sheet Nodes?** row, in the **Selection** column, select **Yes** from the drop-down. A section displays for selecting codes to consolidate.
   b. In the **Include** column, select the check boxes for the codes to consolidate to the balance sheet node. Selecting a code groups the code using the DEPT.FPNodeBS mapping column rather than the DEPT.FPNode mapping column.

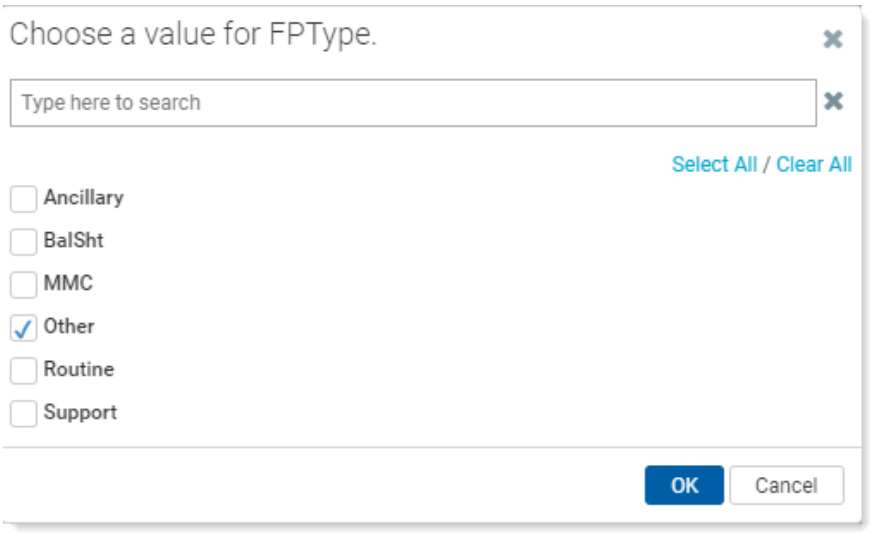


2. For **Management Reporting FTE Source**, in the **Selection** column, select the source table for your FTE and Salaries: **ACCT** or **Job Code**.

NOTE: The Job Code option does not display if you selected CYF or Actuals/Budget data for the first year listed in *Step 2: Select years and data sources*.



3. If you selected Job Code as your Management Reporting FET Source in Step 2, the **Reconcile Job Code to ACCT?** option displays on the following line. The default is set to **Yes**, which means the utility will automatically reconcile the Job Code values to the total account values for salaries and FTEs. If you want to reconcile these manually (not recommended), select **No**.
4. (Optional) To designate the contents of a column in the DEPT table to use as the default source for Model selection the Model & Node Selections page (page 9), from the **Default DEPT table Column for Model selection (optional)** drop-down, select the desired DEPT column.
5. (Optional) To designate the contents of a column in the DEPT table to use as the default source for Node Type selection on page 9, from the **Default DEPT Table Column for Node Type selection (optional)** drop-down, select the desired DEPT column.
6. (Optional) If you do not want to load all items from the DEPT table, you can filter the ones you do not want to include:
    a. On the left of the gray header, click the filter icon ( ) to open the Filters panel.
    b. In the **MR: Model & Node Filters** section, in the **FPType** field, click the drop-down arrow. In the popup dialog, select the desired filters, and then click **OK**. Your selected item types display in the FPType field.

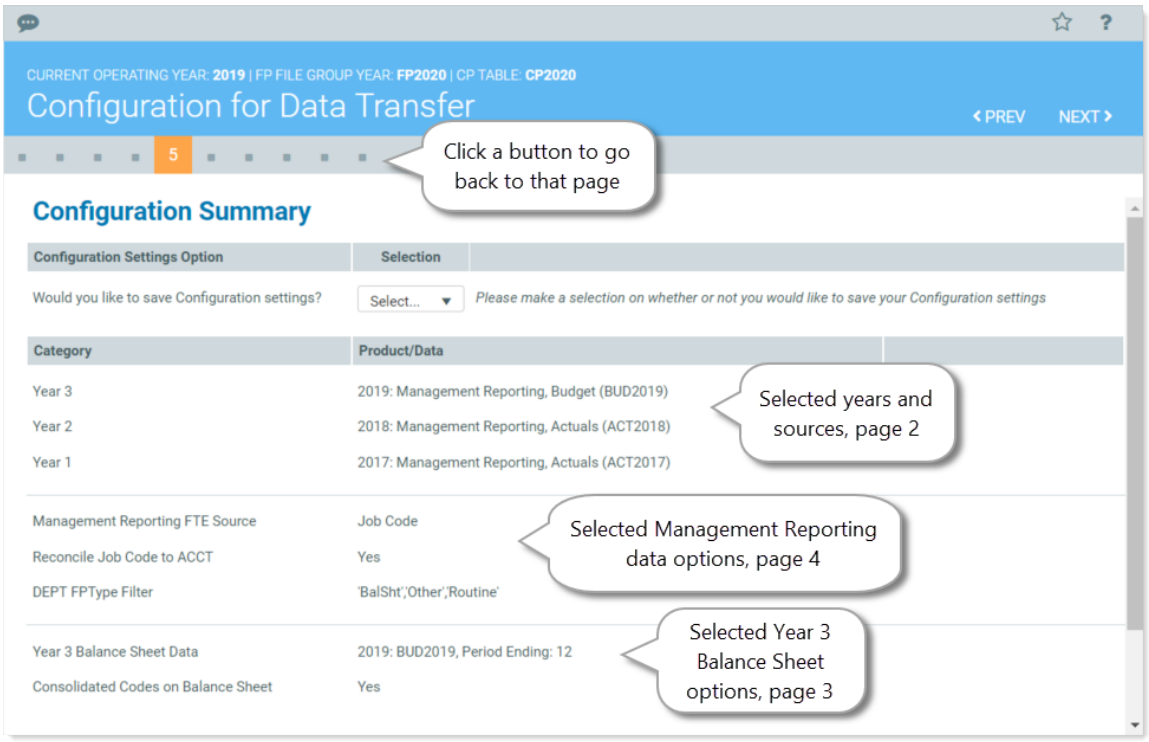


7. Click **NEXT**.

Step 5: Review the Configuration Summary

The Configuration Summary page presents a summary of the data that you selected to transfer and the option to save your selections thus far. You can go back to any page and make changes. Be aware that some changes may affect related selections on other pages, so it is a good idea to review pages that follow.

1. In the **Configuration Settings Option** section, from the **Would you like to save Configuration settings?** drop-down, select **Yes** to save your selected settings to this point, or **No** to not save settings and have all settings revert to the defaults the next time the utility is opened.
2. Review the rest of your selections and make any changes needed.



3. After reviewing and/or making changes, click **NEXT**.

Continue to Verify mapping and validate data.

Verify mapping and validate data

After you make year, source, and data selections in the Transfer to Financial Planning utility, the utility checks that FP nodes and FP codes are mapped using valid codes.

The Code Mapping & Validation portion of the utility also provides tools you can use to locate and correct mismatched data or missing items.

Step 6: Verify FPNode and FPNodeBS data mapping

At this point, the utility checks mapping for the following:

- **FPNode** and **FPNodeBS** columns in the **DEPT** table – If you selected Management Reporting as the source for any included years.
- **FPNode** column in the **RFGroup** table – If you selected Rolling Forecast as the source for any included years.

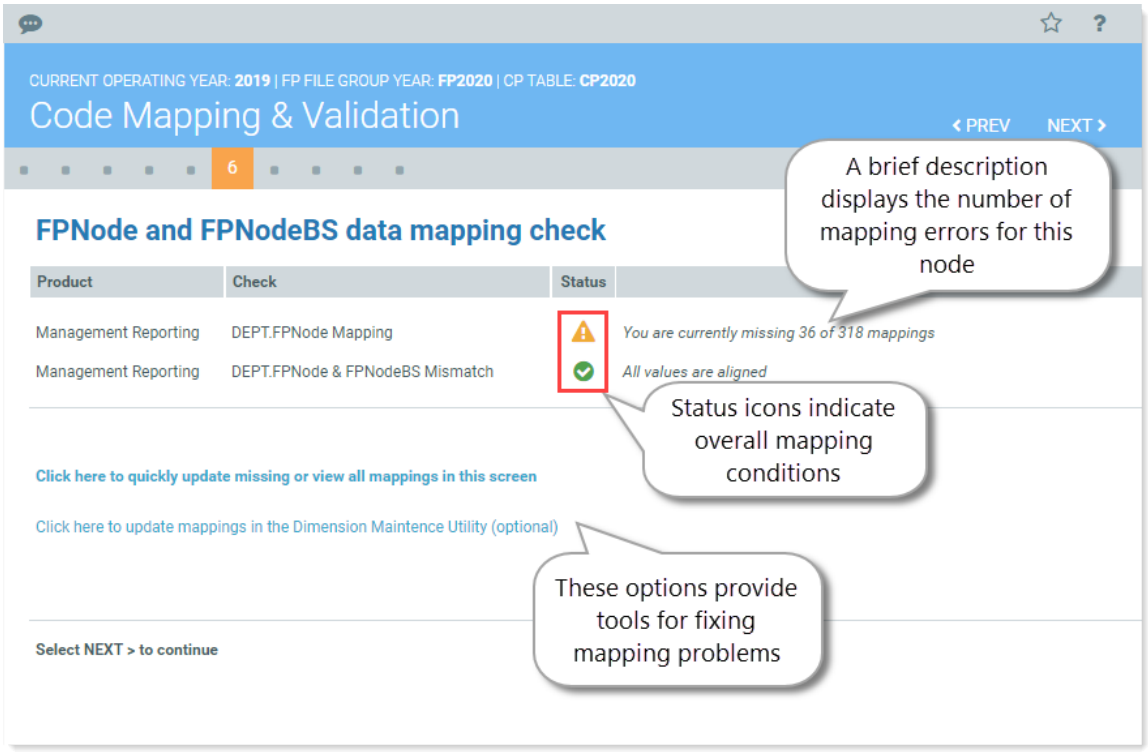
- If you selected both Management Reporting and Rolling Forecast as data sources, the utility checks that the FPNode values are consistent between them. If they are not consistent, data issues could occur during the transfer. For example, if the destination node names are not consistent, you could end up with two separate nodes in your transfer rather than a single node.

The utility checks if there are any blank values in the FPNode or FPNodeBS columns of the DEPT table. If you are using alternate mapping to the balance sheet for any FPNode items, the utility checks that there are no cases in which FPNode is not equal to NA and FPNodeBS is equal to NA.

IMPORTANT: Any FPNode or FPNodeBS values that equal "NA" will be deleted during the transfer.

To verify FPNode and FPNodeBS mappings:

1. On the first Code Mapping & Validation page, in the **FPNodes and FPNodeBS data mapping check** table, review the information. A circle with a green check mark indicates the system found no problems with the mapping. A yellow triangle with an exclamation mark indicates a mapping issue.



2. If there are mapping problems, you can use one of the tools provided to fix the errors. Select one of the following:
   - If there are only a few errors, click **Click here to quickly update missing or view all mappings in this screen** to use the Configure Mapping utility.
   - If there are numerous errors, use the Dimension Maintenance Utility (DMU). You can click

the link provided to open the DMU. For information on using the DMU, see Working with the Dimension Maintenance utility and related topics.

3. After verifying and correcting any mapping errors, click **NEXT**.

Step 7: Verify FPCode data mapping

At this step, the utility performs a mapping check on the following values to ensure they are mapped to values that are validated in the ACCT_FPCODE validation table:

- **ACCT** table – If you selected Management Reporting as the data source for any years in *Step 2: Select years and data sources*, the utility verifies that the data in the FPCode column is mapped with valid values to the FPCODE column of the ACCT_FPCODE validation table.
- **Job Code** tables – If you selected Management Reporting as the data source for any years in *Step 2: Select years and data sources* and you selected Job Code as the FTE source, the utility checks that the data in the FPCategory column of the JobCode table is mapped correctly to the JobCode column in the ACCT_FPCODE validation table.
- **ACCT** and **RFCode** tables – If you selected a combination of Management Reporting and Rolling Forecast as data sources for included years, the utility checks that the mappings in the FPCode column of these tables matches the list of valid mapping values from the ACCT_FPCODE validation table.
- **RFCode** – If you selected Rolling Forecast as the source for all included years, the utility checks that the entries in the FPCode column of the RFCODE table match the entries in the FPCODE column of the ACCT_FPCODE validation table. If you need to adjust values from Management Reporting or Rolling Forecast to transfer to Axiom Financial Planning, use the Update DIM – CODE utility to change the Conversion Factor values from positive to negative, or by dividing by 1 or 1000.

To review FPCode data mappings:

1. On the second Code Mapping & Validation page, in the **FPCode data mapping check** table, review the mapping information.
2. If there are mapping errors, use one of the tools provided to correct the errors. Select one of the following:
   - If there are only a few errors, click the **Click here to quickly update missing or view all mappings in this screen** option to open the Configure Mapping utility.
   - If there are numerous errors, use the Dimension Maintenance Utility. For instructions on accessing and using the Dimension Maintenance Utility, see Working with the Dimension Maintenance utility.
   - If you need to update the conversion factors or code descriptions in the CODE dimension table, use the Code Dimension utility. For instructions on using the Code Dimension utility, see Updating Axiom Financial Planning dimensions.
3. After verifying and correcting any mapping errors, click **NEXT**.

Continue to Reconcile and validate aggregate data.

Fix node and code mapping errors

Use these instructions for using the Configure Mapping utility to correct node mapping errors in the Transfer to Financial Planning utility.

NOTE: The Configure Mapping utility is designed for correcting a relatively small number of mapping mismatches. If you have numerous mismatches, use the Dimension Maintenance Utility to correct errors for the Dept, ACCT, JOBCODE, RFCODE, and RFGROUP dimensions. You can also use this utility to establish mapping.

Fix FPNode and FPNodeBS mapping errors

To fix node mapping errors:

1. In the **Code Mapping & Validation** page (page 6 of the utility), click the **Click here to quickly update missing or view all mappings in this screen** link.

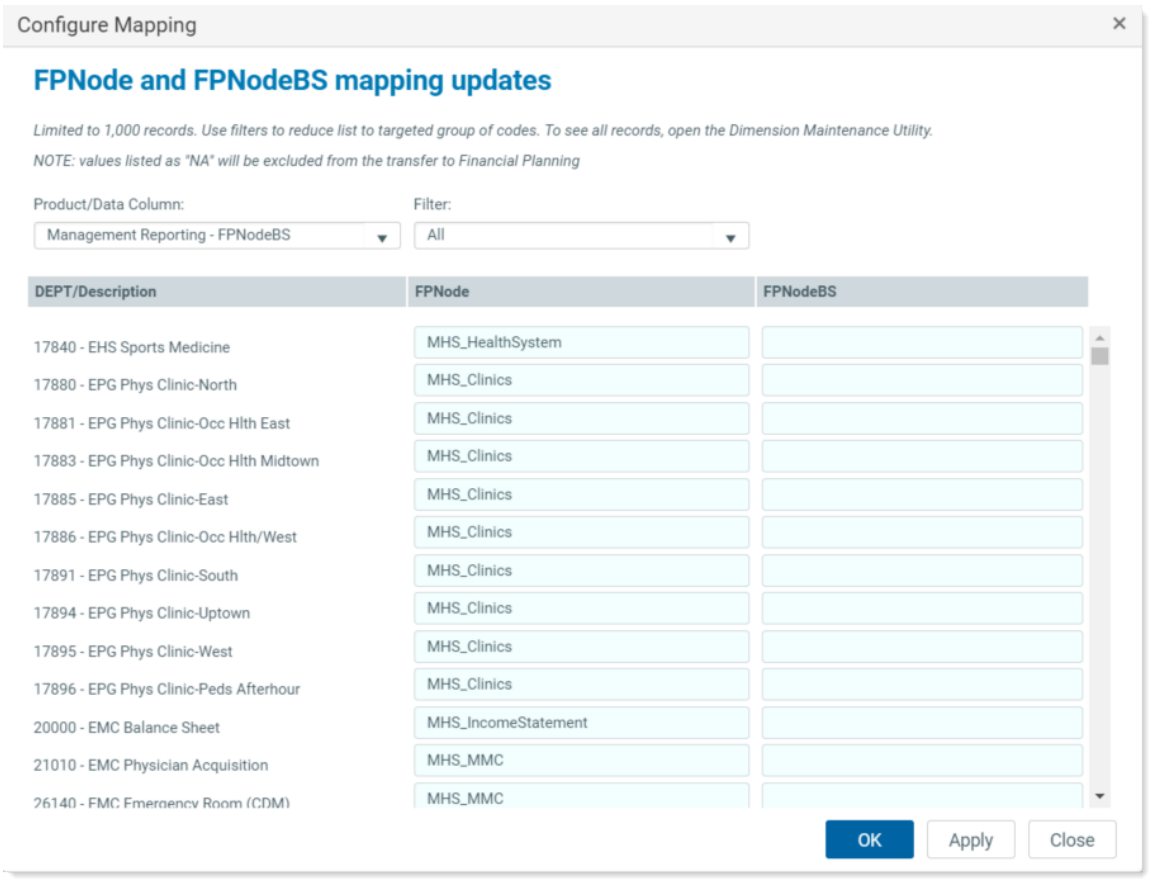
   The Configure Mapping dialog opens.

2. From the **Product/Data Column** drop-down, select the FP Node type where the mapping errors occur.

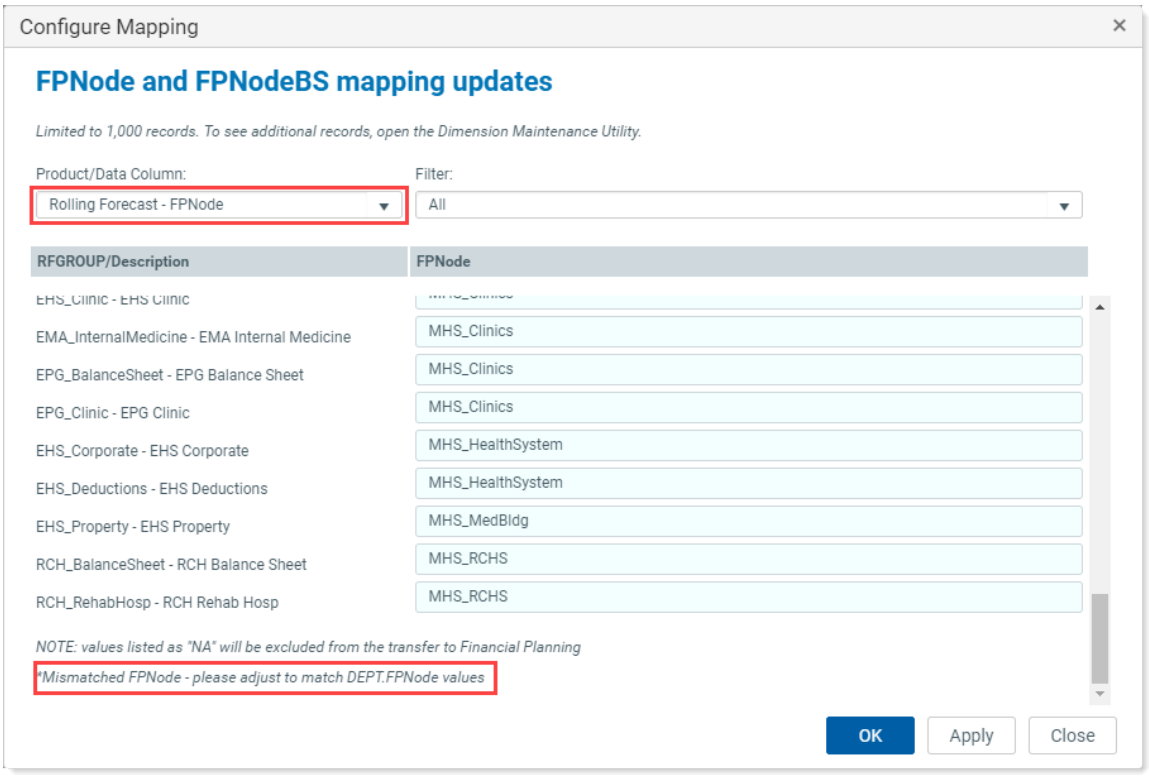
3. From the **Filter** drop-down, select one of the following:
   - **All** – To view all mappings.
   - **Blank/Invalid Code Mappings** – To view only missing or invalid mappings.

     NOTE: If you select Blank/Invalid Code Mappings and no mismapped items display, select **All**. Items can be incorrectly mapped even if they are not invalid or missing. Incorrectly mapped items appear in bold type.

   In the following example, the user needs to supply the missing codes for FPNodeBS items listed on the left. If you select FPNodeBS from the **Product/Data Column** drop-down, the FPNode column also displays for convenience so that you can see what the current mapping is and if it needs to be mapped to FPNodeBS.

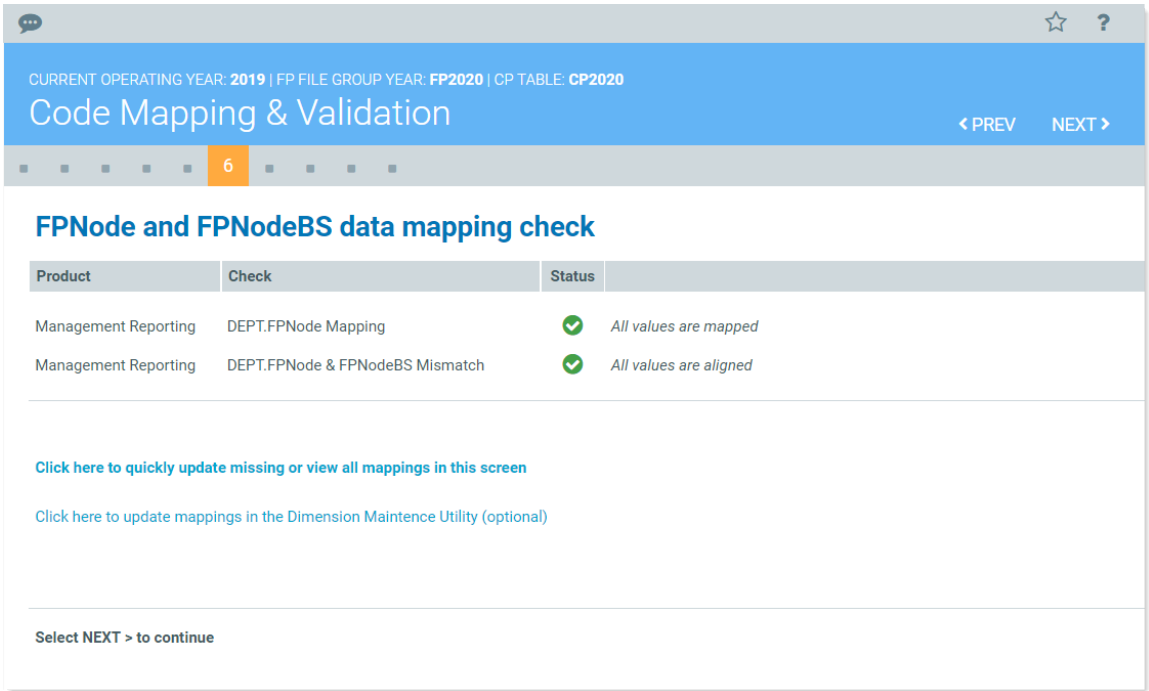


In the following example, Rolling Forecast is the source. The FPNode needs to match the FPNode column entries in the DEPT table.



4. After making corrections, click **OK**.

   The mapping check should now display all green-with-checkmark icons, as in the following example:



Fix FPCode data mapping errors

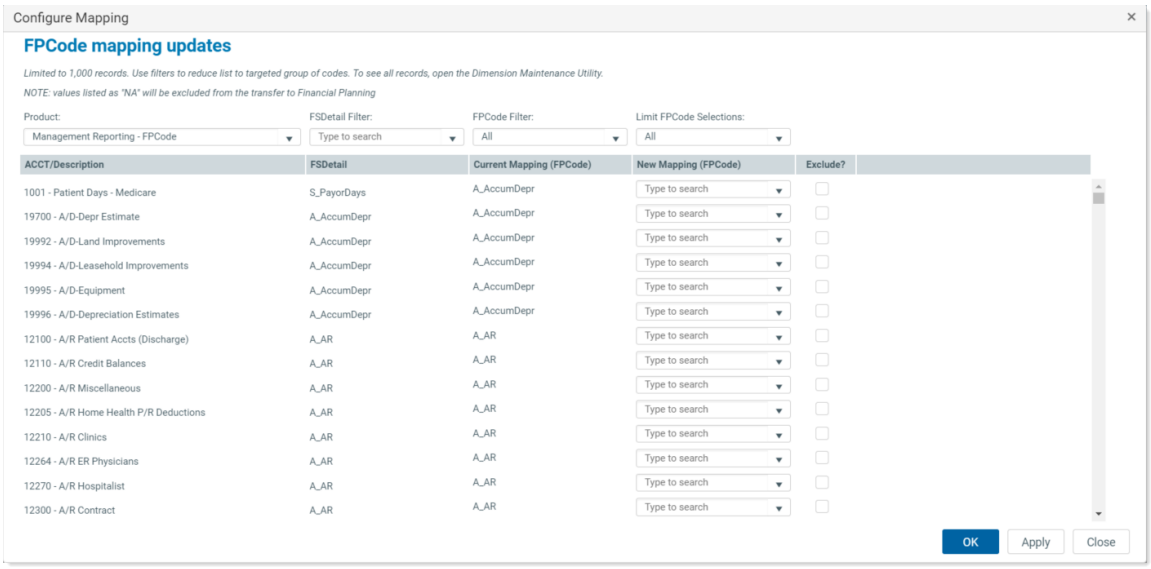
For data coming from Management Reporting, the utility checks that the ACCT table's FPCode column mappings match the data in the FPCODE column of the ACCT_FPCODE validation table.

For data coming from Rolling Forecast, the utility checks that the RFCODE table's FPCode column mappings matches the data in the FPCODE column of the ACCT_FPCODE validation table.

To fix code mapping errors:

1. In the **Code Mapping & Validation** page (page 7 of the utility), click the **Click here to quickly update missing or view all mappings in this screen** link.

   The Configure Mapping dialog opens. Use the filter fields at the top of each column to filter the items in that column.



2. If you selected both Management Reporting and Rolling Forecast as product sources for your selected years, then from the **Product** drop-down, select the product source with the mismapped items. If you selected only one product, it should already be displayed in the Product drop-down.
3. From the **FPCode Filter** drop-down, select one of the following:
   - **All** – To view all mappings.
   - **Blank/Invalid Code Mappings** – To view only missing or invalid mappings.

     NOTE: If you select Blank/Invalid Code Mappings and no mismapped items display, select **All**. Items can be incorrectly mapped even if they are not invalid or missing.

   - **Potential Mismatches** – To view all the items that are potential mismatches based on the contents of the ACCT table's FSDetail column as compared to the ACCT_FPCODE validation

table's FSDetail column for a given FPCode.

4. The new Mapping (FPCode) column displays valid FPCodes you can select to remap items. To filter this column, in the **Limit FPCode Selections** field, select one of the following:

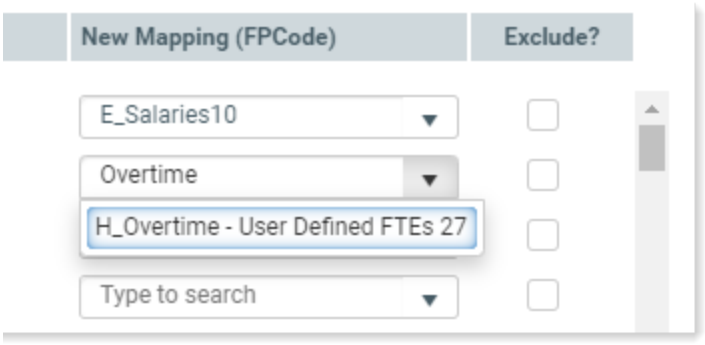
   - **FSDetail** – To display only the selections that match the FSDetail displayed in the FSDetail column.
   - **All** – To display all available mapping codes. Use this option if there is no match for the FPCode listed in the Current Mapping (FPCode) column for the FSDetail (if there is no match, the drop-down reads "No data found").

   NOTE: The selection lists display only codes that are set to Active in the CODE Dimension table.

5. To correct mismapped items, in the corresponding **New Mapping (FPCode)** column field, select a code from the drop-down. For some of the most common codes, the utility displays suggested mappings in the far-right column. These are suggestions only.

   NOTE: The selection list within the field includes only the first 100 codes in the list, so to find additional codes, use the following search method.

   - In the **Type to search** field, type a word to see codes related to that word; for example, type "salary" or "overtime." Select the desired code from the displayed list.



6. To remove corrected items from the FPCode mapping updates utility, click **Apply**. The list refreshes to display the remaining items that need mapping.
7. To exclude a listed item from the transfer, in the **Exclude** column, select the check boxes for that item.
8. When finished mapping, click **OK**.

Reconcile and validate aggregate data

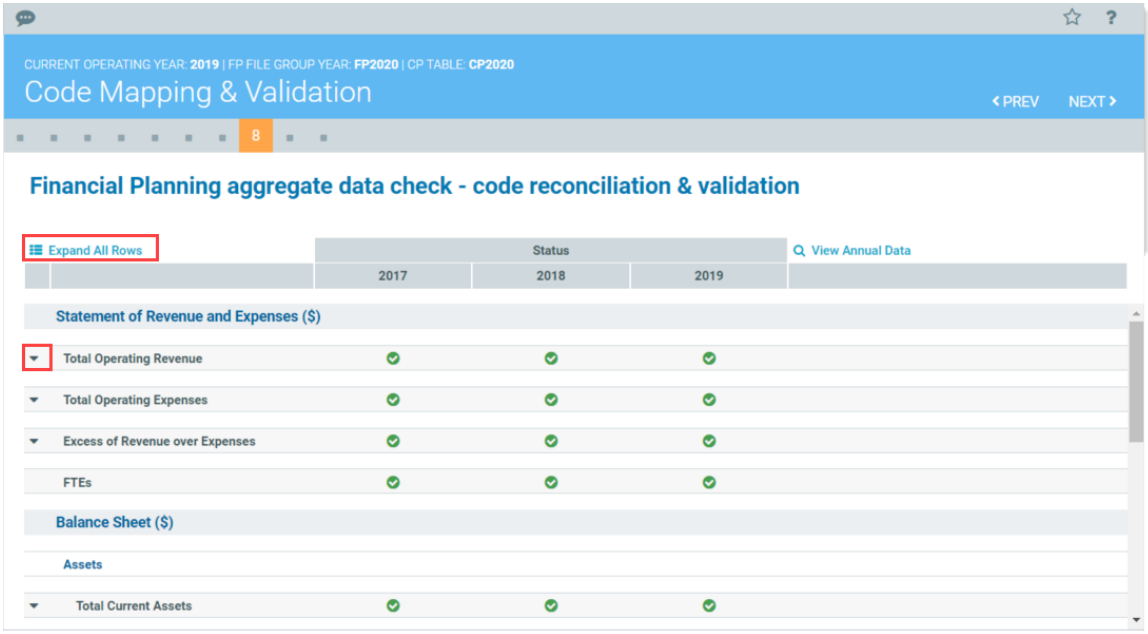
The third page of the Code Mapping & Validation portion of the Transfer to Financial Planning utility compares the data coming from Management Reporting and/or Axiom Rolling Forecast to the data mapped in Axiom Financial Planning. This page displays the Statement of Revenue and Expenses, and the Balance sheet.

Step 8: Reconcile and validate data:

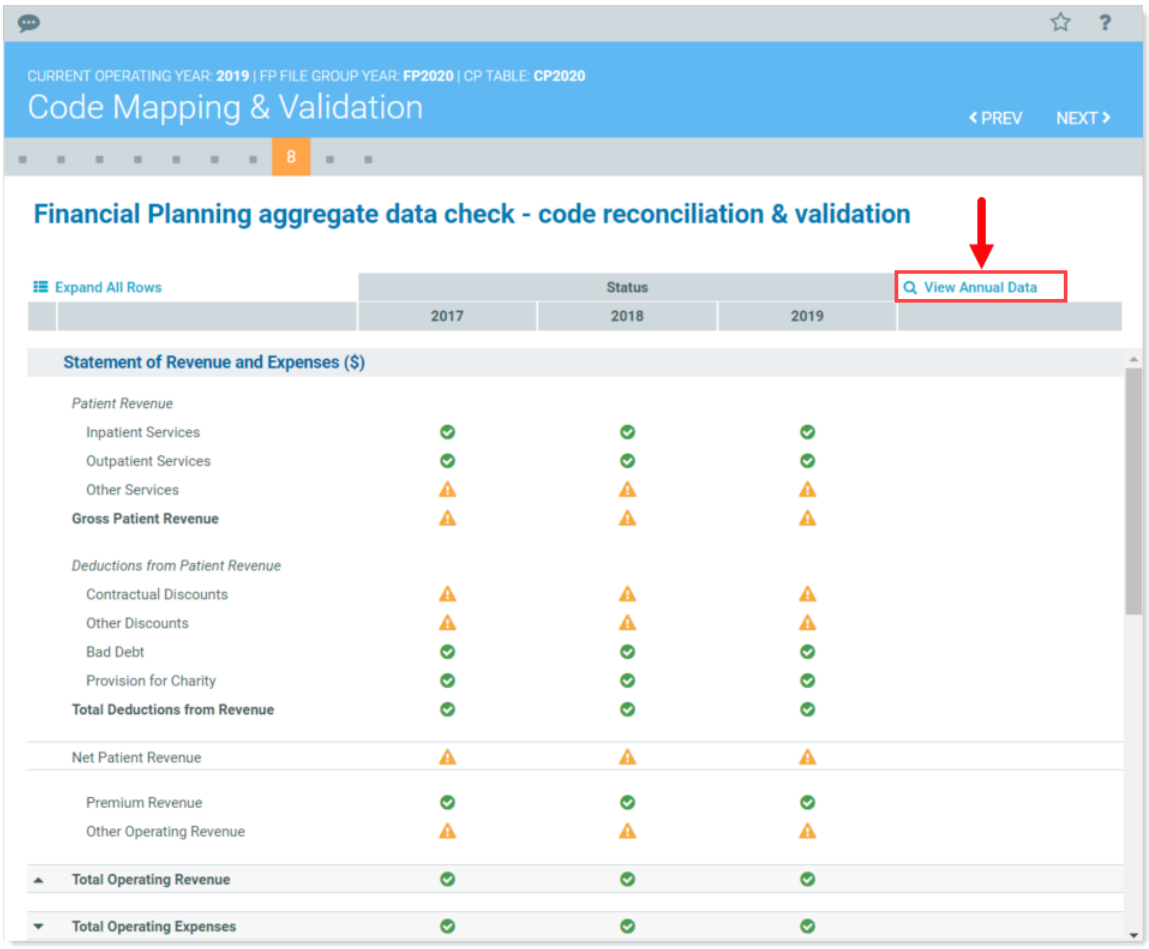
1. On the **Financial Planning aggregate data check - code reconciliation & validation page**, review the table. Icons provide an overall indication of whether or not the data is mapped correctly. Green circle with checkmark icons indicate the data matches between products, while yellow triangle with exclamation mark icons indicate a data mismatch.

   NOTE: Even if a Total row displays all green icons, there may still be data mismatches in the line items that make up the total. To view the line items, expand the Total rows so you can see if there are any mismatches. In some cases, the mismatches may be appropriate; for example, if you want to shift data from one category to another, such as between operating and non-operating revenue.

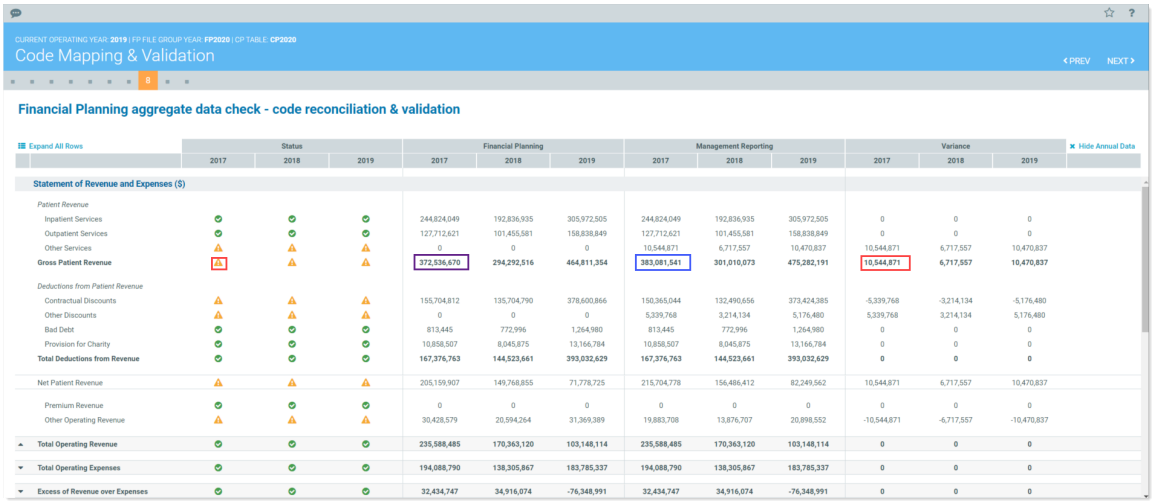
2. In the table first row, click the down arrow to expand the row. You can also click the **Expand All Rows** link at the top left of the table to view data icons for all rows in the table.



3. Check to see if there are any warning icons in the line items for the expanded rows. If there are, view the data comparison to see where the discrepancies occur: at the top right of the table, click **View Annual Data**.



The data related to the status icons displays in tables to the right. In the following example, the 2017 amounts for Gross Patient Revenue is not the same for Management Reporting and Financial Planning. The Variance table on the far right displays the difference between the two amounts.

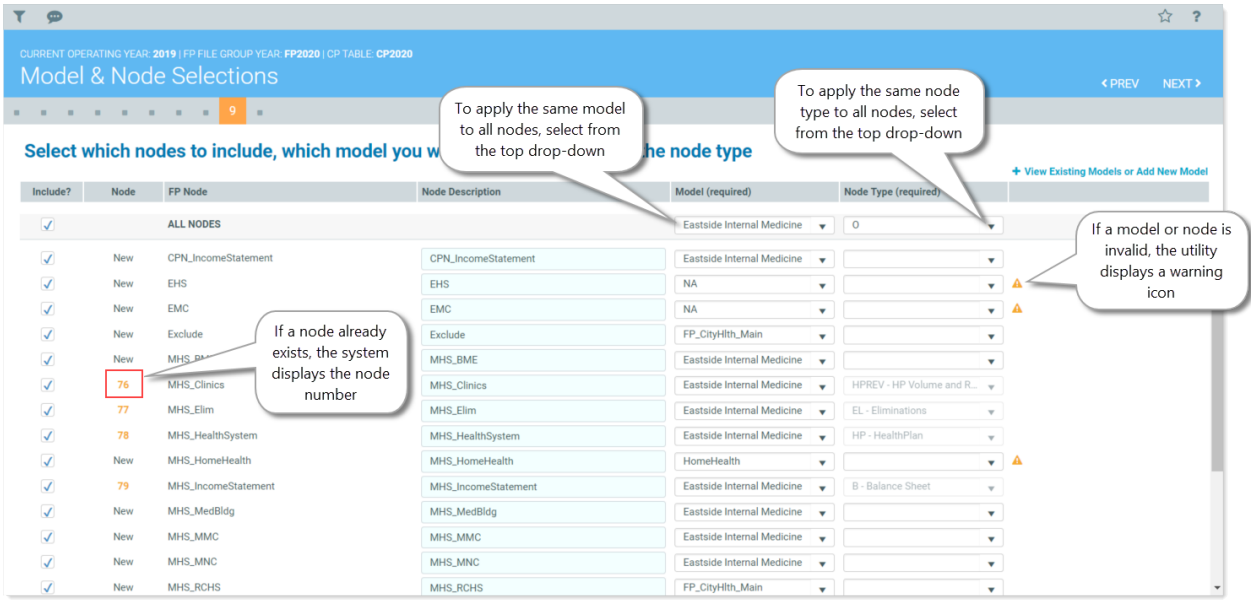


4. To correct these issues, go back to the mapping sections and correct the mismapped items on either the ACCT or DEPT tables, as necessary, based on your data. For some small variances, it may be easier to load the data into Axiom Financial Planning and then correct it directly in the nodes.
5. Click **NEXT**.

Continue to Select nodes, models, and node types.

Select nodes, models, and node types

On the Models & Node Selections page of the Transfer to Financial Planning utility, select the nodes to include, the models to save data to, and the node types.



Step 9: Select nodes, models, and node types

NOTE: If your model or node type selections are populated with defaults from the DEPT table, you can still select other options because the drop-downs are populated from the Model[Year] and Node Type tables. Selecting from the drop-downs overrides the defaults.

1. On the **Model & Node Selections** page (page 9 of the utility), select the nodes to include in the transfer. In the **Include?** column, all nodes are selected by default. Do one of the following:
   - To include all nodes, leave the **ALL NODES** checkbox selected.

     NOTE: Selecting the All Nodes check box is the equivalent of checking all the boxes in the column.

- To include only some nodes, clear the check boxes for any nodes you do not want included.

2. To change a node description, make changes directly in the **Node Description** column fields.
3. In the **Model** column, do one of the following:
   - To apply the same model to all nodes, in the top drop-down, select the desired model. The selected model name is copied to the Model field for all nodes.
   - To apply different models to different nodes, select from the corresponding drop-down for each listed node.
   - To view a list of existing models, just above the table on the right, click the **View Existing Models or Add New Model link**. A table of existing models opens. If you do not see the model you want, you can add a new model from this dialog.
4. In the **Node Type** column, do one of the following:
   - To apply the same node type to all nodes, in the top drop-down, select the desired node type.
   - To apply different node types, select from the corresponding drop-down for each listed node.
5. When finished, click **NEXT**.

Continue to Review and submit the transfer.

Add a new model

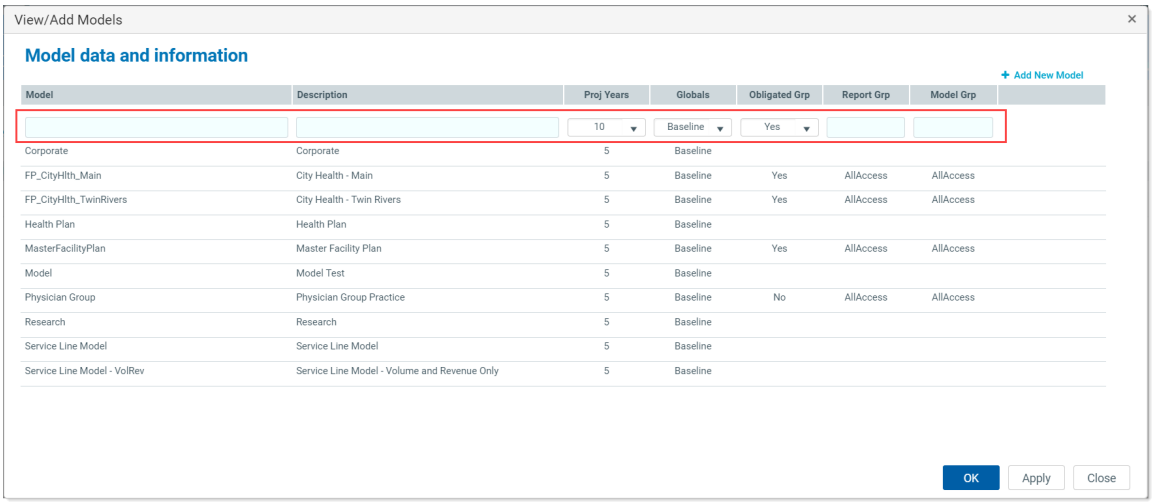
Use these instructions to create a new model in the View/Add Models dialog in the Transfer to Financial Planning utility. You can add up to 15 new models.

Models in the View/Add Models utility come from the Model table for your current File Group year. For example, if you are working on your 2020 File Group, then the models come from, and new models are saved to, the MODEL2020 table.

To add a new model:

1. If the View/Add Models dialog is not currently open, then in the **Models & Node Selections** page of the Transfer to Financial Planning utility, on the right just above the table, click **View Existing Models or Add New Model**.
2. In the **View/Add Models** dialog, in the upper right, click **Add New Model**.

   A new model row is added to the **Model data and information** table:



3. Work your way across the row, completing the fields as needed:
    a. In the **Model** column, type a name for the model (required).
    b. In the **Description** field, type a description (recommended).
    c. (Optional) The Proj Years, Globals, and Obligated Grp fields populate with defaults, but you can change them if desired.
    d. (Optional) To assign a report group, in the **Report Grp** field, type the name of the report group.
    e. (Optional) In the **Model Grp** field, type the name of the model group the model belongs to.
4. Do one of the following:
    - To add another model, click **Apply** and then repeat steps 2 through 4.
    - Click **OK** to save and close the model utility.

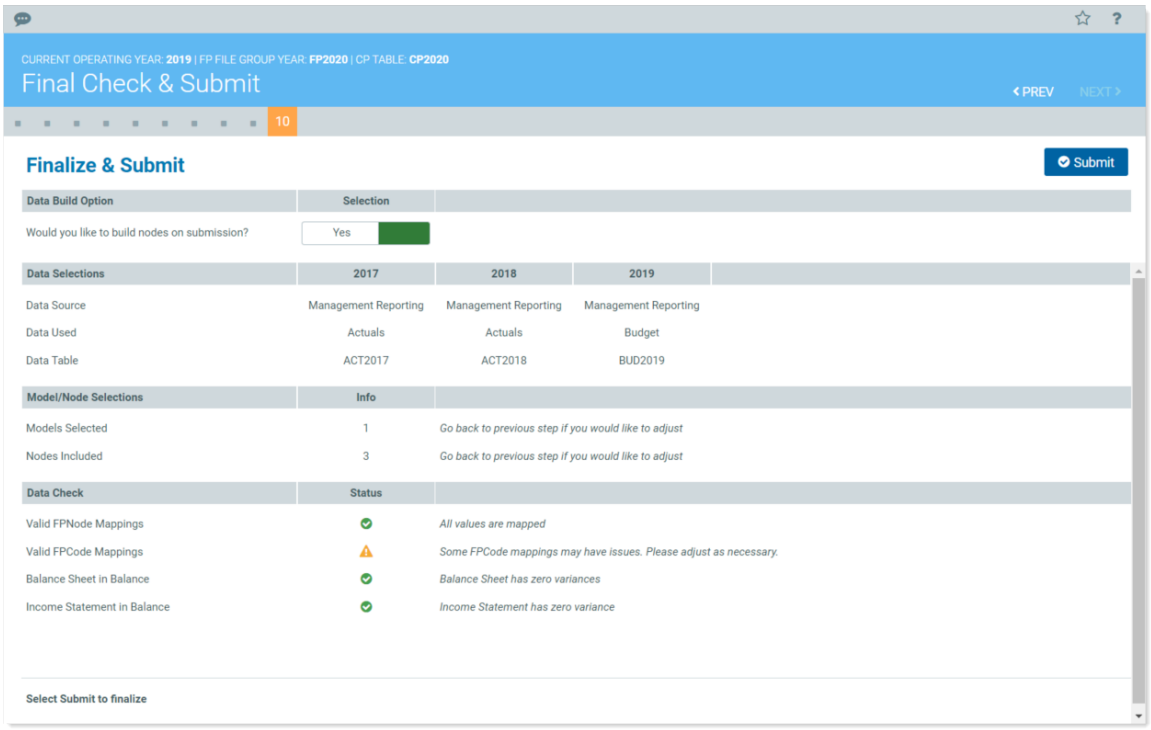
    The new model appears in alphabetical order in the Model column drop-down list.

Review and submit the data transfer

The Final Check & Submit page of the Transfer to Financial Planning utility provides a review of your selections and the choice to create plan files after the transfer or to not create plan files so that you can build them at a later time.

To finalize and submit the transfer:

1. On the Final Check & Submit page, in the **Data Build Option** section, do one of the following:
    - To automatically create the nodes (plan files) after submission, leave the toggle set to **Yes** (the default).
    - To transfer the data but put off creating nodes until a later time, click the toggle to **No**.



2. In the **Data Selections** and **Model/Node Selections** sections, review the information to be sure it is what you expect.
3. In the **Data Check** section:
   - If there are any mapping issues, either correct them by going back to the corresponding mapping check page or, if you decide not to correct them, be sure you understand them and how they will affect transferred data.
   - If there are balance sheet variances, go back to the **Financial Planning aggregate data check - code reconciliation & validation** page of the Code Mapping & Validation part of the utility. Click **View Annual Data** and then, in the **Balance Sheet** section, expand the rows to view the line items. If you decided to correct mismapped items, return to the node and code check pages and use a utility to fix errors.
4. When ready to transfer the data, click **Submit**.
5. In the confirmation message, read the information and then, to continue with the transfer, click **OK**.

After you OK the submission, the utility runs an import job that transfers the data. You will receive an email notification when the integration is complete. You should receive a notification about any errors that occur. Any errors that occur are recorded in the Scheduler.

9

Integrating capital project data

Axiom Financial Planning allows you to import capital project data using the Transfer Capital Projects to Financial Planning integration utility. As of the 2020.1 release, this utility replaces the Excel-based transfer to Axiom Financial Planning utilities in Axiom Capital Planning. The Transfer Capital Projects to Financial Planning utility also exists in Axiom Capital Planning if your system includes both Axiom Software products. You can use the utility in either product to transfer capital project files.

Transferring capital project data

If your organization is also licensed for Axiom Capital Planning, you can transfer capital project data to Axiom Financial Planning using the Transfer Capital Projects to Financial Planning utility.

NOTE: You must have both Capital Planning Administrator and Financial Planning Administrator privileges to access this utility.

The system transfers the following information with the project:

- Capital request number (CAPREQ) and project ID
- Description of the project
- Total requested for the project
- Project type
- Project start year
- Project requestor

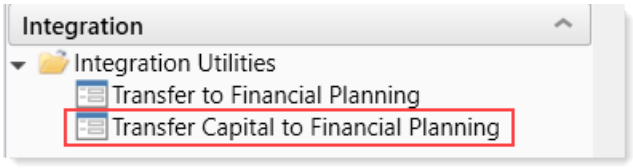
To get started, see Select and transfer projects from Axiom Capital Planning.

Select and transfer projects from Axiom Capital Planning

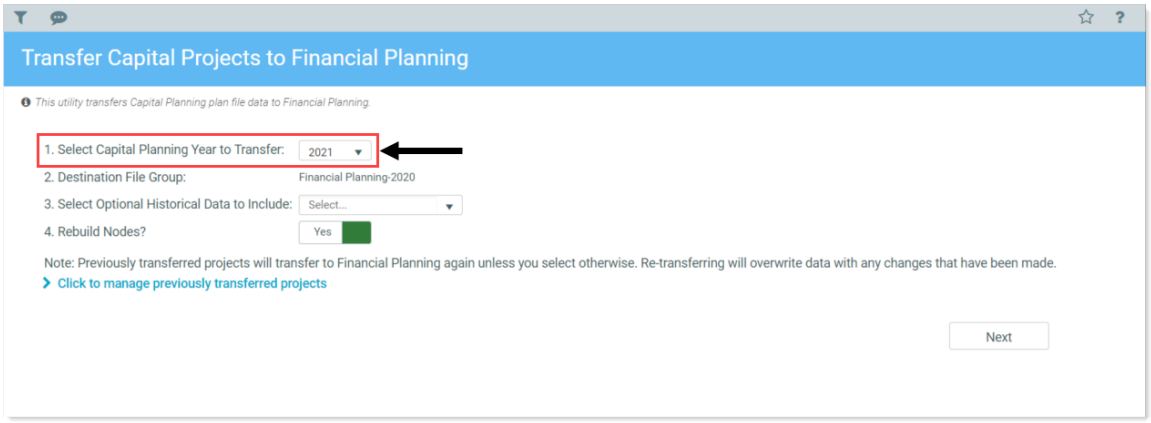
NOTE: By default, any previously transferred projects will transfer again unless you select them not to. For instructions, see Manage transferred capital projects.

To select and transfer Capital Planning projects:

1. From the Fin Plan Admin task pane, in the **Integration** section, expand **Integration Utilities**, and then double-click **Transfer Capital to Financial Planning**.



2. From the **Select Capital Planning Year to Transfer** drop-down, select the file group planning year in which to transfer projects to Axiom Financial Planning.



   The Destination File Group is preselected as Next Year and cannot be changed.

3. (Optional) To include selected historical data, click the drop-down, select the desired years to include, and then click **OK**.

   IMPORTANT: Be aware that including historical data may create variances in your historical reconciliations.

4. For **Rebuild Nodes?**, do one of the following:
   - To automatically build or rebuild nodes in Axiom Financial Planning after transferring the Capital Planning project data, leave the option set to **Yes** (the default).
   - If you do not want to automatically rebuild nodes, click the toggle to **No**. If you select No here and later change your mind, you can always rebuild the nodes later using the Node Rebuild Utility. A link to this utility is presented on the Transfer Summary page when No is selected here.

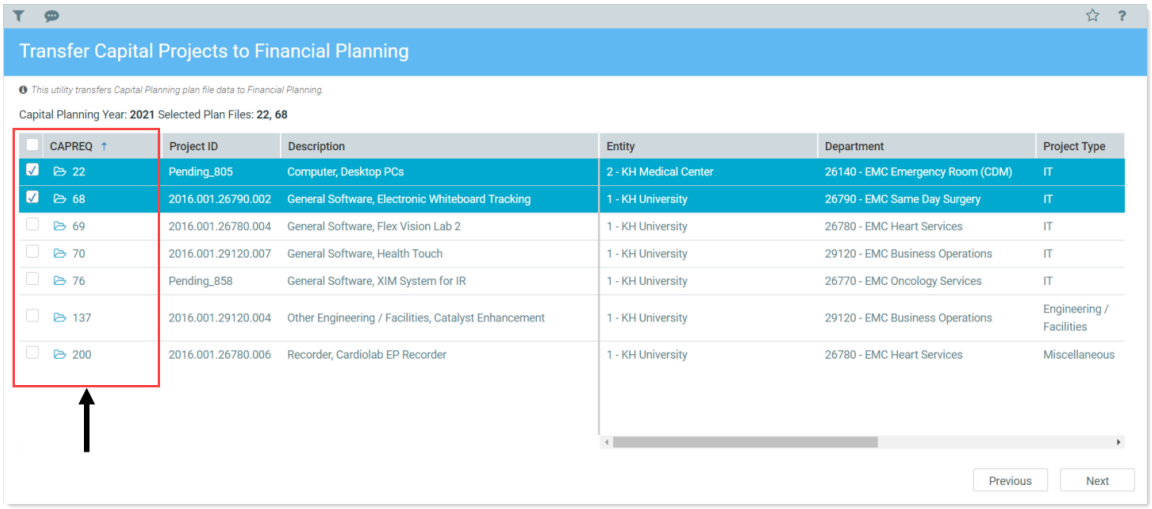
5. (Optional) If desired, manage previously transferred projects. If this is the first time you have transferred project data using this using this utility, there will not be any projects listed here.

6. In the lower part of the page, click **Next**.

7. On the next page, select the desired projects to transfer to Axiom Financial Planning. Next to the

CAPREQ column, click the check box to select the project(s) to transfer.

> **TIP:** If the list of projects is long, click the filter icon ( ) on the left in the gray header, and then use the options to filter the list.



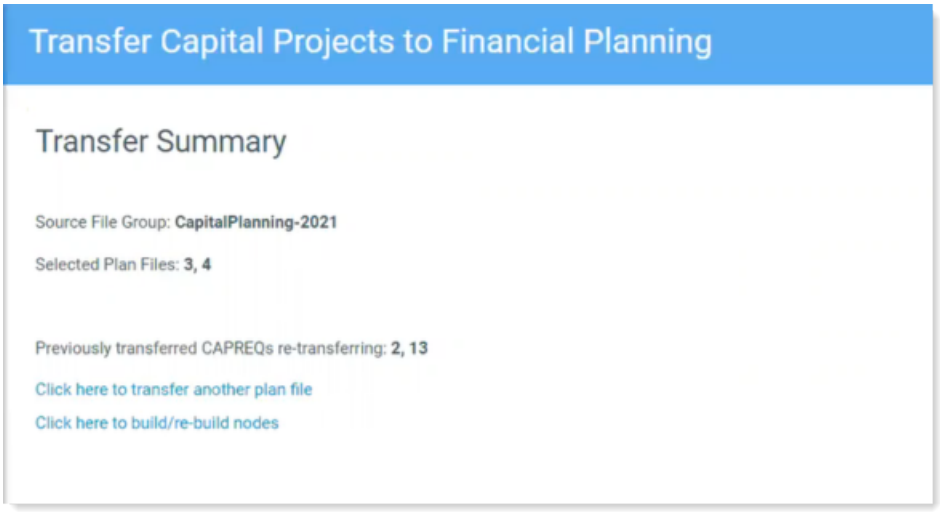
> **TIP:** To view the plan file for a project, click the folder icon next to the CAPREQ number. The plan file opens in a separate tab. From here, you can make any necessary changes to the project. However, to propagate the changes in the Transfer Capital Projects to Financial Planning utility, you will need to refresh the utility.

8. In the lower right corner of the page, click **Next**.
9. In the **Model** column, from the drop-down, select the Model to associate each listed Axiom Capital Planning project to. If desired, in the **Node description** field, type a new name for each node.

> **NOTE:** To return to the list of projects, for example, if you incorrectly selected a project or forgot to include a project, click **Previous**.

10. In the lower right corner of the page, click **Submit**, then review the confirmation prompt, and click **OK**.
11. The Transfer Summary page displays the Source File Group you selected and the plan file number of each transferred plan file, including any that were previously transferred. Do any of the following:
    - To transfer another project, click the link **Click here to transfer another plan file**.
    - If, on the first page of the utility, you did not select to build nodes, click the link **Click here to build/rebuild nodes** to go to the Node Rebuild Utility and build nodes from your imported project data.

- If you are finished, close the utility.



NOTE: If you adjust capital project data, you can transfer the project again to update it in Axiom Financial Planning. However, you will need to open and save or rebuild the Financial Planning plan file in Axiom Financial Planning to propagate the changes. If you delete a project in Axiom Capital Planning, you must also delete it in Axiom Financial Planning. For more information on transferring previously-transferred projects, see Manage transferred capital projects.

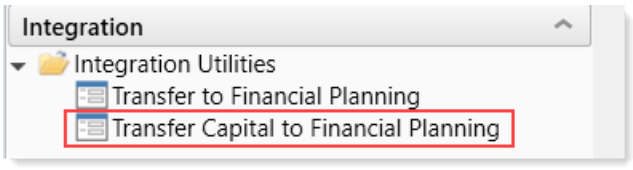
For information on how to work with transferred projects in Axiom Financial Planning, see Working with capital project data in plan files.

Manage transferred capital projects

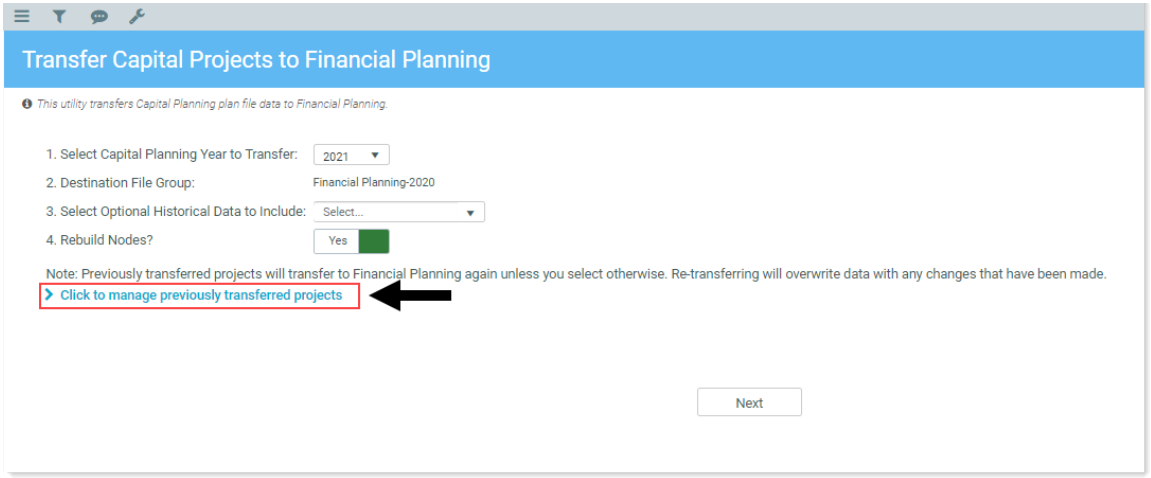
When you run the Transfer Capital Projects to Financial Planning utility, projects previously transferred automatically transfer again by default. However, you can control this action by enabling or disabling these projects from transferring again.

To manage transferred projects:

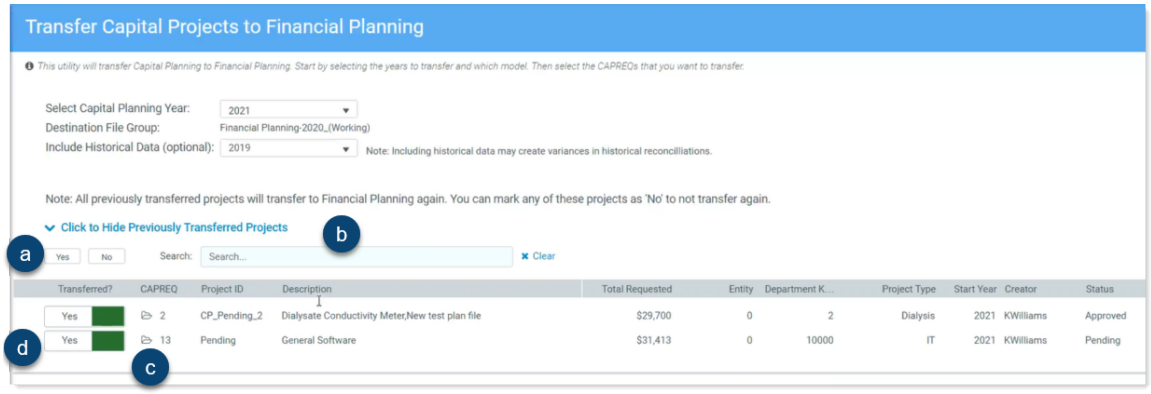
1. Do one of the following:
   - If you are already on the first page of the Transfer Capital Projects to Financial Planning utility, skip to step 2.
   - In the Fin Plan Admin task pane, in the **Integration** section, double-click **Transfer Capital Projects to Financial Planning**.



2. Click **Click to manage previously transferred projects**.



3. Do any of the following:
   a. To transfer all projects in the list, click **Yes**. To disable the transfer of all projects, click **No**.
   b. To search for a specific project, type project information in the Search box such as the CAPREQ number, the project ID, or description.
   c. To view the plan file for a project, click the folder icon next to the CAPREQ number. The plan file opens in a separate tab. From here, you can make any necessary changes to the project. However, to propagate the changes in the Transfer Capital Projects to Financial Planning utility, you will need to close it and open it again.
   d. For individual projects, click the toggle to **Yes** to transfer the project. Click the toggle to **No** to disable the transfer.



4. Click **Next** to continue the transfer process as described in step 7 in Select and transfer projects from Axiom Capital Planning.

   NOTE: The projects you disable from transferring will not display in the list.

Working with capital project data in plan files

After you transfer capital project data to Axiom Financial Planning and the projects are created as nodes, they display in Open Plan Files dialog where you can select and open them. The new nodes can be used in models, scenarios, and reports. For more information, see the following:

- Working with Financial Analysis reports – Run reports on nodes, scenarios, financial statements, summary reports, and more.
- Add an initiative node – Use initiative nodes to track the volume, revenue, expense, and capital associated with a new project.
- Working with Scenarios – Use scenarios to generate and compare forecasts based on different sets of assumptions to get a sense of your organization's finances in various possible future scenarios.

If an Axiom Capital Planning project that you have imported is later updated, you need to re-transfer the project and rebuild the node. For information on re-transferring, see Manage transferred capital projects. For information on rebuilding nodes, see Rebuilding a node.

10

Working with Reports

Reports are spreadsheets designed to help review and analyze your organization's financial data. Axiom Financial Planning reports can query data from any table in the Axiom database. This chapter provides details about the Axiom Financial Planning reports and how to work with them.

Like plan files, reports pull data from the database and, in some cases, allow you to input data and save it back to the database. Unlike plan files, however, reports are not associated with a particular file group or capital budget year. You can use this same report to view data for any capital budget year or to compare data across multiple budget years. Reports can even incorporate data from other Axiom Healthcare Suite products, provided that you have the necessary security permissions.

After you have generated projections for various scenarios, Axiom Financial Planning offers a comprehensive library of standard reports to help analyze and compare the data. These reports take the form of spreadsheet workbooks, often with multiple graphs and charts. A few examples of Axiom Financial Planning reports include:

- **Financial Statements** – Shows financials and statistics at the model or consolidation of multiple models.
- **Consolidating by Node** – Shows the detail financials by node within a model for a single year.
- **Consolidating by Model-Enterprise** – Financial statements for a single year shown by model.
- **Model Assumptions** – Tailored financial statements report to display many of the high-level assumptions used in creating projections.
- **Payor Analysis** – Shows all of the payor detail information (cases, days, visits, gross and net revenue).

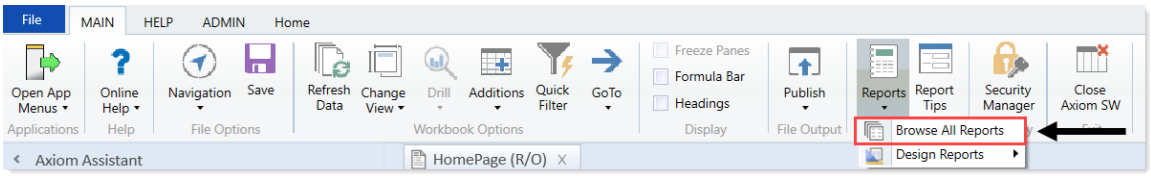
You can access reports from the Financial Planning Reports section of the Fin Plan Admin or Fin Plan task pane or the Reports Library in the Explorer task pane.

Browsing the Report Library

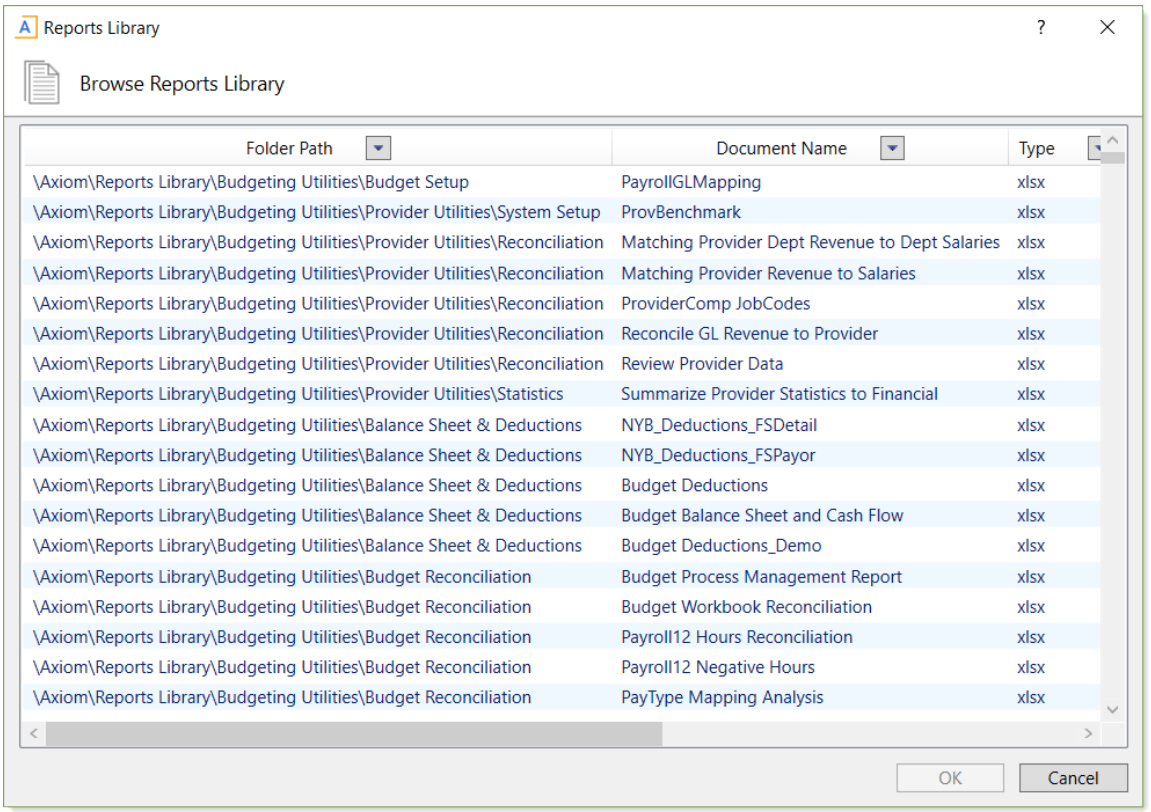
In addition to browsing the report folders in the Axiom Financial Planning task panes, you can search all of the available Axiom reports in the Reports Library.

To browse the Report Library:

1. In the **Main** ribbon tab, in the **Reports** group, click **Reports > Browse All Reports**.



2. In the **Reports Library** dialog, you can do the following:



- To sort, group, or search by any of the columns, click the drop-down arrow next to the column label.
- To open a report, select it from the list, and click **OK**.

Viewing a report

Axiom Financial Planning reports are organized by folder in the Fin Plan Admin task pane or the Fin Plan task pane. The specific report folders and files that you can access and the level of access rights depend on your security settings. Administrators have full access to all reports.

When you first open a report, it is just an empty template, which you need to populate with data. Some reports automatically prompt you to select an account, department, or other variable. The system then populates the report with related data from the database tables.

Other reports simply open as an empty template by refreshing the data. For more information, see Refreshing a report with data.

To view a report:

1. Double-click the report to open it.
2. To populate the report with data, see Refreshing a report with data.

The selected report opens. If a report is opened read-only, then the text **(R/O)** displays in the file tab. You cannot save read-only reports.

NOTE: If another user has the report open as read/write, then you can only open the file as read-only, regardless of your security permissions.

Advanced options

- To open a report without refreshing Axiom queries that are configured to refresh on open, right-click the file and then select **Open Without Refresh**.

  NOTE: This option is only available to administrators.

- If you have read/write permissions to a report but you want to open it as read-only to prevent locking the file from other users, right-click the file, and select **Open Read Only**.

Opening non-managed report files

If you have a *non-managed* report saved to your local drive or a network folder, you can open it as follows:

- In the Excel Client, use standard Excel functionality to open the file within Axiom Financial Planning.
- In the Windows Client, click the Axiom button in the top left-hand corner. Click **Open**, and navigate to the file.

Refreshing a report with data

To update a spreadsheet Axiom report with the most current data from the database, refresh the file. A refresh does the following:

- Updates active Axiom queries with data, according to the update settings defined for the query
- Updates Axiom functions with data
- Performs an Excel calculation
- Reapplies the currently active views (if applicable)

To refresh a report:

- On the **Axiom** tab, in the **File Options** group, click **Refresh**.

  This refreshes all sheets in the workbook. If you want to refresh the current sheet only, click the down arrow on the right-hand side of the **Refresh** button, and then click **Refresh Active Sheet**.

  NOTE: In systems with installed products, this feature may be located on the **Main** tab.

You may be prompted to define values before the refresh occurs. If so, these values will be applied to the report to impact the data refresh.

TIP: You can also use F9 to refresh the entire workbook, and SHIFT+F9 to refresh only the active sheet.

NOTE: Administrators can use the Refresh command on the **Axiom Designer** tab to perform more targeted refresh actions, such as refreshing only a specific Axiom query.

Navigating reports

Apart from each report having an Instructions tab, Axiom Software report files do not have a standard structure. Each report can have any number of sheets, layouts, custom views, drill-downs, GoTo targets, quick filters, and associated task panes—all configured for the specific information that displays.

Although not all of these features are available for every report, here is an overview of common report features:

Instruction tab

Each report has an Instructions tab that provides an overview of its specific business purpose, features, and steps for processing the report.

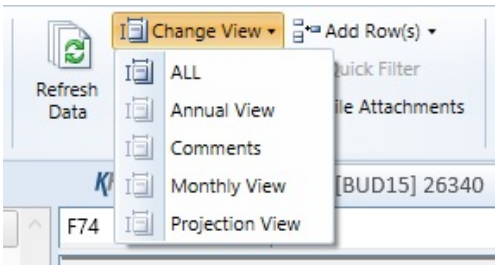
Custom views

Custom views allow for different presentations of data within a report. For instance, a report might default to showing monthly data but have custom views defined for displaying data by quarter or year.

NOTE: Not all reports have custom views defined.

If custom views have been defined within a report, you can access them by doing the following:

1. In the **Main** ribbon tab, in the **Workbook Options** group, click **Change View**.



2. From the menu, select the view to use.

Quick Filter

A Quick Filter is a temporary report filter. This allows you to quickly view the data at a different level of detail, without needing to alter the report configuration. For more information, see the following:

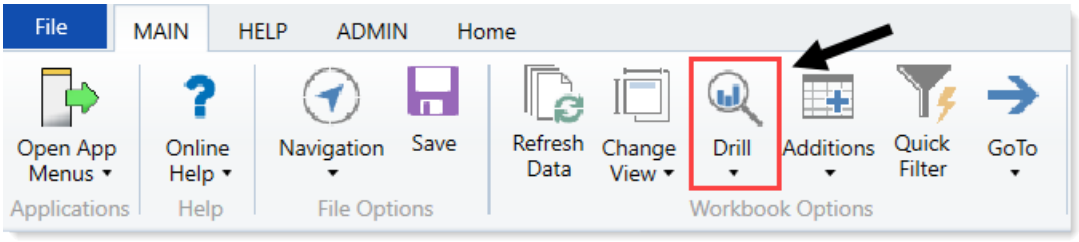
- Applying a Quick Filter to a report
- Using the Advanced Filter Wizard
- Understanding hierarchy-based Quick Filters

Drills

Some reports contain rows (or columns) where the data represents a roll-up of values for multiple database records. For instance, an income summary report might combine patient revenue for all departments into a single total for the year, or a report on payroll by department might roll up both regular and non-productive hours into a combined number of hours for each department. In such cases, you can use drills to view the individual values for each item included in the roll-up.

To drill in a report, do the following:

1. In the report spreadsheet, select a cell.
2. In the **Main** ribbon tab, in the **Workbook Options** group, click **Drill**.



3. From the drop-down, select any of the available drills to view a breakdown by that dimension or value.

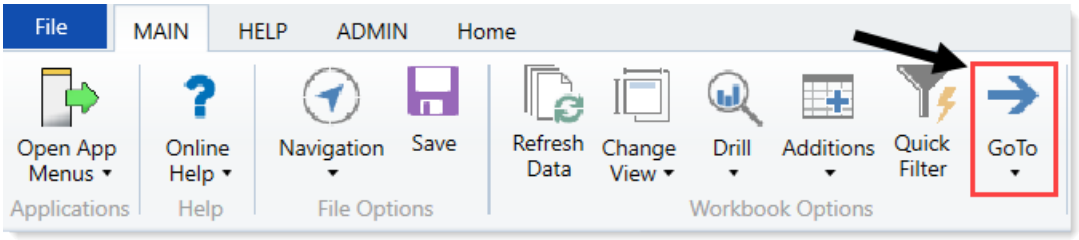
A new spreadsheet opens to display data at the specified drill-down level.

NOTE: While we have made an effort to deactivate any drill options that do not apply to a particular row/column/cell, there are simply too many possibilities for us to deactivate every invalid drilling method for every cell in every report. As a result, certain drill methods may produce strange results. For the most part, common sense should imply which dimensions or values you can drill for a given roll-up (for example, drilling by Vice President on a single department might result in a report with a single record, as a department typically has one VP assigned to it).

GoTo targets

GoTo targets are simply bookmarks that allow you to jump to different sections of a report. Not all reports include GoTo targets. To navigate to a target, do the following:

1. In the **Main** ribbon tab, in the **Workbook Options** group, click **GoTo**.



2. From the menu, select the GoTo target.

Applying a Quick Filter to a report

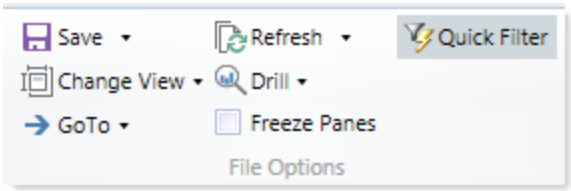
Using the Quick Filter feature, you can apply a temporary filter to a report. This allows you to quickly view the data at a different level of detail, without needing to alter the report configuration.

For example, you may be viewing an Income Statement report for the entire consolidated organization, and you want to view the same report at a different level of detail, such as for just North America or just the South region. You can use the Quick Filter to recalculate the report at the desired level of detail, and then clear the filter when you are done.

The Quick Filter is combined with your table security filters and any filters that are currently defined in the report, such as sheet filters and filters defined for Axiom queries.

To apply a Quick Filter to a report:

1. On the **Axiom** tab, in the **File Options** group, click **Quick Filter**.



NOTE: In systems with installed products, this feature may be located on the **Main** tab.

2. At the top of the dialog, specify how the filter should be applied:
   - **Workbook** (default): The Quick Filter is applied to all sheets in the workbook.
   - **Active Sheet**: The Quick Filter is only applied to the currently active sheet.

   This selection may determine which hierarchies and tables are available in the dialog to build the filter. See Hierarchy and table availability in the Quick Filter dialog.

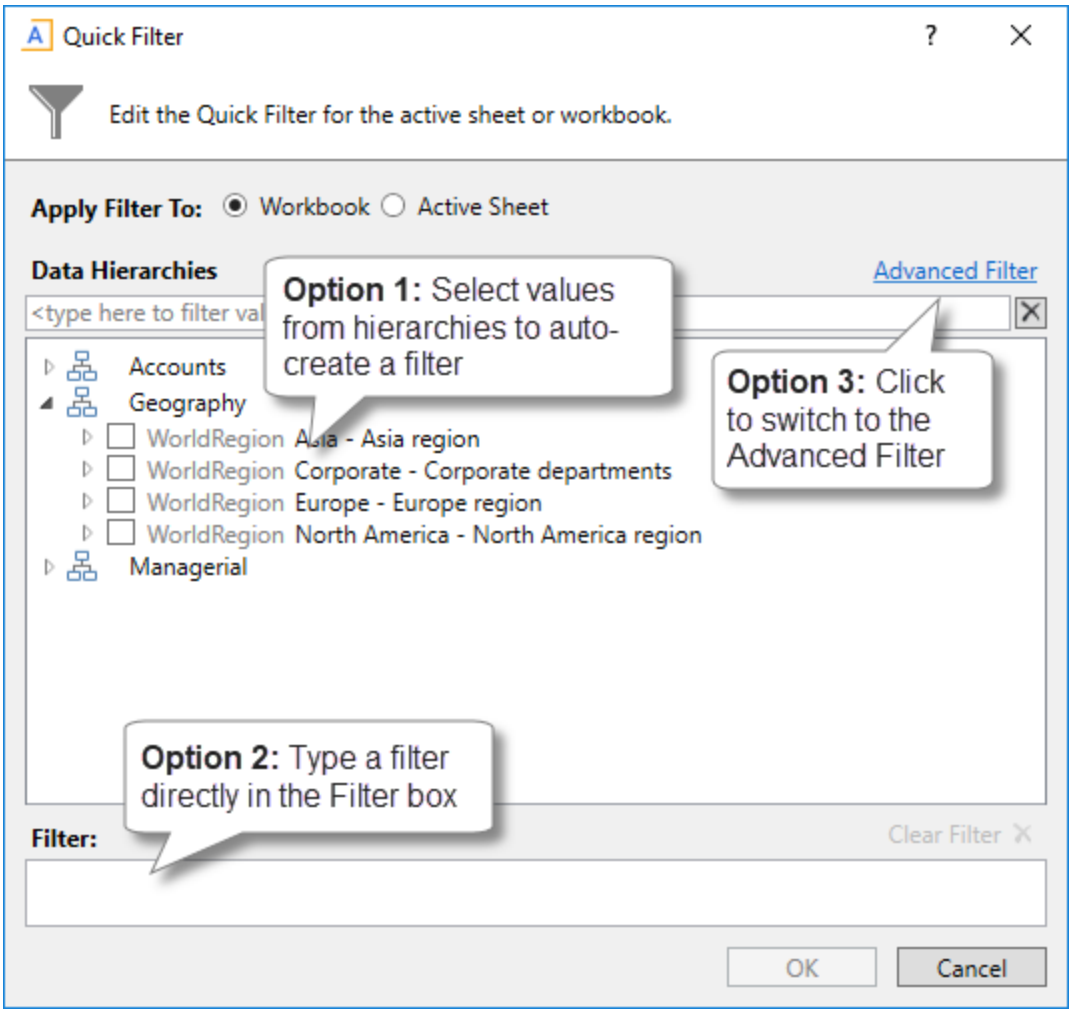
3. In the **Quick Filter** dialog, define a filter using one of the following methods:

   - **Data Hierarchies**: Select the desired hierarchy levels(s) from the hierarchies listed in the dialog. As you select items in the hierarchy, the corresponding filter is automatically built in the **Filter** box.

     For example, you might have a hierarchy named Geography, which has local regions rolling up into countries, and countries rolling up into world regions. You can select the desired items that you want to see in the report, such as Europe, Asia, or North America as world regions. For more information and examples, see Understanding hierarchy-based Quick Filters.

   - **Manual Filter**: You can manually type a filter into the **Filter** box using standard filter criteria statement syntax. Fully qualified Table.Column syntax must be used.

   - **Advanced Filter**: Click **Advanced Filter** to create a filter using any reference table columns (not just hierarchy columns).



Example Quick Filter dialog

4. Click **OK**.

   If the Quick Filter is applied to the entire workbook, a warning message informs you that the entire workbook will be refreshed. If you do not want to see this message again in the future, select **Don't show this message again**. Click **OK** to continue.

   If the Quick Filter is applied to the current sheet, that sheet is refreshed and no warning message appears.

If the file has been configured with GetCurrentValue("QuickFilter") functions, then these functions will display the currently applied Quick Filter for your reference. If not, you can view the current Quick Filter by clicking the **Quick Filter** button again. The current filter displays in the **Filter** box.

Clearing the Quick Filter

Once a Quick Filter has been applied to a report, the filter remains applied until one of the following occurs:

- The file is closed. Quick Filters cannot be saved in the file and are always cleared when the file is closed.
- A new Quick Filter is applied by using the **Quick Filter** button and selecting a different filter.
- The Quick Filter is manually cleared. To clear the Quick Filter, click the **Quick Filter** button again and then click **Clear Filter**.

Hierarchy and table availability in the Quick Filter dialog

The hierarchies and tables shown in the Quick Filter dialog are based on the Axiom queries in the report. Axiom Financial Planning looks up the primary tables for the queries, and only shows the hierarchies and reference tables that are relevant to those primary tables. This is done to help ensure that the Quick Filter will be applicable to at least one query in the report.

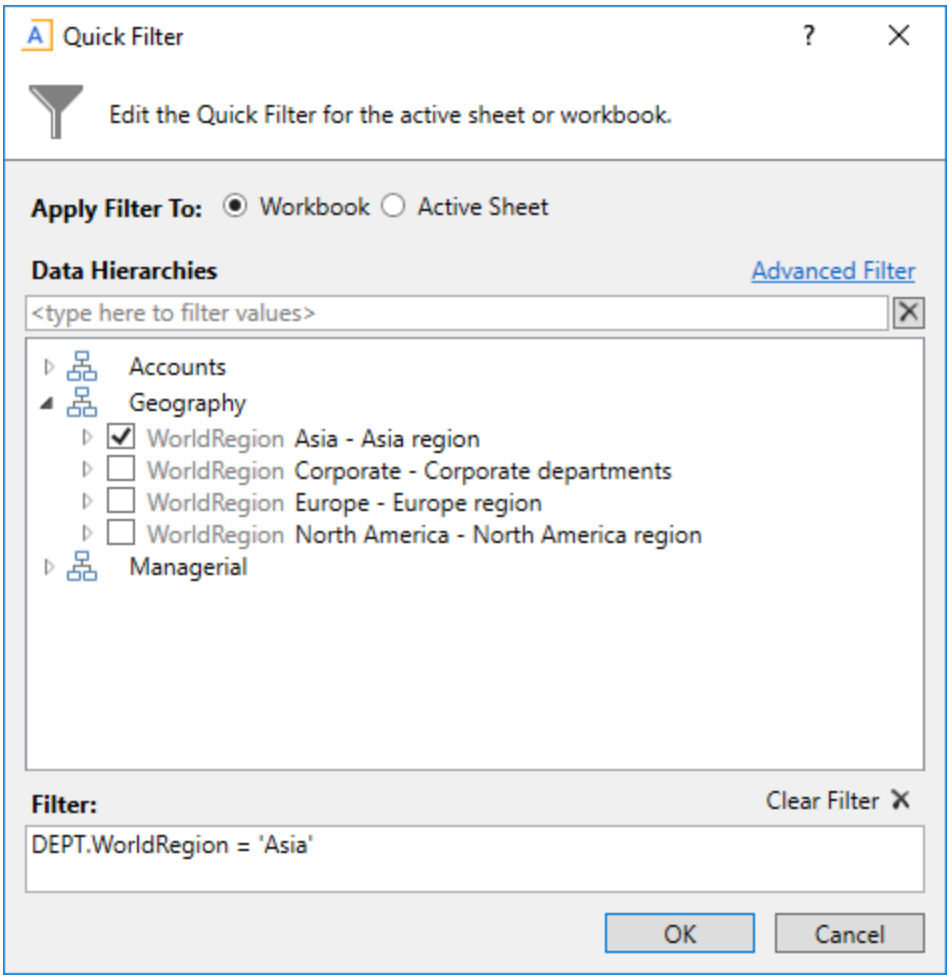
If the filter applies to the entire workbook, then Axiom Financial Planning looks at the primary tables for all Axiom queries in the workbook. If the filter applies to the active sheet only, then Axiom Financial Planning looks at only the primary tables for the Axiom queries defined on the active sheet.

NOTE: In the Advanced Filter view, only reference tables are shown unless the primary table has potentially ambiguous lookup relationships. In that case, the primary data table is also shown so that the selections can be made directly on these lookup relationships, to avoid any ambiguity. For example, if the primary data table has columns PrimaryPhysician and SecondaryPhysician that both look up to Physician.Physician, then the selection must be made through the primary data table so that the correct path to Physician.Physician is used.

If the report uses GetData functions instead of an Axiom query, then all hierarchies and reference tables are listed in the dialog because Axiom Financial Planning cannot determine the "primary table" in this context. In this case, it is possible to define a Quick Filter that does not apply to any GetData functions in the workbook. If this occurs, the filter will simply have no effect.

Understanding hierarchy-based Quick Filters

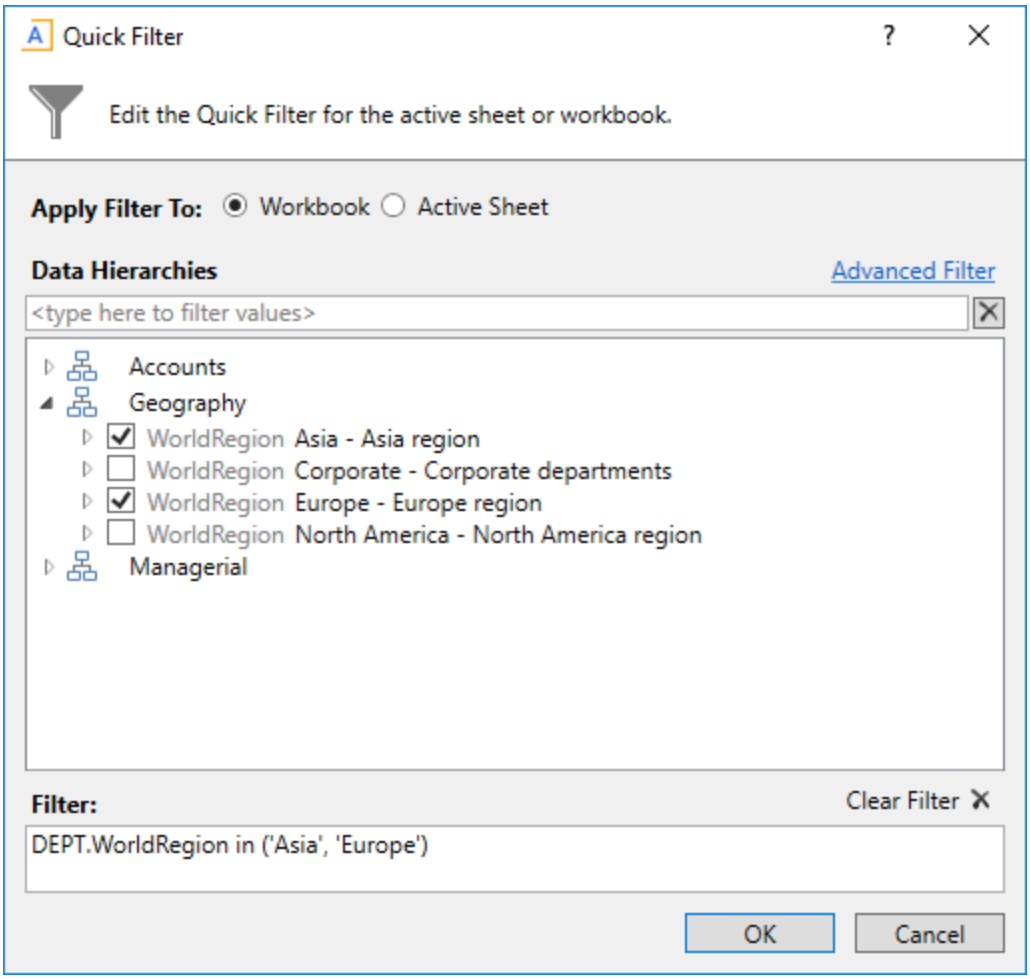
When you use hierarchies to create a Quick Filter, Axiom Financial Planning automatically creates the filter based on your selections. When only one item it selected, the filter is simple—only data that matches the selected item is included. For example, if you select Asia from a Geography hierarchy, you will get a filter something like: `Dept.WorldRegion='Asia'`.



Simple Quick Filter

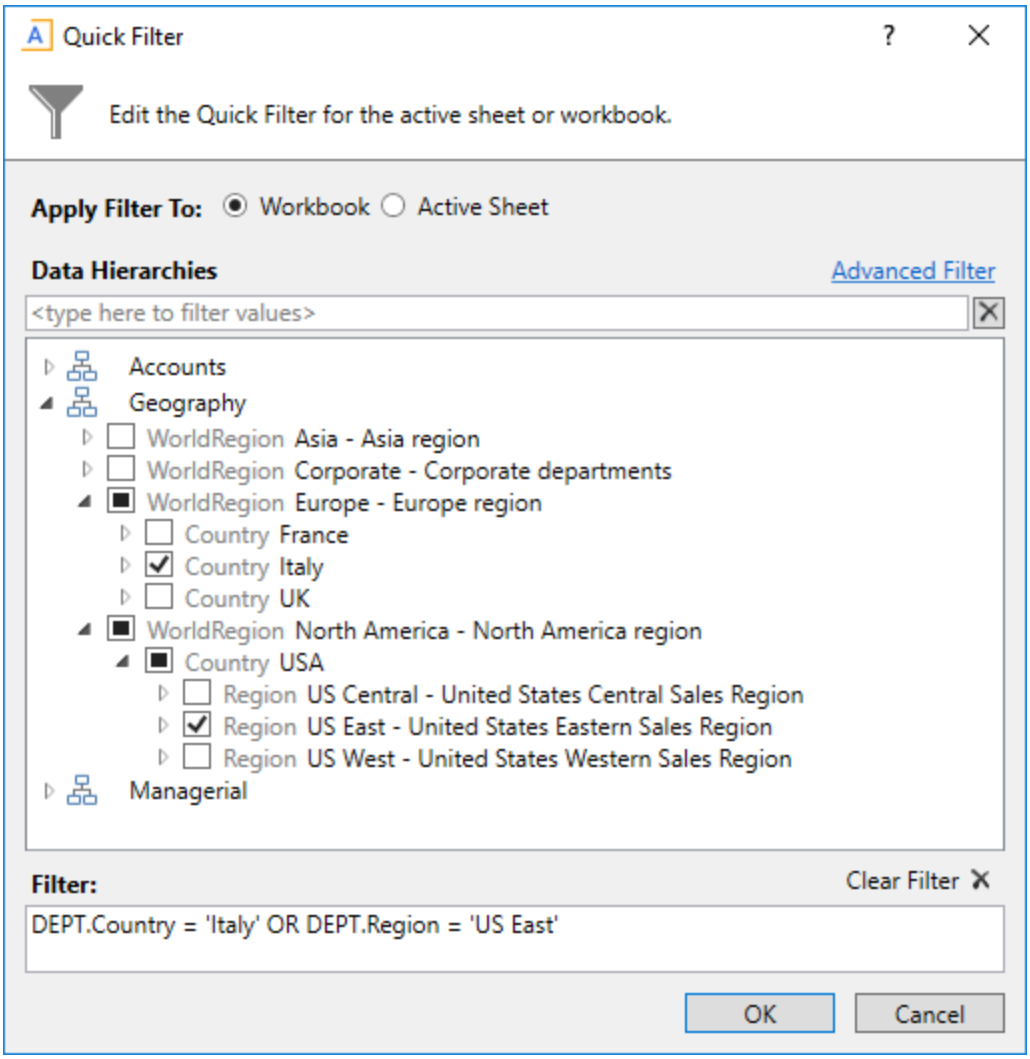
NOTE: Sometimes when you select a single "child" item underneath a "parent" item, the child and parent will be joined with AND. For example: `DEPT.VP='Jones' AND DEPT.Manager='Smith'`. This means that the DEPT table has other instances of Manager Smith that belong to different VPs, so the compound statement is to ensure that you only get the data where Manager Smith is under VP Jones. (You can manually edit the filter to remove the Jones portion of the statement if you want to see all data for Manager Smith, regardless of VP). If instead Axiom Financial Planning constructs the filter as just `Dept.Manager='Smith'`, that means all instances of Manager Smith are also under VP Jones.

You can select multiple items in the same hierarchy or from different hierarchies. Items from the same hierarchy are combined using OR, which means data matching any of the selected items is included. Items from different hierarchies are combined using AND, which means only data that matches both selected items is included.



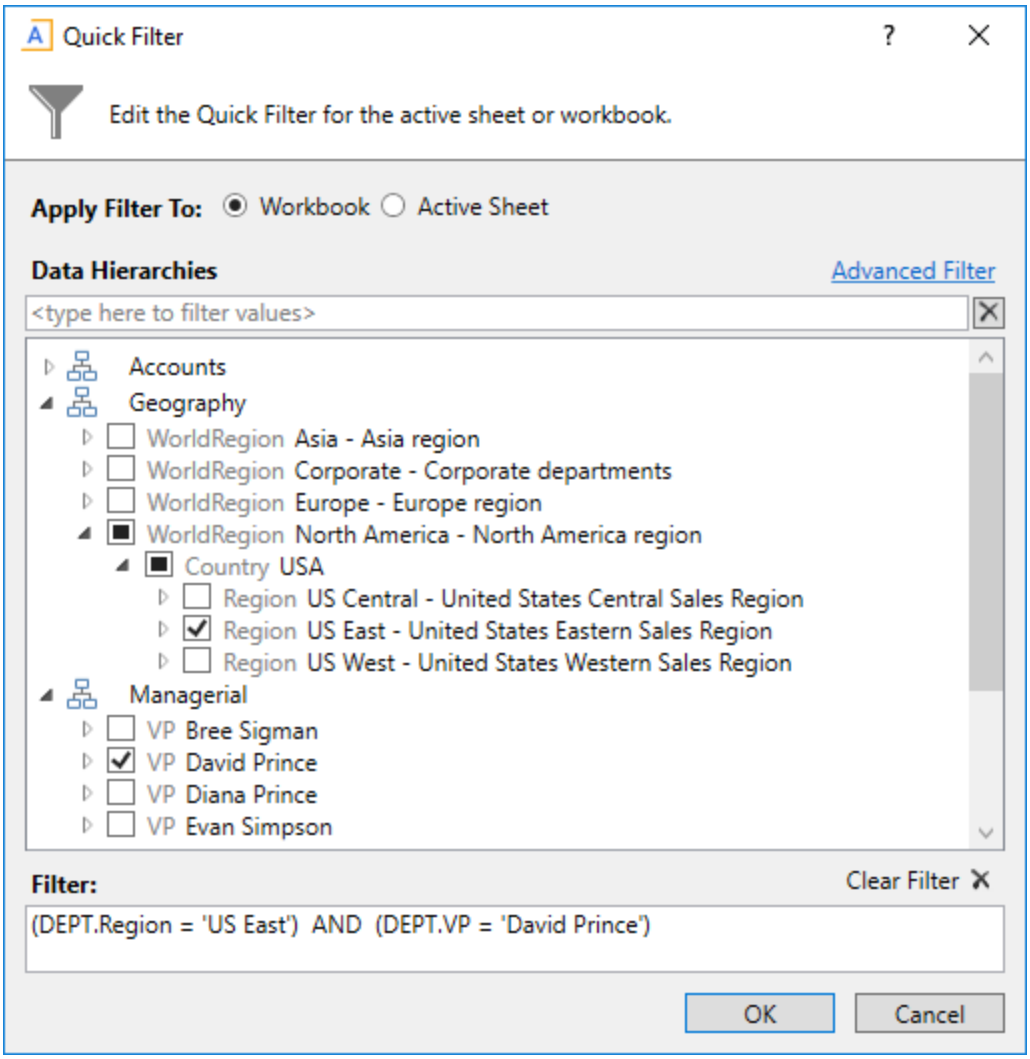
Example 1

In example 1, we have selected two items from the same grouping level in a single hierarchy, so a simple filter criteria statement is created using IN. The resulting filter will include all data from Asia and Europe.



Example 2

In example 2, we have selected two items from different grouping levels, but within the same hierarchy. In this case a compound filter criteria statement is created using OR. The resulting filter will include all data that belongs to either Italy or US East.



Example 3

In example 3, we have selected two items from different hierarchies, so a compound filter criteria statement is created using AND. The resulting filter will include only data that belongs to both US East and VP David Prince.

Using the Filter Wizard

You can use the Filter Wizard to assist you in constructing filters throughout Axiom Financial Planning.

The Filter Wizard offers two different approaches for building filters:

- **Data Hierarchies**: Build a filter using hierarchies that have been set up for your system. You select the items to include, and the Filter Wizard builds the filter criteria statement for you.
- **Advanced Filter**: Build a filter using any table and column that is relevant to the current context. This approach also allows for more operators, including greater than, less than, and not equal to.

Creating filters using data hierarchies

For example, you may have a hierarchy for Geography that starts at the WorldRegion level, then goes down to the Country level, and then goes down to the LocalRegion level. If you want to filter by a particular country in the Asia WorldRegion, you can expand the Geography hierarchy, then expand the Asia WorldRegion, and then select the desired country.

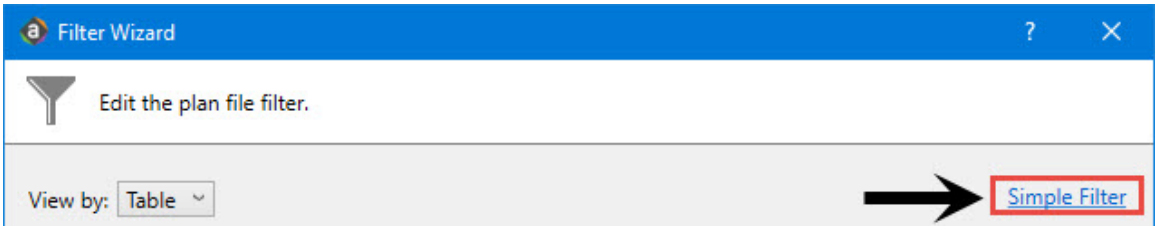
The hierarchies available to you are defined by your system administrator, based on grouping columns in reference tables. If your system has no defined hierarchies (or if no defined hierarchies are relevant to the current context), then the **Data Hierarchies** section does not display, and the Advanced Filter opens directly.

Note the following about filters created using data hierarchies:

- Only include filter criteria statements can be created using data hierarchy selections. As you select items, those items will be included by using an equals (=) operator or an IN statement (for including multiple items at the same level). If you want to write a filter criteria statement that specifies items to exclude, or that uses other operators such as greater than or less than, then you must use the Advanced Filter.
- Certain assumptions are made regarding the use of AND and OR when multiple items are selected from different hierarchy levels or different hierarchies. If you want to change the way each statement is joined, you can manually edit the filter in the Filter box, or you can use the Advanced Filter.
- Sometimes when you select a child item underneath a parent item, the child and parent are joined with AND. For example: `DEPT.VP='Jones' AND DEPT.Manager='Smith'`. This means that the DEPT table has other instances of Manager Smith that belong to different VPs, so the compound statement is to ensure that you only get the data where Manager Smith is under VP Jones. You can manually edit the filter to remove the Jones portion of the statement if you want to see all data for Manager Smith, regardless of VP. If instead the system constructs the filter as just `Dept.Manager='Smith'`, that means all instances of Manager Smith are also under VP Jones.

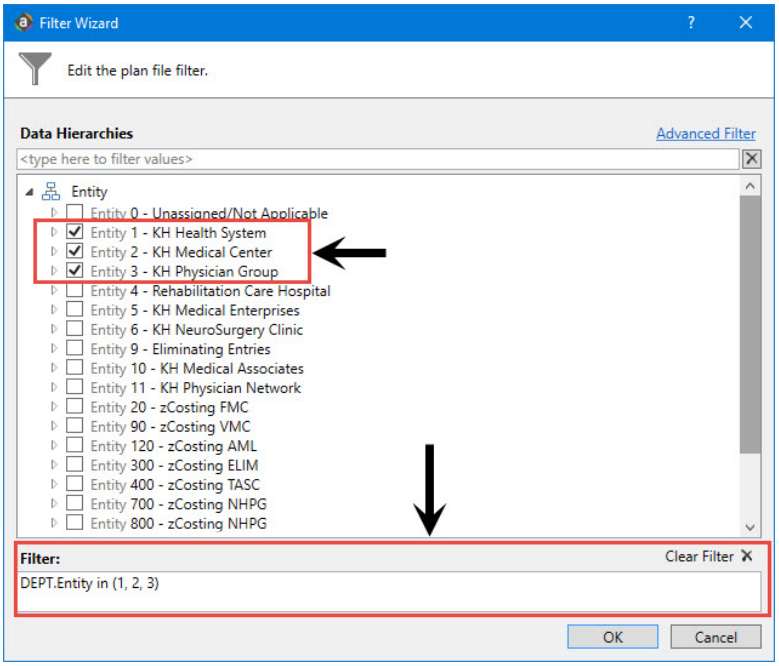
To create filters using data hierarchies:

1. In the right side of the dialog, click **Simple Filter**.



2. Select the checkbox for each item to include in the filter. You can expand each hierarchy to see the items listed in it. You can also type a value into the filter box above the hierarchies to filter the list.

As you select items, the filter criteria statement is created in the **Filter** field at the bottom of the dialog.



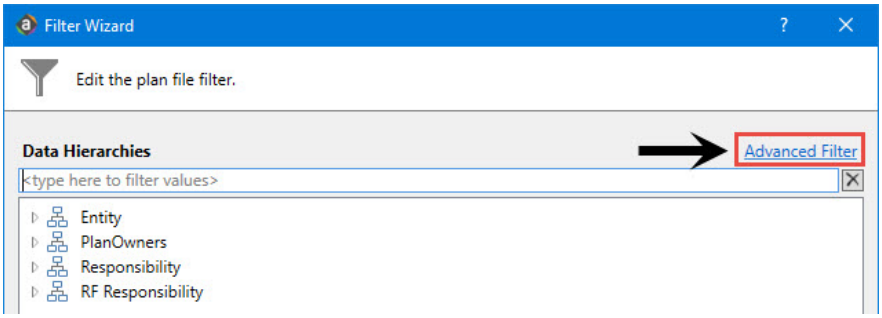
3. Do one of the following:
   - To apply the filter as is, click **OK**.
   - To manually edit the filter, type in the **Filter** field, and click **OK**.

Creating filters using the Advanced Filter

Using the Advanced Filter option, you can create a filter using any relevant table and column, and using any supported operator.

To create a filter using Advanced Filter:

1. In the right side of the dialog, click **Advanced Filter**.



2. In the left-hand side of the dialog, select the table column on which you want to base the filter.

For example, to create a filter such as `DEPT.DEPT>=5000`, then you must select the DEPT column from the DEPT table.

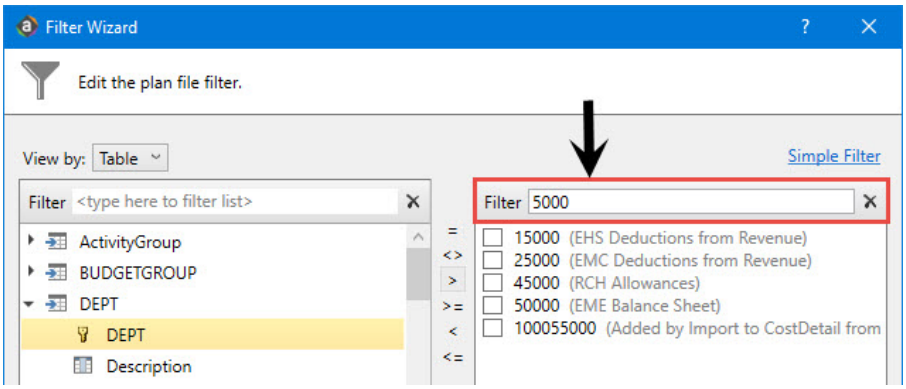
To find the desired table and column, do the following:

- Use the **View by** option to view the list by table, table type, folder, or alias. To select an alias, you must change the view to Alias—aliases are not listed under their assigned table.
- You can also filter the list by typing into the filter field. The filter matches based on table name or column name.

After you select a table column, the values in that column display in the right-hand side of the dialog.

NOTE: If the selected column is a key column for a data table, and that key column links to a lookup column, the Filter Wizard automatically uses the lookup column in the reference table instead of the column in the data table. This is the recommended way to build the filter throughout the system, and it is required in some contexts. For example, if you select the column Acct in the GL2017 data table, the filter wizard automatically uses ACCT.ACCT in the filter (instead of GL2017.ACCT).

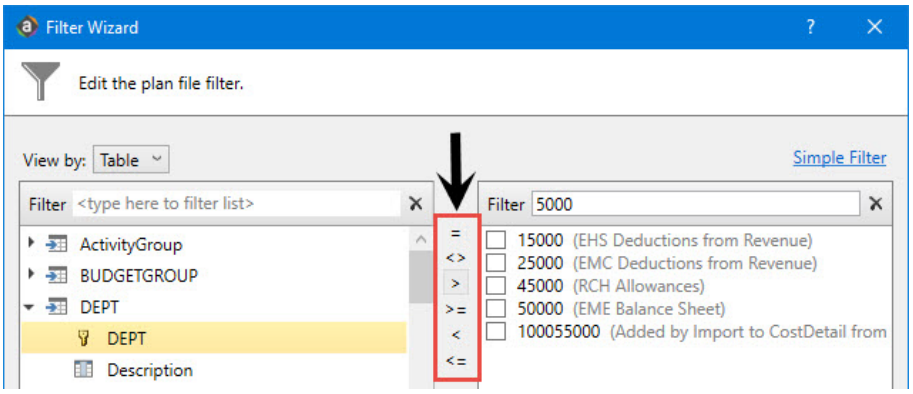
3. In the right-hand side of the dialog, type or select the value on which to base the filter.



You can type into the field above the list of values to filter the list or to specify a value. If one or more values are selected, then those items are used in the filter. Otherwise, whatever is typed into the field is used by the filter.

If the column is a string, you can type an asterisk at the front or end of the value if you want to use "ends with" or "begins with" wildcard matching.

4. In the space between the two selection boxes, select the operator to use for the filter criteria statement, such as equals, not equals, greater than, or less than. By default, the filter statement uses equals (=).



Note the following about filter operators:

- Greater than / less than options are only available if the column data type holds numbers or dates.
- If multiple items are selected, then IN and NOT IN syntax is automatically used for equals and not equals respectively. Note that if the operator is equals but you select more items than you have not selected, the system will instead use NOT IN syntax for the unselected items to simplify the filter statement.
- If the column is a string column, and you type a value rather than selecting it, then LIKE and NOT LIKE syntax is automatically used for equals and not equals respectively. By default, wildcard characters (% signs) are placed on both sides of the text, meaning that it will match any value that contains the text. If you place an asterisk to the start or end of the text, then the wildcard character will be only at that location.
- If the column is a string column and the value contains an apostrophe (such as O'Connor), the wizard automatically converts this value to double apostrophes so that it is valid for use in the filter (O''Connor). Apostrophes in string values must be escaped this way so that they are not interpreted as the closing apostrophe for the filter criteria statement.

5. Review the filter criteria statement in the **Preview** box to ensure that it is as intended. If you need to make changes, edit your selections made above. The **Preview** box is not editable.
6. Do one of the following:
   - If the filter criteria statement is finished, click **OK**. The Filter Wizard uses the statement in the Preview box (you do not have to click **Apply** in this case).
   - To create a compound filter, click **Apply** to move the current criteria statement into the **Filter** box. Then, repeat steps 1-4 to create another criteria statement. When the next statement is complete, click **AND** or **OR** to join it to the prior statement.

     You can repeat this process as many times as necessary to create the desired statement. You can also edit the full criteria statement within the **Filter** box as needed. When the entire statement is complete, click **OK**.

Editing existing filters

If a filter already exists in the setting or cell from which you launched the Filter Wizard, that existing filter displays in the **Filter** field of the wizard.

Note the following:

- If you select a new item from the **Data Hierarchies** section, the new filter will overwrite the existing filter in all cases.
- If you build a new filter using the **Advanced Filter**, you can concatenate that filter to the existing filter using AND or OR. If you would rather replace the existing filter, then click the **Delete** icon to clear the existing filter from the **Filter** field, and then accept the new filter.

Table and column visibility

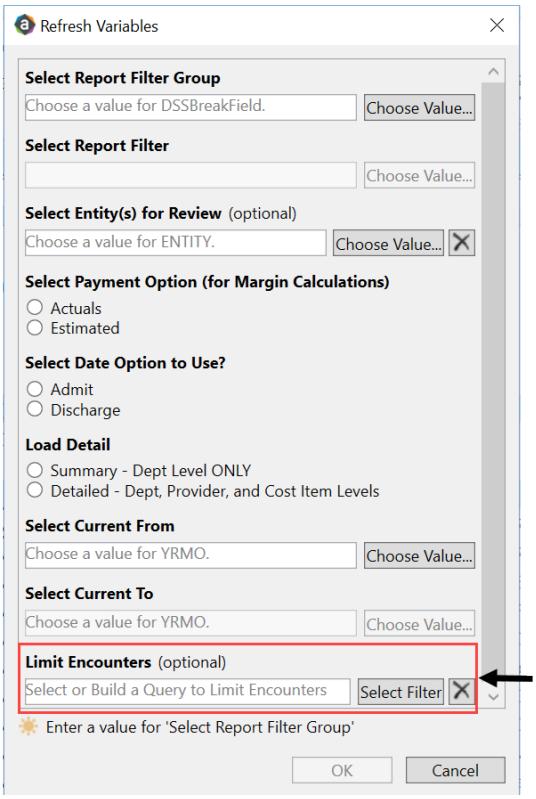
Whenever possible, the Filter Wizard is context-sensitive, meaning that it only displays hierarchies and tables that are relevant to the current context. For example, if you are defining a filter for a file group permission set in Security, the Filter Wizard is limited to the plan code table (and any hierarchies defined for that table).

The available tables and columns in the Filter Wizard are also subject to the following settings:

- **Security** – If a you do not have any read access to a table, then that table does not display in the Filter Wizard. If you have filtered read access to a table, then the filter is applied to the values displayed in the wizard.
- **Column Properties** – Individual columns in a table can be configured to be hidden in the Filter Wizard using the **Is Filter Column** setting. This may be used to hide columns that are unlikely to be used in filters. Filters can still be manually created using these columns; the property simply hides the column from the user interface to streamline the column list.

Using the Advanced Filter Wizard

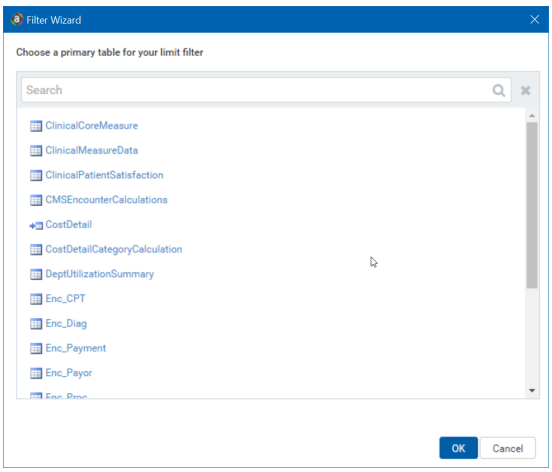
As part of the Refresh Variables, you can use or create your own filters to customize the data to include in the report. The Advanced Filter Wizard walks you through the process of building complex limit query filters rather than having to construct them manually. You can create and save new filters for future use as well as use and edit existing filters.



To use the Advanced Filter Wizard:

1. In the **Refresh Variables** dialog, in the **Limit Encounters** field, click **Select Filter**.
2. In the **Filter Wizard** dialog, select the primary table for the filter, and click **OK**.

> **TIP:** Use the Search field to narrow down the list of primary table names.



3. Do any of the following:

Using an existing filter

a. Next to the **Preview** field, click the folder icon.

b. In the **Filter Library** dialog, select the filter to use, and click **OK**.

> **TIP:** You can edit an existing filter by selecting a filter and following the steps in **Creating a filter** below.

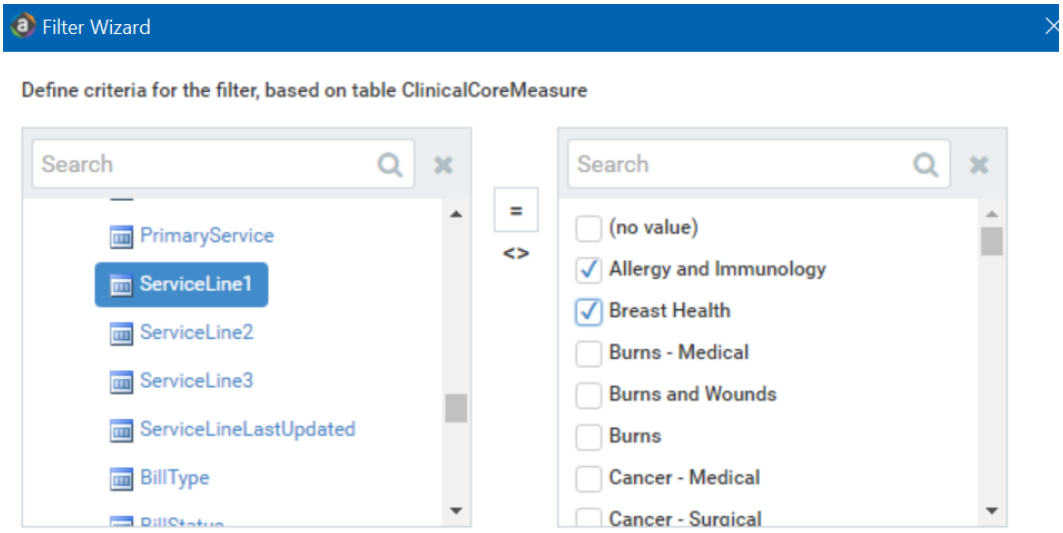
c. In the **Filter Wizard** dialog, click **Apply**.

d. Click **OK**.

Creating a filter

a. In the left side of the dialog, select the table column on which you want to base the filter.

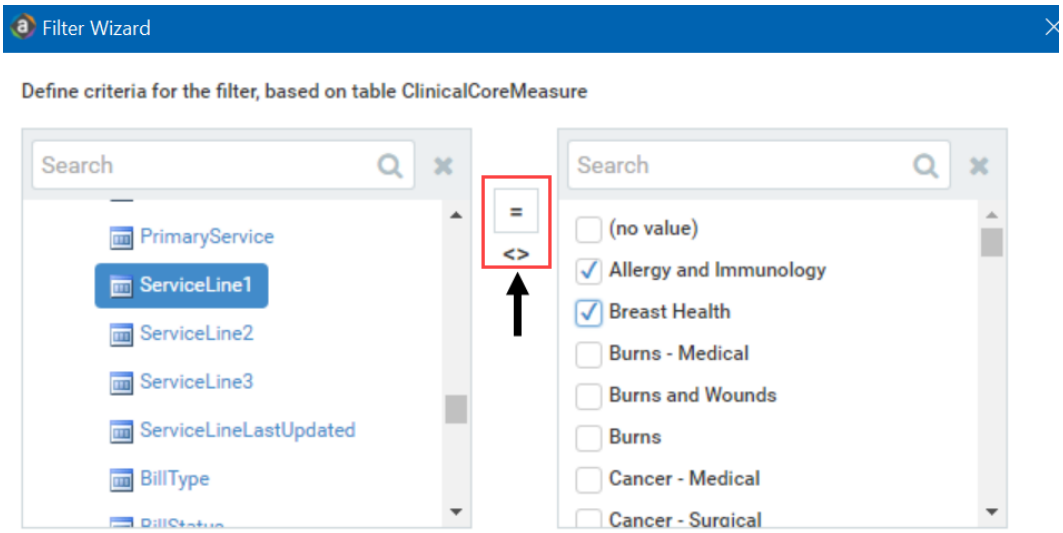
After you select a table column, the values in that column display in the right side of the dialog.



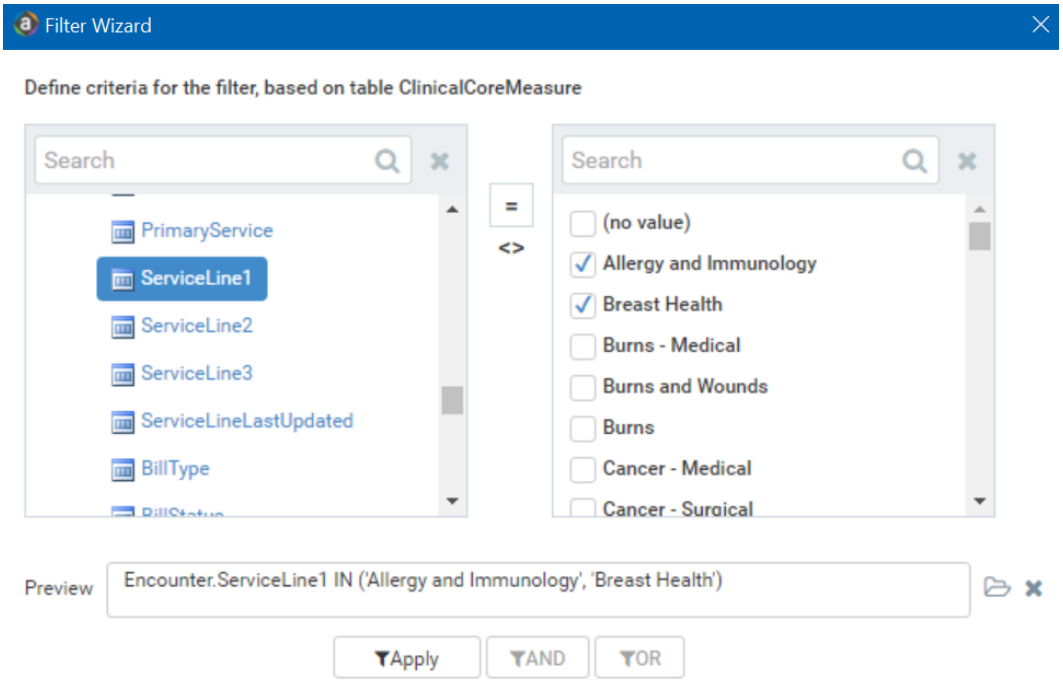
b. In the right side of the dialog, type or select the value on which to base the filter.

You can type into the field above the list of values to filter the list or to specify a value. If one or more values are selected, then those items are used in the filter. Otherwise, whatever you type into the field is used by the filter.

c. In the space between the two selection boxes, select the operator to use for the filter criteria statement, such as equals, not equals, greater than, or less than.



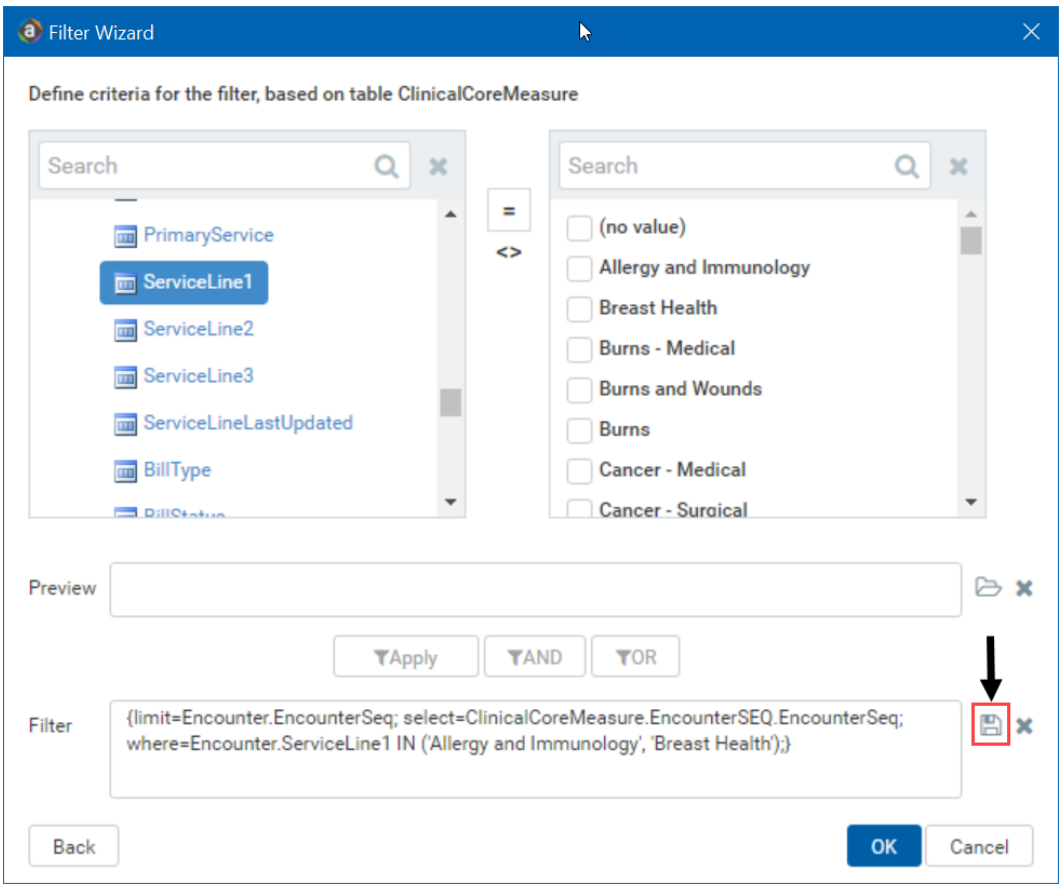
d. Review the filter criteria statement in the **Preview** box to ensure that it is as intended. If you need to make changes, edit your selections made above.



e. Do one of the following:

- If the filter criteria statement is finished, click **OK**. The Filter Wizard uses the statement in the Preview box (you do not have to click **Apply** in this case).
- To create a compound filter, click **Apply** to move the current criteria statement into the **Filter** box. Then, repeat Steps a-d to create another criteria statement. When the next statement is complete, click **AND** or **OR** to join it to the prior statement.

f. To save the filter, click the disk icon next to the **Apply** box.



g. In the **File name** field, type a name for the filter.

h. In the **Description** field, type a description of what the filter does.

i. Click **Save**.

j. In the Filter Wizard dialog, click **OK**.

Creating a new report

You can create a new report if you have read/write access to at least one folder in the Reports Library. You can use any of the methods discussed below to create a new report. If you do not have these permissions, then the associated menu options for creating new reports will not be available to you.

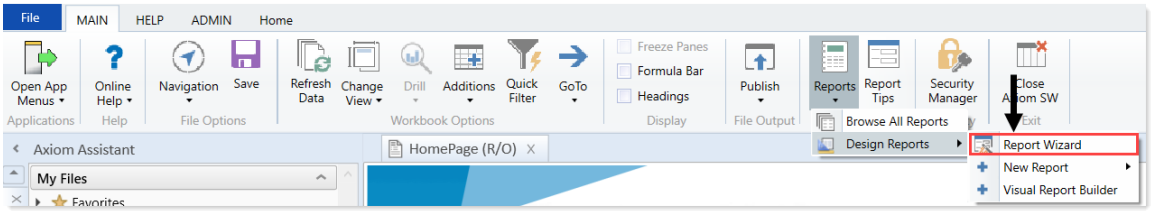
NOTE: After saving a new report to the Axiom file system, you may not see that new report displayed in Axiom Explorer or the Reports menu until the file system has been refreshed. You can go to **Reports > Refresh file system** to manually trigger a refresh and cause the new report to display.

Creating a new report using the Report Wizard

You can create a new report using the Report Wizard. In the wizard, you make selections regarding the type of report that you want to create and the desired data, and then the wizard creates a report based on your choices. You can then further modify the report as needed. For more information, see *About the Report Wizard* in Help (**Main** ribbon tab > **Help**).

To create a new report using the Report Wizard:

- On the **Main** ribbon tab, in the **Reports** group, select **Reports > Design Reports > Report Wizard**.



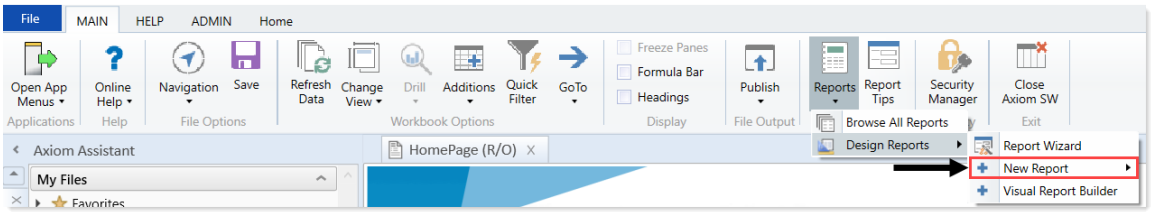
Creating a new blank report

You can create a new report from scratch using the default blank report template. This template is entirely free-format.

If your organization has saved additional report templates, you can use those to create a new report as well. Only administrators can create new report templates.

To create a new blank report:

- On the **Main** ribbon tab, in the **Reports** group, select **Reports > Design Reports > New Report**.

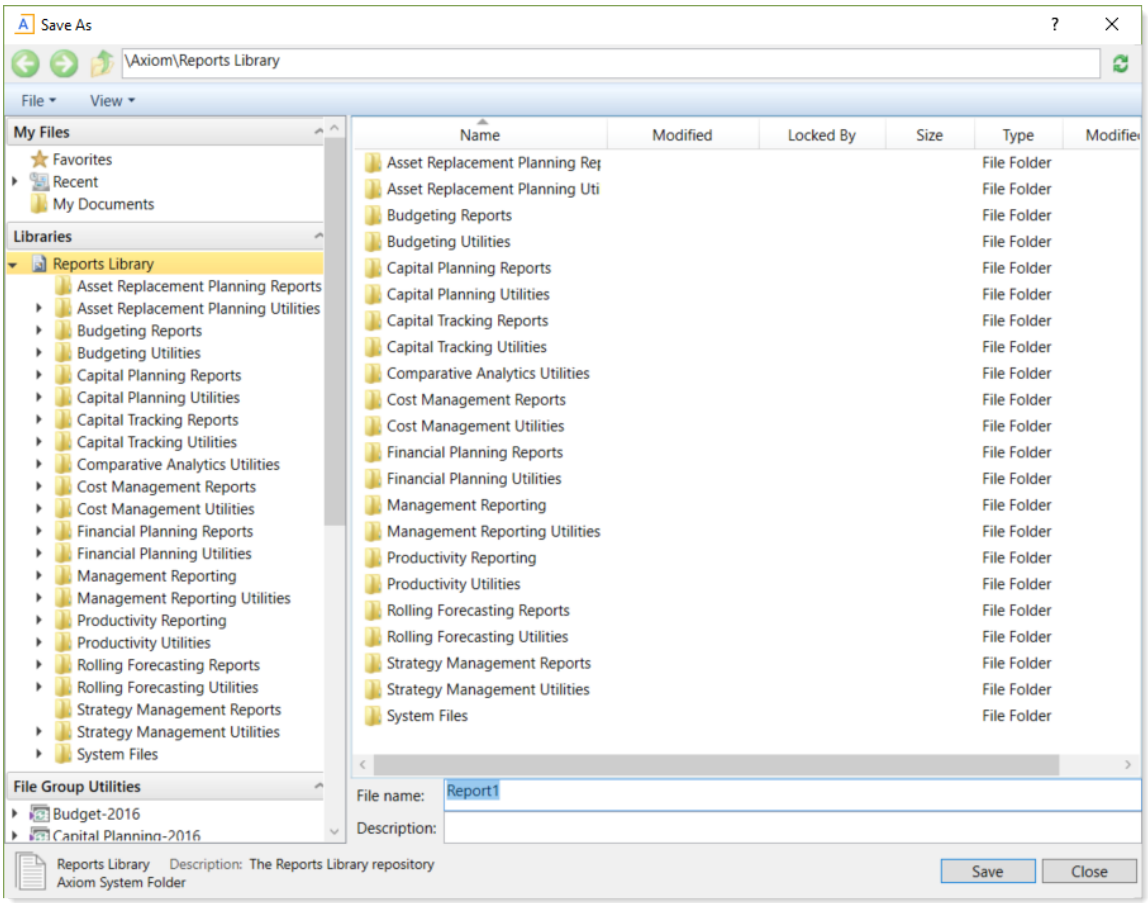


If your system has multiple report templates, you can select the template to use from this menu. Otherwise, the default ReportTemplate is automatically used.

You can now use Axiom file functionality on this sheet, such as using Axiom queries to bring in data. For more details on setting up Axiom files, see *Axiom file setup* in Help (**Main** ribbon tab > **Help**).

Saving a new report

To save a new report, in the **File Options** group of the **Main** ribbon tab, click **Save**. When you save the new report for the first time, you are prompted to define a file name and select a folder location in the Reports Library. You can also define a description for the report.



You must have read/write permissions to a folder to save a report there. A lock icon displays next to folders where you do not have read/write permissions. If you have access to a My Documents folder, you can also save reports there for your own use.

If you later want to change the file name, location, or description, you can use Axiom Explorer. If you do not have rights to access Axiom Explorer, you can edit the description by using **Save As (Repository)** (save the file with the same name and location, but edit the description).

You can also choose to save the report to your local drive or to a network location, by using **Save As (Local File)**. In this case the report is not stored in the Axiom Financial Planning database and is considered to be a *non-managed file*.

NOTE: Access to certain task panes (such as the Sheet Assistant) may depend on security permissions defined at a folder level. When a new report file is created, the file location is assumed to be the root of the Reports Library until the file is saved. Therefore access to task panes for brand new reports depends on the user's permissions defined at the Reports Library level. If a user does not have permission to the task panes at the Reports Library level but does have access at a sub-folder level, then the user will not see the task panes until they save the file to that sub-folder.

Creating a new report based on an existing file

You can use **Save As** to create a new report based on a copy of an existing report. You can save the copied file to the Reports Library, or as a local non-managed file.

You can also create a report based on an existing Excel file, by opening the Excel file in Axiom Financial Planning. To use certain Axiom file features such as Axiom queries, you must add a Control Sheet to the report. For more information, see Control Sheets in Help (**Main** ribbon tab > **Help**). Then you can use **Save As (Repository)** to save the file to the Reports Library.

Saving a report

When you save a report, the report file is updated in the Axiom Financial Planning file system. If the report is configured to save data to the database, a save-to-database also occurs.

To save a report:

- On the **Axiom** tab, in the **File Options** group, click **Save**. (In systems with installed products, this feature may be located on the **Main** tab.)

Your file permission settings in Security determine whether you can save a particular report. If a report is open with read/write permissions, then you can save it. If the report is open as read-only, then the report file cannot be saved, but you may still be able to save data. You may also be able to save a copy of the report.

NOTE: Some files may use a Control Sheet setting that causes the data in the report to zero when the file is saved. This is a security precaution that is normally enabled in reports only. You can click **Refresh** to restore the data.

Save-to-database reports

Some reports may be configured to save data to the database. If the report is configured to save to the database, then the file is validated before saving. If errors are found, the file still saves but the data save is stopped and the errors are displayed in the **Save Errors** pane. These errors must be corrected before data can be saved to the database. If no errors are found, then a confirmation message displays, with information about the number of records saved.

Your file permission settings in Security determine whether you can perform a save-to-database for a particular report. Note that the permission to save data is managed separately from the file access permission. Therefore, it is possible that you could have read-only permissions for the file, but still have rights to save data (or the opposite—you could have read/write permissions for the file, but not have the rights to save data).

When you click **Save**, Axiom Financial Planning automatically performs all save actions that your user rights allow and that the file is configured to perform. If desired, you can use the additional save options to only save the file, or to only save data.

To save only the file:

- In the **Axiom** tab, in the **File Options** group, click the down arrow to the right of the **Save** button, and then click **Save File Only**.

The plan file is saved. All save-to-database processes are ignored.

To save only the data:

- In the **Axiom** tab, in the **File Options** group, click the down arrow to the right of the **Save** button, and then click **Save Data Only**.

Data from the file is saved to the database. The file itself is not saved.

NOTE: In systems with installed products, the additional save options may be located on the Main tab. In all systems, you can also access these options by right-clicking the file tab.

Saving a copy of a report

You can save a copy of a report using **Save As** features. You might want to save a copy of a report to use as a starting point to create a new report, or to create an archive copy before making changes to the report.

In most cases, you should save the report to the Axiom Financial Planning file system (in the Reports Library). However, it is possible to save report files outside of the Axiom Financial Planning system (as non-managed files). Non-managed files have limited functionality, and are not covered by Axiom Financial Planning security or included in system processes.

To save a copy of a report to the Reports Library:

1. On the **Axiom** tab, in the **File Options** group, click the down arrow to the right of the **Save** button, and then click **Save As (Repository)**.

   TIP: The Save As options are also available by right-clicking the file tab.

   The **Save As** dialog opens, displaying the contents of the Reports Library.

   NOTE: By default this dialog only displays files with the same file extension as the current file. If you want to view all file types when using this dialog, select **View > Show All Files**. This setting will be remembered.

2. In the left-hand side of the dialog, navigate to the folder in the Reports Library where you want to save the file.

   You must have read/write permissions to a folder in order to save a copy of the report there. A lock icon displays next to folders where you do not have read/write permissions to any folder in that folder tree.

3. In the **File name** box, type a name for the new report.

4. Optional. In the **Description** box, type a description for the report.
5. Click **OK**.

To save a copy of a report locally (as a non-managed file):

1. On the **Axiom** tab, in the **File Options** group, click the down arrow to the right of the **Save** button, and then click **Save As (Local File)**.

   TIP: The Save As options are also available by right-clicking the file tab.

   The **Save As** dialog opens.

2. Navigate to the desired location on your local computer or on a network file share, and then click **Save**.

   You can change the name of the file and its file format when saving. In the Excel Client, you can save the file using any file format that your Excel version supports. In the Windows Client, you can save the file as XLSM, XLSX, or XLS.

Working with Report Processing

Some reports support automated processing. If so, the File Processing task pane displays collapsed on the left side of the screen when you open the report.

By using file processing, you can automatically refresh a file, such as a report, and then perform various actions on it. The file can be processed as-is, or you can leverage Multipass processing to cycle through each element of a dimension or grouping, with an appropriate data filter automatically applied to each pass.

You can use processing to perform the following actions:

- **Save snapshot of file** – Create a snapshot copy of the current file, and then save and/or email it.
- **Print** – Print the current file, using one or more print views.
- **Export to delimited text file** – Export data in the current file to a delimited text file, and then save and/or email it.
- **Save data** – Perform a save-to-database from the current file.
- **Alerts** – Process alert conditions defined in the file.
- **File collect** – Combine multiple spreadsheet files into a single file, and then save and/or email it.
- **Batch** – Perform file processing on multiple files in a batch process, including the ability to override certain file processing settings for the file.

One common use for file processing is report distribution, which allows you to automatically deliver report files to multiple recipients. This frequently involves using several different features of file processing, for example:

- Multiple reports configured for snapshot file processing and using Multipass processing. For example, an income statement processed by department, region, or VP, and creating a separate snapshot file for each element.
- A report configured for file collect, to collect all of the snapshots into targeted report packages, including adding things like cover sheets and other supporting information. These packages could be saved to designated file locations and/or emailed to the appropriate recipients.
- A report configured for batch processing to run everything at once. For example, the batch would contain an entry for each report configured for snapshot processing, and then finish with the file collect report.

File processing is set up on a per-file basis. File processing can be set up on any Axiom file, but the primary use case is in reports.

NOTE: To set up a report for processing, some processing actions require set up before they can be performed. For example, to run a file collect process, the report must have a File Collect sheet defined. For more information, see *File Processing* in Axiom Help (**Main** ribbon tab > **Help**).

After the file has been configured to use file processing, you can process it by using **File Output > File Processing**. From this menu, you can choose to **Process File** or **Process File Multipass**. File processing can also be performed using Scheduler and from a task pane.

Processing a report

If a report is set up to use file processing, you can process the report to automatically perform actions such as:

- Save snapshot copies of the file and automatically email them to various recipients
- Export data in the file to a CSV or TXT file
- Save data in the file to the database as part of a multipass process
- Collect multiple output files into a single report package
- Process multiple reports in batch

This topic explains how to process a file that has already been configured for file processing. For details on how to set up a file for file processing, see the *Axiom File Processing Guide*.

NOTES:

- The File Processing menu command and the associated task pane are only available to administrators or to users with the **Allow File Processing** permission for the current file.
- Other file types can be set up to use file processing, but the most common use is in a report.

To process a file using file processing:

1. Open the file. If you want to see what the file is configured to do during file processing before

executing it, you can check the settings in the **File Processing** task pane.

2. In the **File Processing** task pane, in the **Actions** section, click one of the following options to start processing:
    - **Process File**: The file is processed once "as is." The file is refreshed and the file processing action is performed. No multipass filter or settings are applied.
    - **Process File Multipass**: The file is processed multiple times, with a unique filter applied for each pass. For example, if the file is set up to process by DEPT, then the file is processed once for each department. The data queries in the file are automatically filtered to return data for the current pass department only.

    TIP: You can also process the file using the **File Processing** menu on the Axiom tab. (In systems with installed products, this feature may be located on the **Main** tab.)

Once file processing is initiated, the following occurs:

- The file is refreshed. If you are performing multipass processing, the file is refreshed using a data filter for the current pass item.
- The file processing action is performed. If you are performing multipass processing, the action may be performed after each pass, or it may be performed once all passes are complete, depending on the file processing settings.

A status bar displays the progress of the file processing. When the processing is complete, a confirmation box displays information about the process, such as how many passes were performed, how many files were created, etc.

Note that the file itself is not saved as part of file processing. You can process a file even if you have read-only rights to the file. However, if the file processing is set up to save to the database, you must have rights to save data for that file.

Understanding file output options

Axiom Financial Planning provides a variety of file output options to share data with people throughout your organization. This section explains the file setup to use these features.

- **Print view setup**: You can set up one or more custom print views for each sheet in an Axiom file. You can associate these print views with sheet views to automatically hide and/or format rows and columns in the print copy.
- **Snapshot setup**: Users can take snapshot copies of Axiom files without requiring any advance setup. However, if desired, you can flag certain rows and columns in the sheet to be deleted in the snapshot copy. The primary use for this would be to delete work areas or Axiom query artifacts that are no longer necessary in the snapshot copy.

Printing an Axiom file

You can print a spreadsheet Axiom file on a per sheet basis. You can decide to print one or more sheets, or all available sheets.

Each sheet can have one or more defined print views. The print views can be used to print different "views" of the sheet, and to set certain standard print options such as the print orientation. For example, for a plan file, you might have one print view that prints a "summary" view of the sheet (with certain columns and rows hidden for printing), and another print view that prints a "detail" view of the sheet (with all columns and rows visible).

If a sheet has no predefined print views, then the sheet can be printed using the settings defined for the spreadsheet using standard Excel printing features. For more information on defining print settings for a spreadsheet, see the Microsoft Excel Help. In the Windows Client, the spreadsheet print settings are defined in the Workbook Explorer, in the **Page Setup** section for each sheet.

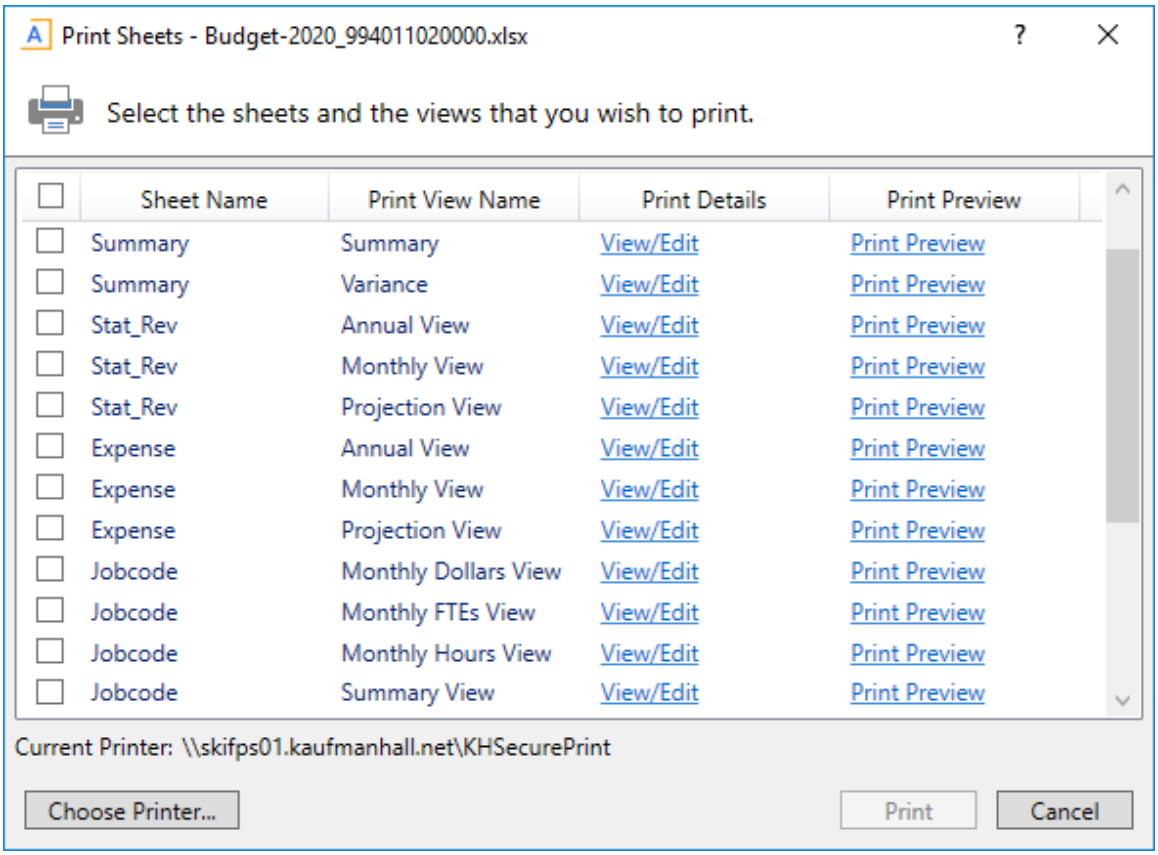
NOTE: You can always print the file using standard spreadsheet print functionality, even if Axiom Financial Planning print views have been defined.

To print an Axiom file:

1. On the **Axiom** tab, in the **File Output** group, select one of the following:
   - If you want to be able to select print views from all sheets in the workbook, click **Print**.
   - If you want to print only the current sheet, then click the arrow to the right of the **Print** button, and then click **Print This Sheet**.

   NOTE: In systems with installed products, this feature may be located on the **Main** tab—either directly on the ribbon or under **Publish**.

   The **Print Sheets** dialog opens. This dialog lists the available print views for the entire workbook or for the current sheet, depending on how you entered the dialog. To sort this list by the Sheet Name or Print View Name, click the column header.



Example Print Sheets dialog

NOTES:

- If a sheet does not have a defined print view, then it is listed with a print view name of "Default," and will use the print settings defined for the spreadsheet.
- Control Sheets cannot be printed using the Axiom Financial Planning printing feature, whether they are visible or hidden. If you want to print a Control Sheet, use the standard spreadsheet printing features.

2. In the **Print Sheets** dialog, select the sheet / print view combinations that you want to print.

   If you want to print all print views for all sheets, then select the check box in the column header to select all.

   If you opened this dialog by using **Print This Sheet** and the sheet has only one available print view, then that view is selected by default.

3. You can also do any of the following before printing:
   - **View and edit the print settings.** If you want to view and potentially change the print settings for a selected view, click the **View/Edit** link. In the **Print Options** dialog, you can

change any of the print settings, for the current print job only (the changes are not saved in the file).

- **Preview a print view.** If you want to preview a print view, click the **Print Preview** link. The native spreadsheet Print Preview feature will open to preview the print job. Only one view can be previewed at a time.
- **Select a printer.** If you want to print to a different printer than your default printer, click **Choose Printer** at the bottom of the dialog. In the **Printer Setup** dialog, select the printer that you want to use, and then click **OK**.

  NOTE: In the Windows Client, the printer is always your default printer unless you change it for a particular print job. In the Excel Client, the printer starts as your default printer, but if you change the printer for a print job, the changed selection will be remembered for any future print jobs in the current session.

4. Click **Print**.

The selected items are printed.

Print Options dialog

The **Print Options** dialog displays the print settings for the current print view. If desired, you can edit settings for the current print job only. Any changes made will not be saved in the file.

NOTE: Print options are read-only when using the **Print Plan Files** option to print multiple plan files.

This dialog displays all of the settings that will be applied to the print job, whether the setting is defined in the associated Print tag or inherited from the spreadsheet settings. If a setting is blank, then that print option is not defined and will not be applied to the print job.

Print View Options

Item	Description
Print View Name	The name of the current print view.
View Name	The name of the sheet view to be applied when printing. These are the same sheet views that are available from the **Change View** menu. For example, if the sheet view is configured to hide columns or rows, those columns and rows will be hidden in the print copy. Row and column sizing is also applied.
Paper Size	The paper size for the print job, either **Letter** or **Legal**.
Orientation	The print orientation for the print view, either **Portrait** or **Landscape**.
Repeat Rows	The rows to repeat at the top of the page. Rows must be specified as a range; for example: `1:3`.

Item	Description
Repeat Columns	The columns to repeat at the left of the page. Columns must be specified as a range; for example: `A:C`.

Scaling

Item	Description
Fit To Pages Wide	The number of pages on which to fit the print area. For example, if you want the print area to fit on one page, specify 1.
Percent Zoom	The percent zoom to apply to the print range. Specify the number without a percent sign. For example, to zoom by 90%, specify 90.

Headers and Footers

Item	Description
Left Header	Header text to display in the left-hand side of the header.
Center Header	Header text to display in the center of the header.
Right Header	Header text to display in the right-hand side of the header.
Left Footer	Footer text to display in the left-hand side of the footer.
Center Footer	Footer text to display in the center of the footer.
Right Footer	Footer text to display in the right of the footer.

Printing multiple plan files

You can print multiple plan files in batch by using the **Print Plan Files** feature. You can select multiple plan files within a file group, and then select one or more print views for each plan file. The available print views for each plan file are based on the template that was used to create the plan file.

To print multiple plan files from a file group:

1. On the **Axiom** tab, in the **File Output** group, click the down arrow to the right of the **Print** button, and then click **Print Plan Files**.

   NOTE: In systems with installed products, this feature may be located on the **Main** tab—either directly on the ribbon or under **Publish**.

   TIP: If you have access to the file group menu for a file group, then you can access **Print Plan Files** from the file group menu. In this case, the current file group is pre-selected in the dialog.

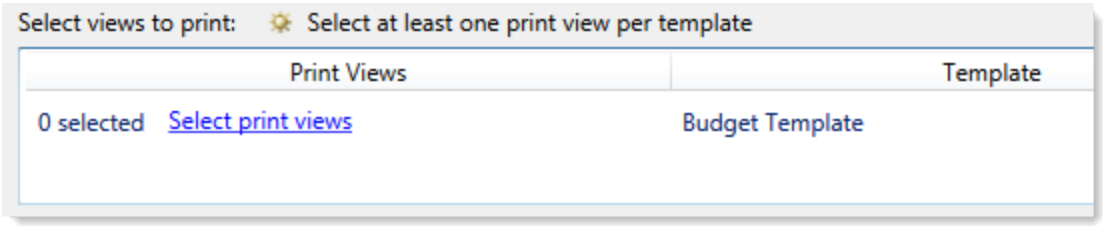
2. In the **Print Plan Files** dialog, use the **File Group** list to select the file group that contains the plan files that you want to print.

Only one file group can be printed at a time. Once a file group is selected, the dialog displays a list of the available plan files.

3. In the **Select plan files to print** section, select the plan files that you want to print.
    - You can sort and filter the list using standard Axiom grid functionality to find the plan files that you want to print.
    - To select multiple plan files at once, highlight the plan files, and then right-click and select **Select**. If you want to print all plan files that currently display in the dialog, select the check box in the header row.

    Once at least one plan file has been selected, you can select which print views to print.

4. In the **Select views to print** section (at the bottom of the dialog), select the views that you want to print. You must do this for each source template used for the selected plan files.



    - Click the **Select print views** link.
    - In the **Select Print Views** dialog, select the sheet / print view combinations that you would like to print, and then click **OK**.

      If you want to see the settings that will be applied to the print job, click the **View** link. Print settings are read-only in this context.

      NOTE: All template sheets are listed in this context (except for Control Sheets), including sheets that you may not normally see in plan files because they are hidden. If you select a sheet that is hidden in one of the selected plan files, it will not be printed. A message will inform you of the unprinted sheet when the printing process is complete.

    - Repeat this process for each source template.

    If all of the selected plan files were built using the same template, then there will be only one template listed. If the selected plan files were built using multiple templates, then multiple templates will be listed. The print selections for each template will only apply to the plan files that were built using that template.

5. If you want to print to a different printer than your default printer, click **Choose Printer** at the bottom of the dialog. In the **Printer Setup** dialog, select the printer that you want to use, and then click **OK**.

NOTE: In the Windows Client, the printer is always your default printer unless you change it for a particular print job. In the Excel Client, the printer starts as your default printer, but if you change the printer for a print job, the changed selection will be remembered for any future print jobs in the current session.

6. Click **Print**.

The selected plan files are printed, using the print view selections.

If a selected print view is not found in a target plan file, a message displays at the end of the process, listing the affected plan file and the relevant sheet / print view. This may occur if the print views in either the template or the plan file have been modified after plan file creation.

Taking a snapshot copy of an Axiom file

You can take a "snapshot" of a spreadsheet Axiom file, so that you can save a copy as a normal Excel file and then open it in Microsoft Excel (without needing Axiom Financial Planning). For example, you may want to send a copy of a report to someone that does not have access to Axiom Financial Planning.

When you create a snapshot of an Axiom file, the file is copied as an XLSX file, and the following occurs:

- All Control Sheets and any hidden sheets are automatically removed. You can choose whether to include all remaining sheets, or only the active sheet.
- All Axiom formulas are replaced with values. You can choose whether to retain Excel formulas, or replace them with values. If Excel formulas are preserved, certain formulas will be replaced with values if they reference sheets or cells that are deleted as part of the snapshot processing.
- Rows and columns flagged for delete are deleted.

Due to the file format, any VBA macros in the file are also removed.

To take a snapshot of an Axiom file:

1. Open the file in Axiom Financial Planning.
2. On the **Axiom** tab, in the **File Output** group, click **Snapshot**.

   NOTE: In systems with installed products, this feature may be located on the **Main** tab—either directly on the ribbon or under **Publish**.

   The **Snapshot File** dialog opens.
3. In the **Formula Replacements** section, select one of the following:
   - **Convert All Formulas** (default): All formulas are replaced with values.
   - **Retain Excel Native Formulas**: All Excel formulas in the spreadsheet will be retained as is, with one exception. If a cross-sheet formula references a sheet that will not be present in

the snapshot (depending on the **Sheets To Snapshot** setting), that formula will be replaced with values.

> **NOTE:** If the file contains a pivot table, this option must be selected in order for the pivot table to work in the snapshot copy.

4. In the **Sheets to Snapshot** section, select one of the following:
   - **Limit to Active Sheet** (default): Include only the active sheet in the snapshot.
   - **All Sheets In File**: Include all sheets in the file (except any Control Sheets and hidden sheets, which are always removed).
5. Click **OK**.

The snapshot file is created and is opened in Axiom Financial Planning. The navigation tab for the file is titled either ***Sheetname*_snapshot** (if the snapshot contains only one sheet) or ***FileName*_snapshot** (if the snapshot has multiple sheets). You can now use **Save As** features to save the file locally or to a network location.

> **NOTE:** If you are using the Excel Client and you want to save a copy of the snapshot as a PDF file, you can use standard Excel functionality to do so. Use **File > Save As**, and then select PDF as the file type. This is an Excel-specific feature that is not available in the Windows Client.

If you want to email a snapshot to someone directly, you can use the **E-Mail Workbook** feature. This creates a snapshot and attaches it to an email (instead of opening it in Axiom Financial Planning).

Emailing a snapshot of an Axiom file

You can email a snapshot of a spreadsheet Axiom file using the **E-mail** feature. Axiom Financial Planning creates a snapshot copy of the file and attaches it to an email. The copy can then be viewed outside of Axiom Financial Planning by someone who may have no access to the system. When you use this feature, Axiom Financial Planning creates a snapshot copy of the file just like it would if you used the **Snapshot** feature.

The email can be sent using your default email client (such as Microsoft Outlook), or you can send the file using the Axiom Financial Planning Scheduler email service. Note that the Scheduler email service does not support HTML format for email.

NOTES:

- The name of the emailed file is either ***Sheetname*_snapshot** (if the snapshot contains only one sheet) or ***FileName*_snapshot** (if the snapshot has multiple sheets). The name cannot be changed.
- You can also email snapshot copies using the File Processing feature. File processing is typically used when you want to automate the process and employ multipass processing to send the same file to different people using different data. The E-mail feature is best used to send "one-off" snapshots as needed.

To email a snapshot copy of an Axiom file:

1. Open the file in Axiom Financial Planning.
2. On the **Axiom** tab, in the **File Output** group, select **E-mail**.

   NOTE: In systems with installed products, this feature may be located on the **Main** tab—either directly on the ribbon or under **Publish**.

   The **E-mail Active Workbook** dialog opens.
3. For **Send As**, select **Snapshot**.
4. For **Send using**, select one of the following:
   - **Outlook**: Send the email using the default email client on your local machine (for example, Microsoft Outlook). The name of this option may be customized for your organization.
   - **Axiom Mail Service**: Send the email using the Axiom Financial Planning Scheduler email service.
5. Complete the following **Snapshot Options** in the dialog:

Option	Description
Send file as	Select **XLS**, **XLSX**, **XLSM**, or **PDF**. XLSX is selected by default.
Include	Select one of the following: • **Entire Workbook**: All sheets are included in the snapshot (except Control Sheets and hidden sheets, which are always removed). • **Active Worksheet Only** (default): Only the active worksheet is included in the snapshot.

Option	Description
Formulas	• **Convert All Formulas** (default): All formulas are converted to values. • **Retain Excel Native Formulas**: Axiom formulas are converted to values, but Excel formulas are left as is. Note that if an Excel formula references a sheet that is not included in the snapshot, that formula will be converted to a value. **NOTE:** If the file contains a pivot table, this option must be selected in order for the pivot table to work in the snapshot copy. This option does not apply if PDF is the selected file type.

6. Click **OK**.

If you selected to send the file using your default email client, then a new email message opens, with the snapshot file attached. You can then specify the recipient, subject, and body text for the email, and then send it.

If you selected to send the file using the Axiom mail service, then an **E-Mail** dialog opens so that you can specify the recipient, subject, and body text for the email. In the address boxes (**To**, **Cc**, and **BCC**), you can either type an email address, or click the button to select an Axiom Financial Planning user. If you select a user, the email will be sent using the user's email address as defined in Axiom Financial Planning security. When you click **OK**, the email settings are saved to the database, to be sent the next time the Scheduler SMTP Email Delivery task is run.

Emailing a hyperlink to an Axiom file

You can email a hyperlink to a spreadsheet Axiom file using the **E-mail** feature. Axiom Financial Planning creates a URL hyperlink to the file and includes it in an email. The email recipient can click on the link to launch the system and open the file directly, assuming that the recipient is an Axiom Financial Planning user who has rights to access the file.

The email can be sent using your default email client (such as Microsoft Outlook), or you can send the file using the Axiom Financial Planning Scheduler email service. Note that the Scheduler email service does not support HTML format for email.

NOTES:

- Alternatively, you can obtain a URL to an Axiom file using a variety of ways and then paste it into an email that you create manually. For example, you can use GetDocumentHyperlink or right-click a file in Axiom Explorer to obtain a URL. The email hyperlink feature is provided as a convenience to quickly send a hyperlink to the current file.
- The email hyperlink feature cannot be used to send a hyperlink to open a form-enabled file as an Axiom form; the source file will always be opened as a spreadsheet.
- The hyperlink included in the email uses the same format as hyperlinks generated using GetDocumentHyperlink, including the differing URL format for systems using SAML or OpenID Authentication.

To email a hyperlink to an Axiom file:

1. Open the file in Axiom Financial Planning.
2. On the **Axiom** tab, in the **File Output** group, select **E-mail**.

   NOTE: In systems with installed products, this feature may be located on the **Main** tab—either directly on the ribbon or under **Publish**.

   The **E-mail Active Workbook** dialog opens.
3. For **Send As**, select **Document Link**.
4. For **Send using**, select one of the following:
   - **Outlook**: Send the email using the default email client on your local machine (for example, Microsoft Outlook). The name of this option may be customized for your organization.
   - **Axiom Mail Service**: Send the email using the Axiom Financial Planning Scheduler email service.
5. Optional. Complete the **Document Link Options** in the dialog:

Option	Description
Sheet Filter	If desired, enter a filter to apply to the file when it is opened. You can type the filter statement or use the Filter Wizard. The filter is applied like a Quick Filter and affects any data queries in the file. For example, `Dept.Region='West'` means that all data queried will be limited to the West region.

Option	Description
Cell Address	If desired, specify the cell to be made active when the document is opened. For example: `Sheet1!D22` If the specified location would not be in view normally then the file will be scrolled to that location; otherwise the file will open in its default view with the cursor placed at that location.

6. Click **OK**.

If you selected to send the hyperlink using your default email client, then a new email message opens, with the hyperlink included in the body text. You can then specify the recipient, subject, and additional body text for the email, and then send it.

If you selected to send the hyperlink using the Axiom mail service, then an **E-Mail** dialog opens so that you can specify the recipient, subject, and additional body text for the email. In the **To** and **Cc** boxes, you can either type an email address, or click the button to select an Axiom Financial Planning user. If you select a user, the email will be sent using the user's email address as defined in Axiom Financial Planning security. When you click **OK**, the email settings are saved to the database, to be sent the next time the Scheduler SMTP Email Delivery task is run.

Using rating agency medians

Several reports in the Axiom Financial Planning allow you to use the rating agency medians for ratio comparison purposes. These medians include the following:

- Moody's
- S&P
- Fitch

You can also create your own user-defined medians.

You can use medians in the following reports:

- The Financial Statements report, which you can launch from the task pane or from the Control Panel
- The Financial Statement with Detail report
- The Scenario Sensitivity Analysis report

To use rating agency medians:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, do one of the following:

- Double-click **Financial Statements**.
- Click **Financial Analysis**, and double-click **Financial Statements with Detail**.
- Click **Sensitivity Analysis**, and double-click **Sensitivity Analysis**.

2. In the **Refresh Variables** dialog, in the **Select Rating Agency Median** drop-down, select the median.
3. In the **Filter by select group of scenarios** drop-down, do one of the following:
   - To include all of the scenarios assigned to a specific group in the report, select **Yes**.
     - In the **Select a SCENARIO.RptScenario Group** field, type the scenario group name, or click **Choose Value** to choose from a list of scenario group names.
   - To include an individual scenario in the report, select **No**.
     - In the **Select a SCENARIO** field, type the name of the scenario, or click **Choose Value** to choose from a list of scenario names.
4. In the **No. of Projection Years** drop-down, select the number of years to include in the report, and click **OK**.

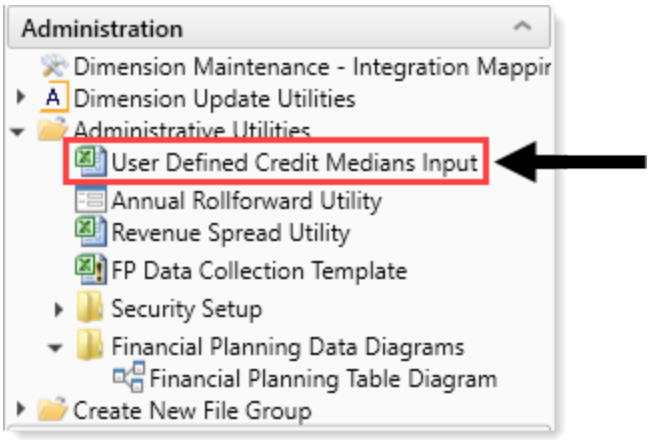
The selected medians display in the **Report** tab, in the **Statistics and Ratios** section of the report.

Creating a user-defined median

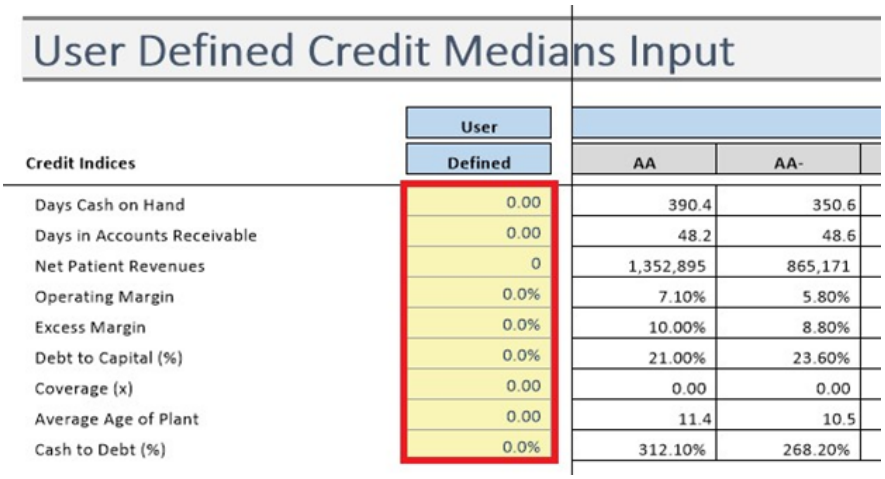
Use this procedure to create your own medians.

To create a user-defined median:

1. In the Fin Plan Admin task pane, in the **Administration** section, click **Administrative Utilities**, and double-click **User Defined Credit Medians Input**.



2. In the **User Defined** column, type the median information in the yellow cells.



User Defined Credit Medians Input

Credit Indices	User Defined	AA	AA-
Days Cash on Hand	0.00	390.4	350.6
Days in Accounts Receivable	0.00	48.2	48.6
Net Patient Revenues	0	1,352,895	865,171
Operating Margin	0.0%	7.10%	5.80%
Excess Margin	0.0%	10.00%	8.80%
Debt to Capital (%)	0.0%	21.00%	23.60%
Coverage (x)	0.00	0.00	0.00
Average Age of Plant	0.00	11.4	10.5
Cash to Debt (%)	0.0%	312.10%	268.20%

3. In the **Main** ribbon tab, click **Save**.

Working with Financial Analysis reports

The following table provides a brief description of the Financial Analysis reports available in Axiom Financial Planning:

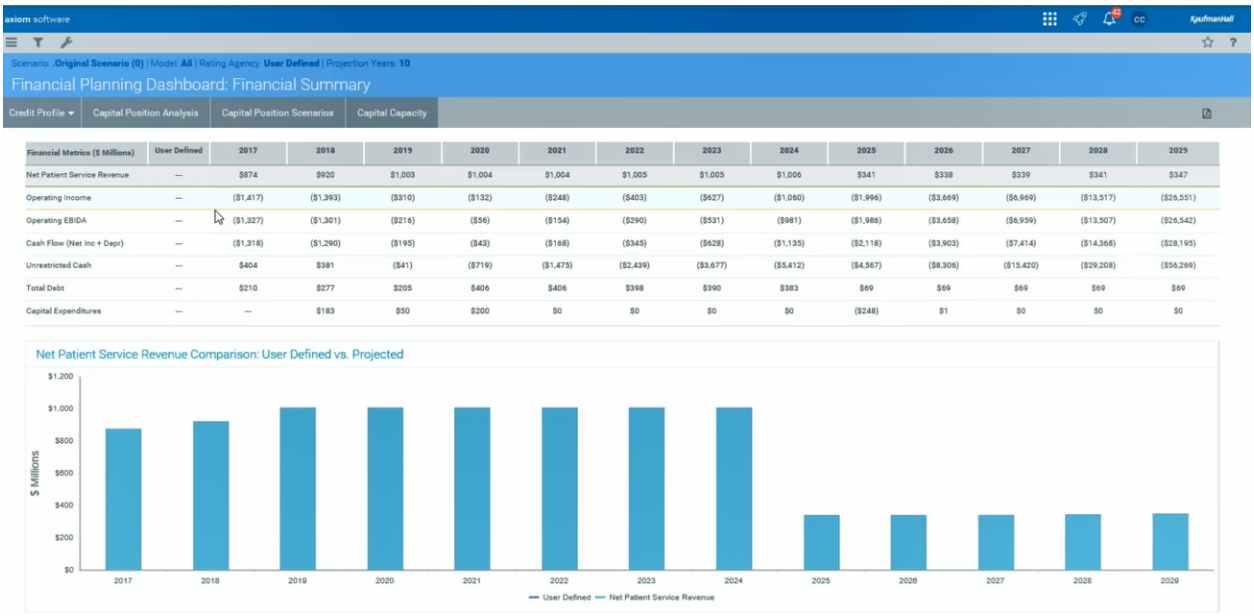
Report	Description
Financial Planning Dashboard	Provides a web-based version of the Capital tab in the Financial Statements report.
Capital Summary	Create a summary of capital spending for selected scenario(s).
Capital Summary by Model	Create a summary of capital spending for the selected scenario(s) by model.
Code Comparison by Model	Compare a single code across multiple models.
Code Drill Report by Model	Compare a single code across multiple models.
Consolidating by Model-Enterprise	Create a consolidating set of financial statements for a single year for a selection of models.
Consolidating by Node	Create a consolidating set of financial statements for a single year for a selection of nodes.
Financial Statements	View a set of Consolidated Financial Statements for selected scenario(s).
Financial Statements with Detail	View a set of Consolidated Financial Statements with full detail for selected scenario(s).

Report	Description
Model Assumptions	View a high-level view of the assumptions that went into the projections and related ratios.
Payor Analysis	Summarize payor-level data for a selected scenario for all years.
Payor Analysis-Change	Display payor-level data for the year-over-year change for a selection of scenarios.

Using the Financial Planning Dashboard

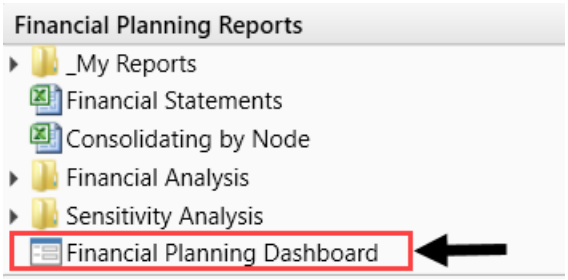
The Financial Planning Dashboard provides a web-based version of the Capital tab in the Financial Statements report. The Dashboard displays the following data:

- **Credit Profile** – Common financial metrics used for analysis by rating agencies
  - **Financial Summary** – Selected profitability and capital metrics
  - **Profitability** – Annual Operating Margin, Operating EBIDA Margin, and Excess Margin grid and graph, compared to selected rating median
  - **Debt Position** – Annual debt service coverage, debt to capitalization, and debt to cash flow grid and graph compared to selected rating median
  - **Liquidity** – Annual cash to debt, days cash, and days in AR grid and graph compared to selected rating median
  - **Other Financials** – Average age of plant, capital spending ratio, and compensation ratio grid and graph compared to selected rating median
- **Capital Position Analysis** – Sources and uses of cash analysis for selected number of years. Allows entry of other additional sources and uses of cash as well as bond funds and displays cash flow requirements and historical cash flow
- **Capital Position Scenarios** – Annual cash flow requirements for incremental days cash on hand values with the option to change days cash on hand values and increment baseline cash values
- **Capital Capacity** – Estimated debt capacity, long-term debt, existing cash, minimum cash target, net cash position, and net capital capacity grid and graph



To use the Financial Planning Dashboard:

1. In the Fin Plan Admin task pane, in the **Financial Planning Reports** section, double-click **Financial Planning Dashboard**.



2. To filter the data for the dashboard, click the funnel icon in the upper left corner of the page.

3. Select the following filter options, as needed:

Option	Description
Select Rating Agency Median	Select the rating agency to use. **NOTE:** By default, the system uses the rating agency median selected in the Setup driver.
Filter by select group of scenarios?	To filter by a group of scenarios, select **Yes**. **NOTE:** If you select Yes, the **Select a SCENARIO.RptScenario Group** drop-down displays. Select the scenario group from this drop-down.
Select a MODEL	Select one or more models.
Select a SCENARIO	Select one or more scenarios.
No. of Projection Years	Select the number of years.
Advanced Filters	Use the Filter Wizard to create or use an existing filter.

4. Click **Apply**.

Running the Capital Summary report

Use this report to create a summary of capital spending for the selected scenario(s).

To run the Capital Summary report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Capital Summary**.
2. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank.

Options	Description
Filter by select group of scenarios?	Do the following: • To display scenarios in the report filtered by their assigned group, select **Yes**. • To not display scenarios by assigned group, select **No**.
Select a SCENARIO	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include in the report. c. Click **OK**.

Options	Description
No. of Projection Years	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the number of projection years to include in the report. c. Click **OK**.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Capital Summary by Model report

Use this report to create a summary of capital spending for the selected scenario(s) by model.

To run the Capital Summary by Model report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Capital Summary by Model**.
2. In the **Refresh Variables** dialog, select the following, and click **OK**:

NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Filter by select group of scenarios?	Do the following: • To display scenarios in the report filtered by their assigned group, select **Yes**. • To not display scenarios by assigned group, select **No**.
Select a SCENARIO	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include in the report. c. Click **OK**.
No. of Projection Years	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the number of projection years to include in the report. c. Click **OK**.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Code Comparison by Model report

Use this report to compare a single code across multiple models.

To run the Code Comparison by Model report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Code Comparison by Model**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Year 1 of Comparison	Select the first year to include in the report.
Select Year 2 of Comparison	Select the second year to include in the report.
Select Scenario to View	Select the scenario to include in the report.
Select Statistic #1 for Analysis	Select the first statistic to compare..
Select Statistic #2 for Analysis	Select the second statistic to compare.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Code Drill Report by Model report

Use this report to compare a single code across multiple models.

To run the Code Drill Report by Model report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Code Drill Report by Model**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Scenario	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.
No. of Projection Years	Select the number of projected years.
Select Code	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the code to include. c. Click **OK**.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Consolidating by Model-Enterprise report

Use this report to create a consolidating set of financial statements for a single year for a selection of models.

To run the Consolidating by Model-Enterprise report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Consolidating by Model-Enterprise**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select a Comparison Year	Select a year to include in the report.
Select Scenario	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.
Model Grouping	Select the model group to include in the report.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Consolidating by Node report

Use this report to create a consolidating set of financial statements for a single year for a selection of nodes.

To run the Consolidating by Node report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Consolidating by Node**.

   NOTE: There are two Consolidating by Node reports listed in the task pane. These reports are identical.

2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Scenario to View	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.
Select Year	Select a year to include in the report.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Financial Statements report

Use this report to create a set of consolidated financial statements for the selected scenario(s).

This report includes the following data:

- **Credit Profile** – Common financial metrics used for analysis by rating agencies
  - **Financial Summary** - Selected profitability and capital metrics

- **Profitability** - Annual Operating Margin, Operating EBIDA Margin, and Excess Margin grid and graph, compared to selected rating median
- **Debt Position** - Annual debt service coverage, debt to capitalization, and debt to cash flow grid and graph compared to selected rating median
- **Liquidity** - Annual cash to debt, days cash, and days in AR grid and graph compared to selected rating median
- **Other Financials** – Average age of plant, capital spending ratio, and compensation ratio grid and graph compared to selected rating median

- **Capital Position Analysis** – Sources and uses of cash analysis for selected number of years. Allows entry of other additional sources and uses of cash as well as bond funds and displays cash flow requirements and historical cash flow
- **Capital Position Scenarios** - Annual cash flow requirements for incremental days cash on hand values with the option to change days cash on hand values and increment baseline cash values
- **Capital Capacity** – Estimated debt capacity, long-term debt, existing cash, minimum cash target, net cash position, and net capital capacity grid and graph

To run the Financial Statements report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Financial Statements**.

   NOTE: There are two Financial Statements reports listed in the task pane. These reports are identical.

2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Rating Agency Median	Select the Rating Agency Median to include in the report. **NOTE:** By default, the system uses the rating agency median selected in the Setup driver.

Options	Description
Filter by select group of scenarios?	Do one of the following: • To filter the report by the specified group the scenario belongs to, select **Yes**. • To not filter the report by group, select **No**.
Select SCENARIO	Select one or more scenarios.
No. of Projection Years	Select the number of projected years.
Select Model(s) (optional)	Select one or more models.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Financial Statements with Detail report

Use this report to create a set of Consolidated Financial Statements with full detail for the selected scenario(s).

To run the Financial Statements with Detail report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Financial Statements with Detail**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Rating Agency Median	Select the Rating Agency Median to include in the report.
Select Scenario to View	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Model Assumptions report

Use this report to create a high-level view of the assumptions that went into the projections and related ratios.

To run the Model Assumptions report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Model Assumptions**.
2. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Rating Agency Median #1	Select the first Rating Agency Median to include in the report.
Select Rating Agency Median #2	Select the second Rating Agency Median to include in the report.
No. of Projection Years	Select the number of projected years to include in the report.
Select a SCENARIO	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Payor Analysis report

Use this report to view a summary of Payor-level data for a selected scenario for all years.

To run the Payor Analysis report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Payor Analysis**.
2. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Scenario	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.
No. of Projection Years	Select the number of projected years to include in the report.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Payor Analysis-Change report

Use this report to analyze Payor-level data for the year-over-year change for a selection of scenarios.

To run the Payor Analysis-Change report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Financial Analysis**, and double-click **Payor Analysis-Change**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Scenario	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include. c. Click **OK**.
Select Base Year for Comparison	Select the base year to compare the other years to.
Select Comparison Year #1 - #4	Select the years to add to the report to compare to the base year.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Working with Integration reports

Integration reports are available in the Integration folder in the Financial Planning Reports section of the Fin Plan task pane, and in the Integration section of the Fin Plan Admin task pane.

Management Reporting Variance Analysis report – View integrated budget data and compare operating revenue, income, and expenses from Axiom Financial Planning, Axiom Budgeting, and Axiom Rolling Forecast for a selected FP File Group year.

Using the Management Reporting Variance Analysis report

The Management Reporting Variance Analysis report allows you to compare operating revenue, income, and expenses from Axiom Financial Planning, Axiom Budgeting, and Axiom Rolling Forecast for a selected Axiom Financial Planning File Group year. You can also use the report to compare Axiom Financial Planning data and data from one of the other two products, if desired, or if your Axiom Financial Planning system is not integrated with both Axiom Budgeting and Axiom Rolling Forecast.

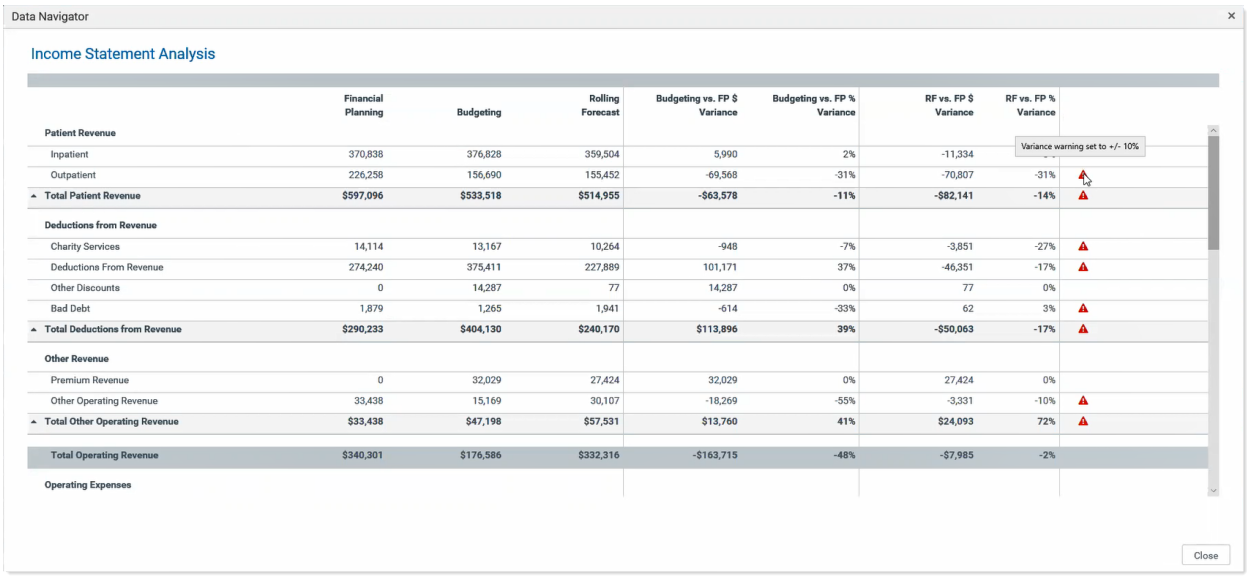
You can use this report as a comparison tool to compare a selected year between Axiom Financial Planning, Axiom Budgeting, and Axiom Rolling Forecast. This can be used to compare performance to the target set in Axiom Financial Planning.

The Management Reporting Variance Analysis report has two parts: a set of graphs and an income statement.

The graphs display the following Key Performance Indicators:

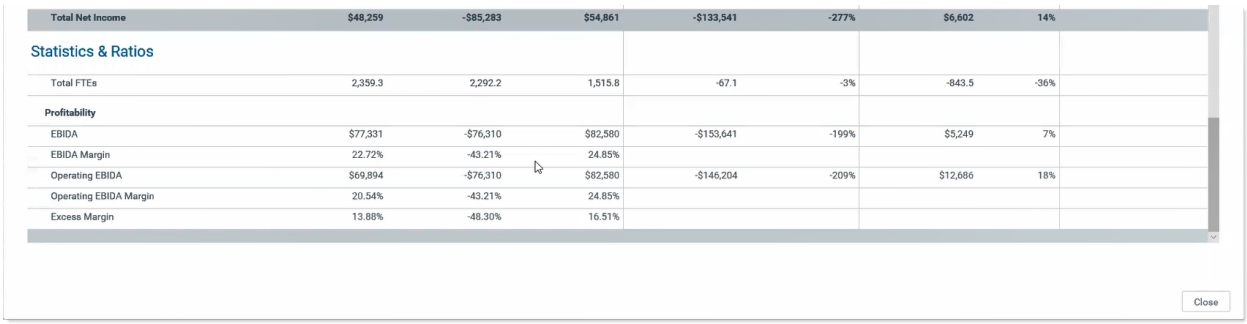
- Total operating revenue
- Total operating expenses
- Net operating income
- Total net income over expenses

The income statement displays an analysis section followed by a Statistics and Ratios section:



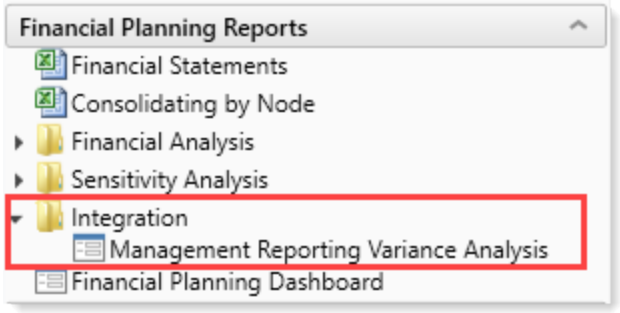
	Financial Planning	Budgeting	Rolling Forecast	Budgeting vs. FP $ Variance	Budgeting vs. FP % Variance	RF vs. FP $ Variance	RF vs. FP % Variance	
Patient Revenue								
Inpatient	370,838	376,828	359,504	5,990	2%	-11,334		
Outpatient	226,258	156,690	155,452	-69,568	-31%	-70,807	-31%	⚠
Total Patient Revenue	**$597,096**	**$533,518**	**$514,955**	**-$63,578**	**-11%**	**-$82,141**	**-14%**	⚠
Deductions from Revenue								
Charity Services	14,114	13,167	10,264	-948	-7%	-3,851	-27%	⚠
Deductions From Revenue	274,240	375,411	227,889	101,171	37%	-46,351	-17%	⚠
Other Discounts	0	14,287	77	14,287	0%	77	0%	
Bad Debt	1,879	1,265	1,941	-614	-33%	62	3%	⚠
Total Deductions from Revenue	**$290,233**	**$404,130**	**$240,170**	**$113,896**	**39%**	**-$50,063**	**-17%**	⚠
Other Revenue								
Premium Revenue	0	32,029	27,424	32,029	0%	27,424	0%	
Other Operating Revenue	33,438	15,169	30,107	-18,269	-55%	-3,331	-10%	⚠
Total Other Operating Revenue	**$33,438**	**$47,198**	**$57,531**	**$13,760**	**41%**	**$24,093**	**72%**	⚠
Total Operating Revenue	**$340,301**	**$176,586**	**$332,316**	**-$163,715**	**-48%**	**-$7,985**	**-2%**	
Operating Expenses								

Statistics and Ratios section:



To use the report:

1. In the Fin Plan Admin task pane, in the **Financial Planning Reports** section, expand the **Integration** folder and then double-click **Management Reporting Variance Analysis**.



2. To filter the data in the report, click the funnel icon in the upper left corner of the report.

3. Select from the following filter options, as needed:

Filter Option	Description
Financial Planning Inputs	Select the data from Financial Planning to use.
FP File Group Year	Select the FP File Group year to compare.
Analysis Year	Select the year to analyze and set budget targets.

Filter Option	Description
FP Node (from DEPT table) (optional)	Select the FP Node used as the link between the integrated products in the report. This data comes from the mapping column in the DEPT table that maps the Financial Planning and Department together.
Model (optional)	Select the model, if desired.
Scenario	Select the scenario. For more information, see Working with Scenarios and Creating, modifying, or duplicating a scenario.
Budgeting Inputs	Select the data from Management Reporting table to use in your analysis.
Budget Type/Year	Select the desired Budget-[year], Actual-[year], or Current Year Forecast-[year]
Rolling Forecast Inputs	Select the data to use from Rolling Forecast.
Rolling Forecast Period 1	Select the desired quarter to use as the first quarter in your analysis year.
Rolling Forecast Period 2	Select the desired quarter to use as the second quarter in your analysis year.
Rolling Forecast Period 3	Select the desired quarter to use as the third quarter in your analysis year.
Rolling Forecast Period 4	Select the desired quarter to use as the fourth quarter in your analysis year.

4. Click **Apply**.
5. To launch the income statement, in the upper right of the report, click **Launch Data Navigator**.

Working with Scenario Analysis reports

Axiom Financial Planning offers several reports specifically designed for analyzing and comparing scenarios.

The following is a list of the reports available to analyze your scenarios:

Report	Description
2 Scenario Comparison	View data from two different scenarios side-by-side, along with the variance and % change between the two scenarios.
3 Scenario Comparison	Compare a scenario against two other scenarios, with the variance and % change for each.

Report	Description
Multi Scenario Ratio Comparison	View projections for key financial ratios and key debt and liquidity ratios for up to five different scenarios at once.
Multi Scenario Review	View projections for key statistics for up to five different scenarios at once.
Scenario Review	View the Consolidated Financial Statements for selected scenarios.
Scenario Structure	View the models, nodes, node types, integration status and associated global assumptions sets for a given scenario.
Scenario Variance Comparison	View the projected variances between the income statements, balance sheet, statement of charges, cash flow statement and key statistics and ratios for two selected scenarios for a number of years.

Running the 2 Scenario Comparison report

Use this report to compare one scenario to another for a single year.

To run the 2 Scenario Comparison report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **2 Scenario Comparison**.
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Forecast Year of Comparison	Select the forecast year for the scenarios to compare.
Select Scenario 1 to Compare	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the first scenario to compare to the second. c. Click **OK**.
Select Scenario 2 to Compare	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the second scenario to compare to the first. c. Click **OK**.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view. (TFS 8063)(TFS 8860)
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the 3 Scenario Comparison report

Use this report to compare three scenarios for a single year.

To run the 3 Scenario Comparison report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **3 Scenario Comparison.**
2. Refresh the data in the report by doing one of the following:
   - In the **Admin** ribbon tab, in the **Workbook Options** group, click **Refresh Data**.
   - Press **F9**.
3. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Forecast Year of Comparison	Select the forecast year for the scenarios to compare.
Select Scenario of Comparison	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to compare the first and second scenario to. c. Click **OK**.
Select Scenario 1 for Comparison	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the first scenario to compare to the scenario of comparison. c. Click **OK**.
Select Scenario 2 for Comparison	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the second scenario to compare to scenario of comparison. c. Click **OK**.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Multi Scenario Ratio Comparison report

Use this report to compare multiple ratios across multiple scenarios.

To run the Multi Scenario Ratio Comparison report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **Multi Scenario Ratio Comparison**.
2. In the **Refresh Variables** dialog, select one to five scenarios to include in the report by doing the following:

   NOTE: To return all results, leave the selections blank, and click **OK**.

   a. Click **Choose Value**.
   b. In the **Choose Value** dialog, select the scenario to include in the report.
   c. Click **OK**.
3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view. (TFS 8063)(TFS 8860)
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Multi Scenario Review report

Use this report to multiple key statistics for up to five scenarios.

To run the Multi Scenario Review report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **Multi Scenario Review**.
2. In the **Refresh Variables** dialog, select one to five scenarios to include in the report by doing the following:

   NOTE: To return all results, leave the selections blank, and click **OK**.

   a. Click **Choose Value**.
   b. In the **Choose Value** dialog, select the scenario to include in the report.
   c. Click **OK**.
3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Scenario Review report

Use this report to compare three scenarios for a single year.

To run the Scenario Review report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **Scenario Review**.
2. In the **Refresh Variables** dialog, select the following, and click **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Rating Agency Median	Select the forecast year for the scenarios to compare.
Filter by select group of scenarios?	Do the following: • To display scenarios in the report filtered by their assigned group, select **Yes**. • To not display scenarios by assigned group, select **No**.
Select a SCENARIO	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the scenario to include in the report. c. Click **OK**.
No. of Projection Years	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the number of projection years to include in the report. c. Click **OK**.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Scenario Structure report

Use this report to show the contents and characteristics of a specified scenario.

To run the Scenario Structure report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **Scenario Structure**.
2. In the **Refresh Variables** dialog, click **Choose Value**.
3. In the **Choose Value** dialog, select the scenario to include in the report, and click **OK**.

   NOTE: To return all results, leave the selection blank, and click **OK**.

4. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.

5. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Scenario Variance Comparison report

Use this report to compare one scenario to another for multiple years.

To run the Scenario Variance Comparison report:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, click **Scenario Analysis**, and double-click **Scenario Variance Comparison**.
2. In the **Refresh Variables** dialog, select two scenarios to compare by doing the following, and clicking **OK**:

   NOTE: To return all results, leave the selections blank, and click **OK**.

Options	Description
Select Scenario #1 for Variance Comparison	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the first scenario to compare to the second scenario. c. Click **OK**.
Select Scenario #2 for Variance Comparison	a. Click **Choose Value**. b. In the **Choose Value** dialog, select the second scenario to compare to the first scenario. c. Click **OK**.

3. At the top of the report, in the **Financial Planning Year** cell, select the planning year data to view.
4. To save the report, in the **Main** ribbon tab, click **Save**.

Running the Scenario Sensitivity Analysis report

Axiom Financial Planning includes a specialized report that allows you to determine what changes to key drivers would be required to reach certain financial targets within a given scenario. You can also use this same report to gauge the impact of changes to key statistics on key metrics (For example, the sensitivity of a scenario to changes in key statistics).

The process of running the Scenario Sensitivity Analysis report begins by defining targets and ends with making adjustments to projections for key statistics. You can save one set of targets and adjustments per scenario. To maintain more than one set of sensitivity analysis settings, go to the Scenario Manager and duplicate the scenario.

To get the maximum benefit from scenario sensitivity analysis, you should think about your targets and your organization's overall situation before entering any adjustments on the report.

In what areas does your organization have the most flexibility to meet its target? Which factors are realistically under your control and which factors are not? What degree of impact on other metrics is acceptable in order to reach a particular target? How predictable are future trends for key statistics, and have you accounted for all the ways in which they might fluctuate over time? Are you in a position where an unexpected spike or drop in a certain key statistic might leave you vulnerable?

With these issues in mind, you can make your adjustments more deliberately, assess their impacts more objectively, and keep the larger context for the analysis in mind.

To run the Scenario Sensitivity Analysis report:

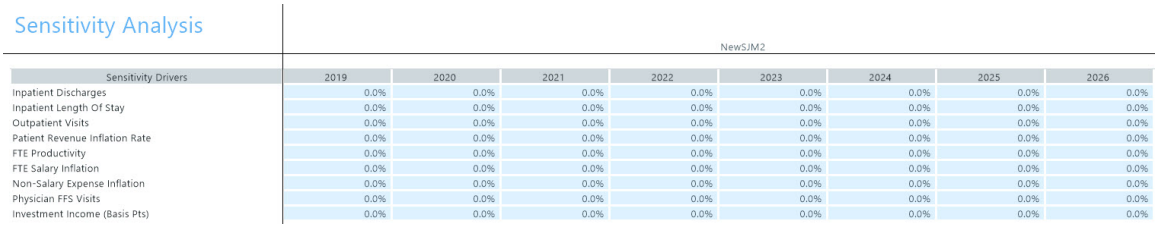
1. In the Fin Plan Admin or Fin Plan task pane, in the **Financial Planning Reports** section, click **Sensitivity Analysis**, and double-click **Scenario Sensitivity Analysis**.
2. In the **Select Refresh Variables** dialog, do the following, and click **OK**:

Options	Description
Select the Rating Agency	Select the Rating Agency to include in the report.
Select the # of Forecast Years for Analysis	Select the number of forecast years to include in the report.
Select a Scenario for Analysis	Select the scenario to include in the report.

3. Use this report to perform the following:

Impact Analysis

Before reviewing the primary use for this report (performing a goal seek to determine the adjustments needed to reach a defined target), it is best to begin by simply entering some adjustments into the yellow cells at the top of the report to see the impact of changes to key drivers on the target metrics.



Sensitivity Analysis

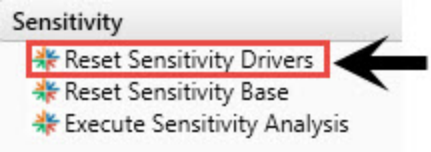
NewSJM2

Sensitivity Drivers	2019	2020	2021	2022	2023	2024	2025	2026
Inpatient Discharges	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Inpatient Length Of Stay	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Outpatient Visits	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Patient Revenue Inflation Rate	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FTE Productivity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FTE Salary Inflation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Non-Salary Expense Inflation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Physician FFS Visits	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Investment Income (Basis Pts)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

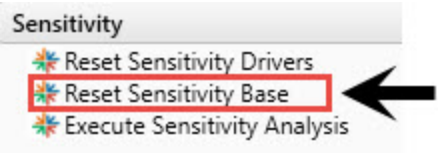
The resulting values display in the **Sensitivity Summary Statistics** section at the bottom of the worksheet.

Sensitivity Summary Statistics (After Worksheet)	2019	2020	2021	2022	2023	2024	2025	2026
Total Inpatient Discharges	37,623	37,226	36,860	36,499	36,144	0	0	0
Total Patient Days	233,191	230,759	228,513	226,299	224,119	0	0	0
Average Inpatient Length Of Stay	6.20	6.20	6.20	6.20	6.20	0.00	0.00	0.00
Total Outpatient Visits	575,534	583,818	591,622	599,530	607,545	0	0	0
Total Revenue	4,877,087	4,935,077	4,996,736	5,060,379	5,126,077	0	0	0
Total Salaries and Wages	578,811	577,503	576,327	575,177	574,054	0	0	0
Physician FFS Visits	0	0	0	0	0	0	0	0
Physician Salaries & Wages	0	0	0	0	0	0	0	0

To clear out the adjustments and revert the values to the base, in the Sensitivity task pane, in the **Sensitivity** section, click the **Reset Sensitivity Drivers**.



To update the report as if the current adjusted values were the base, in the Sensitivity task pane, in the **Sensitivity** section, click **Reset Sensitivity Base**. This allows you to gauge variances against the adjusted numbers as you tweak other drivers.



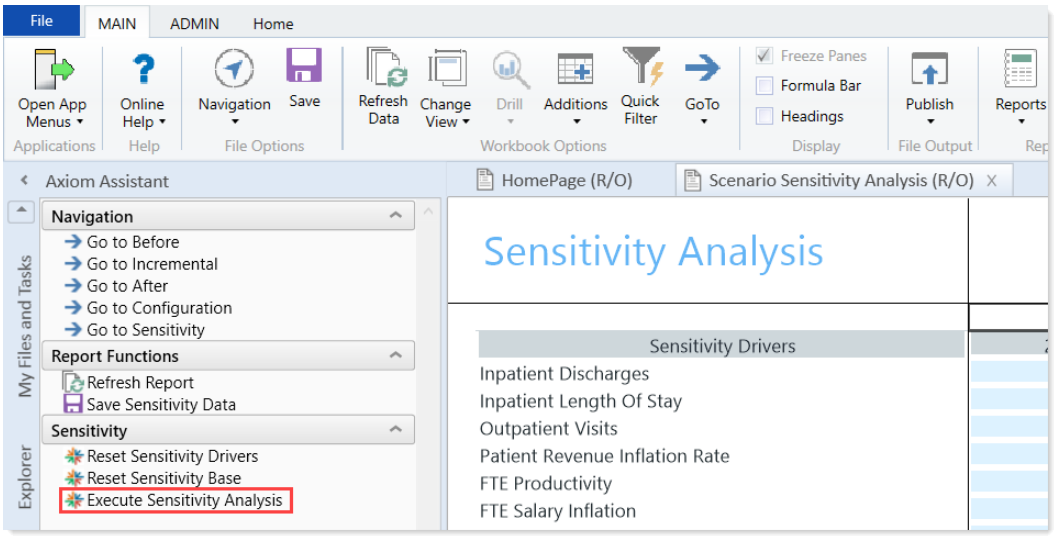
IMPORTANT: Performing this action always restores the original base values for the scenario.

Setting targets for goal seek

The real power of the Scenario Sensitivity Analysis report is not its ability to calculate impacts of adjustments to statistics, but rather its ability to begin with a pre-defined target and calculate the adjustments necessary to reach that goal.

To run the Execute Sensitivity Analysis process:

a. To set targets for analysis, in the Sensitivity task pane, in the **Sensitivity** section, double-click **Execute Sensitivity Analysis**.



b. In the **Generate Sensitivity Analysis** dialog, do the following, and click **Execute**.

Option	Description
Target	Select a metric for defining your target.
Financial Goal	Type your financial goal.
Start Year	Select the year during which you plan to begin working toward the goal
Target Year	Select the target year for achieving the goal.
Driver	Select the primary driver to adjust to reach the goal.

The report automatically applies the necessary adjustments to the key driver, evenly distributed over the selected time period, to reach the goal.

NOTE: It is rare that targets can be realistically met by adjusting one statistic in isolation. You most likely want to refine the proposed adjustments, and then click **Execute Sensitivity Analysis** again, but this time adjusting a different statistic to make up for any differences. To clear out the adjustments applied thus far, click **Reset Sensitivity Drivers** at any time.

4. To save the changes you have made in the report, in the **Sensitivity** task pane, in the **Report Functions** section, click **Save Sensitivity Data**.

Web reports

Axiom web reports provide a fully web-enabled reporting option for Axiom Financial Planning data. You can create, edit, and view web reports all within the Axiom Financial Planning Web Client.

About web reports

Axiom web reports provide a fully browser-based reporting option for Axiom Financial Planning. Reports can be created and viewed entirely in the Web Client, without requiring any spreadsheet design and without requiring the Desktop Client (Excel Client or Windows Client). This greatly expands the available environments for report creation, since the only requirement is a supported browser.

The Report Designer is the tool used to create and configure web reports. Web reports are saved to the Reports Library just like other reports. Web reports use the AWR file type, and are distinguished from spreadsheet reports and Axiom form reports using a special icon.

Comparison to other report types

Axiom Financial Planning supports two primary options for web-based reporting—*web reports* and *Axiom forms*. Web reports are similar to Axiom forms and use many of the same components as building blocks, but are created and managed differently.

-  Axiom forms are created in the Desktop Client, using a source spreadsheet file as the basis for querying data and designing the form web page. Once the form has been created, end users can access it using just a browser—the Desktop Client is no longer required. The settings in the spreadsheet are used to render the form web page. Forms are very flexible and can support a wide variety of needs, but the setup and design requires a high level of Axiom Financial Planning knowledge and can be complicated.
-  Web reports are created in the Web Client browser using the Report Designer, and have no spreadsheet dependencies. The report setup is saved as an XML file, which is then used to render the report web page. Web reports support fewer options than forms, but are easier to create (though a basic knowledge of the system's data structures is still required). Web reports are intended to streamline and simplify the report creation process, so that reports can be created more quickly and require less training and technical requirements.

Axiom Financial Planning also supports a business intelligence reporting option. Currently, Axiom Intelligence reporting is only available in certain licensed products.

Web report creation

The web report creation process is template-driven. The first step of the Report Designer is to select a template, which is then copied to create the new report. The selected template determines the layout of the report and the available components in the report, such as data grids and labels. You can then configure the report components to display the desired text and data.

Axiom Financial Planning provides a set of standard templates for web report creation. If you have one or more installed products, those products may provide additional templates.

Accessing web reports

End users can view web reports using the Web Client browser. In the Web Client, web reports can be accessed as follows:

- Using the Report Designer page
- Using the Navigation panel in the Web Client Task Bar
- Using links within a form home page (or within other forms and web reports)

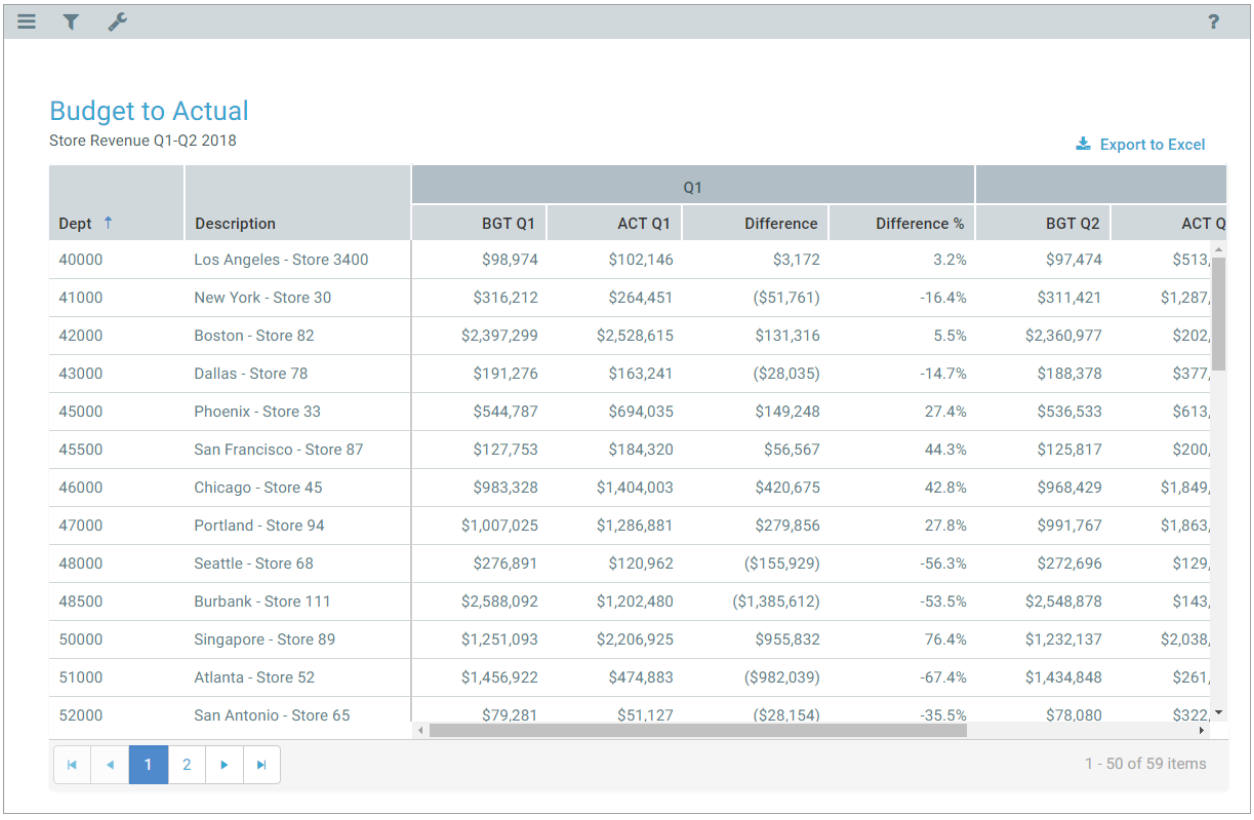
Web Reports are also visible in the Desktop Client in the Reports Library. When a web report is launched from that location, it opens in the Web Client browser.

Just like other report files, you can set security for web reports at a folder or file level within the Reports Library, so that users only see the reports they need to see. Any data queries in the web report are automatically limited by the user's table and table type security filters.

For more information, see Viewing web reports.

Web report contents

Web reports can contain title text, hyperlinks, data grids, and KPIs. Using the default templates, reports look similar to the following examples:



Budget to Actual

Store Revenue Q1-Q2 2018

Export to Excel

Dept	Description	Q1					
		BGT Q1	ACT Q1	Difference	Difference %	BGT Q2	ACT Q
40000	Los Angeles - Store 3400	$98,974	$102,146	$3,172	3.2%	$97,474	$513,
41000	New York - Store 30	$316,212	$264,451	($51,761)	-16.4%	$311,421	$1,287,
42000	Boston - Store 82	$2,397,299	$2,528,615	$131,316	5.5%	$2,360,977	$202,
43000	Dallas - Store 78	$191,276	$163,241	($28,035)	-14.7%	$188,378	$377,
45000	Phoenix - Store 33	$544,787	$694,035	$149,248	27.4%	$536,533	$613,
45500	San Francisco - Store 87	$127,753	$184,320	$56,567	44.3%	$125,817	$200,
46000	Chicago - Store 45	$983,328	$1,404,003	$420,675	42.8%	$968,429	$1,849,
47000	Portland - Store 94	$1,007,025	$1,286,881	$279,856	27.8%	$991,767	$1,863,
48000	Seattle - Store 68	$276,891	$120,962	($155,929)	-56.3%	$272,696	$129,
48500	Burbank - Store 111	$2,588,092	$1,202,480	($1,385,612)	-53.5%	$2,548,878	$143,
50000	Singapore - Store 89	$1,251,093	$2,206,925	$955,832	76.4%	$1,232,137	$2,038,
51000	Atlanta - Store 52	$1,456,922	$474,883	($982,039)	-67.4%	$1,434,848	$261,
52000	San Antonio - Store 65	$79,281	$51,127	($28,154)	-35.5%	$78,080	$322,

1 2

1 - 50 of 59 items

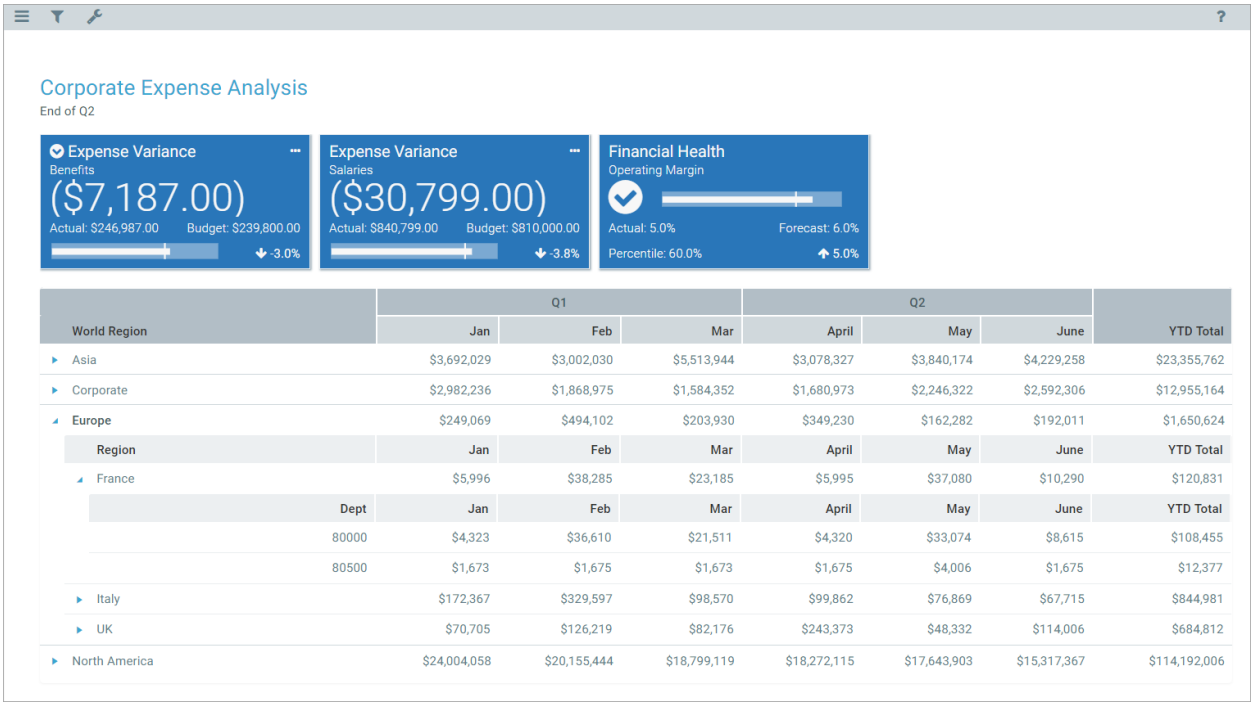
Example report with frozen columns and paged data (Standard Template)

Expenses Overview

End of Q2 2017

WorldRegion	Q1				Q2				YTD Total
	Jan	Feb	Mar	Q1 Total	Apr	May	June	Q2 Total	
Asia	$3,692,029	$3,002,030	$5,513,944	$12,208,003	$3,078,327	$3,840,174	$4,229,258	$11,147,760	$23,355,762
Corporate	$2,982,236	$1,868,975	$1,584,352	$6,435,563	$1,680,973	$2,246,322	$2,592,306	$6,519,601	$12,955,164
Europe	$249,069	$494,102	$203,930	$947,101	$349,230	$162,282	$192,011	$703,523	$1,650,624
Region	Jan	Feb	Mar	Q1 Total	Apr	May	June	Q2 Total	YTD Total
France	$5,996	$38,285	$23,185	$67,466	$5,995	$37,080	$10,290	$53,365	$120,831
Dept	Jan	Feb	Mar	Q1 Total	Apr	May	June	Q2 Total	YTD Total
80000	$4,323	$36,610	$21,511	$62,445	$4,320	$33,074	$8,615	$46,010	$108,455
80500	$1,673	$1,675	$1,673	$5,022	$1,675	$4,006	$1,675	$7,355	$12,377
Italy	$172,367	$329,597	$98,570	$600,535	$99,862	$76,869	$67,715	$244,446	$844,981
UK	$70,705	$126,219	$82,176	$279,100	$243,373	$48,332	$114,006	$405,712	$684,812
North America	$24,004,058	$20,155,444	$18,799,119	$62,958,621	$18,272,115	$17,643,903	$15,317,367	$51,233,384	$114,192,006

Example report with grouped data (Standard Template)



Corporate Expense Analysis

End of Q2

Expense Variance
Benefits
($7,187.00)
Actual: $246,987.00 Budget: $239,800.00
-3.0%

Expense Variance
Salaries
($30,799.00)
Actual: $840,799.00 Budget: $810,000.00
-3.8%

Financial Health
Operating Margin
Actual: 5.0% Forecast: 6.0%
Percentile: 60.0% 5.0%

World Region	Q1			Q2			YTD Total
	Jan	Feb	Mar	April	May	June	
Asia	$3,692,029	$3,002,030	$5,513,944	$3,078,327	$3,840,174	$4,229,258	$23,355,762
Corporate	$2,982,236	$1,868,975	$1,584,352	$1,680,973	$2,246,322	$2,592,306	$12,955,164
Europe	$249,069	$494,102	$203,930	$349,230	$162,282	$192,011	$1,650,624
Region	Jan	Feb	Mar	April	May	June	YTD Total
France	$5,996	$38,285	$23,185	$5,995	$37,080	$10,290	$120,831
Dept	Jan	Feb	Mar	April	May	June	YTD Total
80000	$4,323	$36,610	$21,511	$4,320	$33,074	$8,615	$108,455
80500	$1,673	$1,675	$1,673	$1,675	$4,006	$1,675	$12,377
Italy	$172,367	$329,597	$98,570	$99,862	$76,869	$67,715	$844,981
UK	$70,705	$126,219	$82,176	$243,373	$48,332	$114,006	$684,812
North America	$24,004,058	$20,155,444	$18,799,119	$18,272,115	$17,643,903	$15,317,367	$114,192,006

Example report with KPIs and data grid (KPI Template)

Web report users can review the data in the report and also do the following (depending on the report configuration):

- Use built-in data grid tools such as the ability to sort the grid by any column, move between pages of data, and filter the displayed data in the grid by any column where filtering has been enabled
- If the grid shows grouped data, expand and collapse sections of data in the grid

- Use special grid features such as the ability to drill down rows of data or export grid data to a spreadsheet
- Launch supporting information for a KPI by clicking the action button in the top right corner of a KPI box
- Filter the report data on demand, using predefined refresh variables in the Filters panel

Viewing web reports

Web reports are browser-based reports created using the Report Designer. You can browse all of the web reports that are available to you and open them to view the report data. In order to open a web report, you must have at least read-only access to the report, as defined in Axiom Financial Planning security. Web reports can be opened from either the Web Client or the Desktop Client.

This topic discusses the default way to access and view web reports. Your system may be designed so that you can open web reports in other ways, such as:

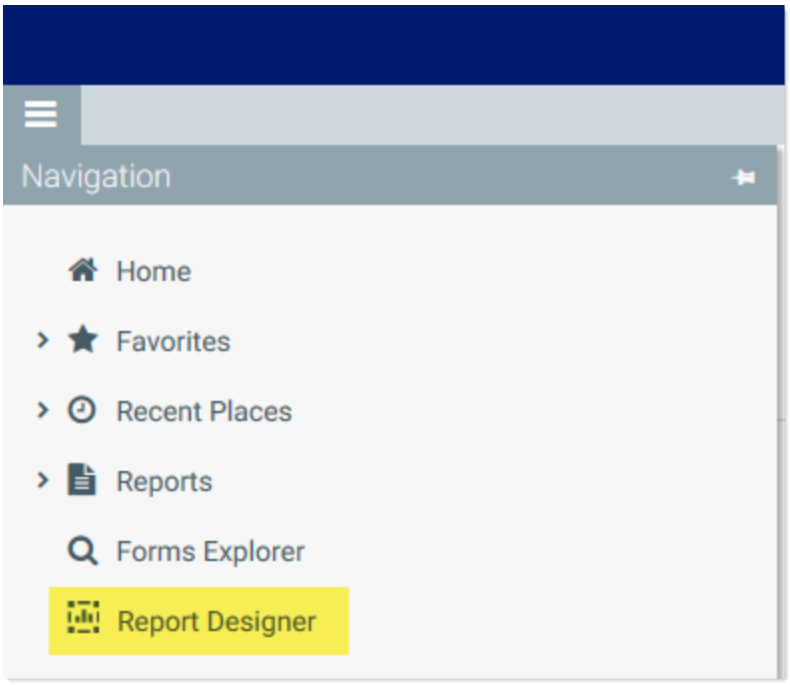
- Using the Navigation panel in the Web Client
- Using links within your home page or other files
- Using links within a task pane or ribbon tab in the Desktop Client

Opening a web report using the Web Client

You can open web reports using the Report Designer page in the Web Client.

To access the Report Designer page:

- Click the menu icon in the left side of the Task Bar to open the Navigation panel. Then, select **Report Designer**.

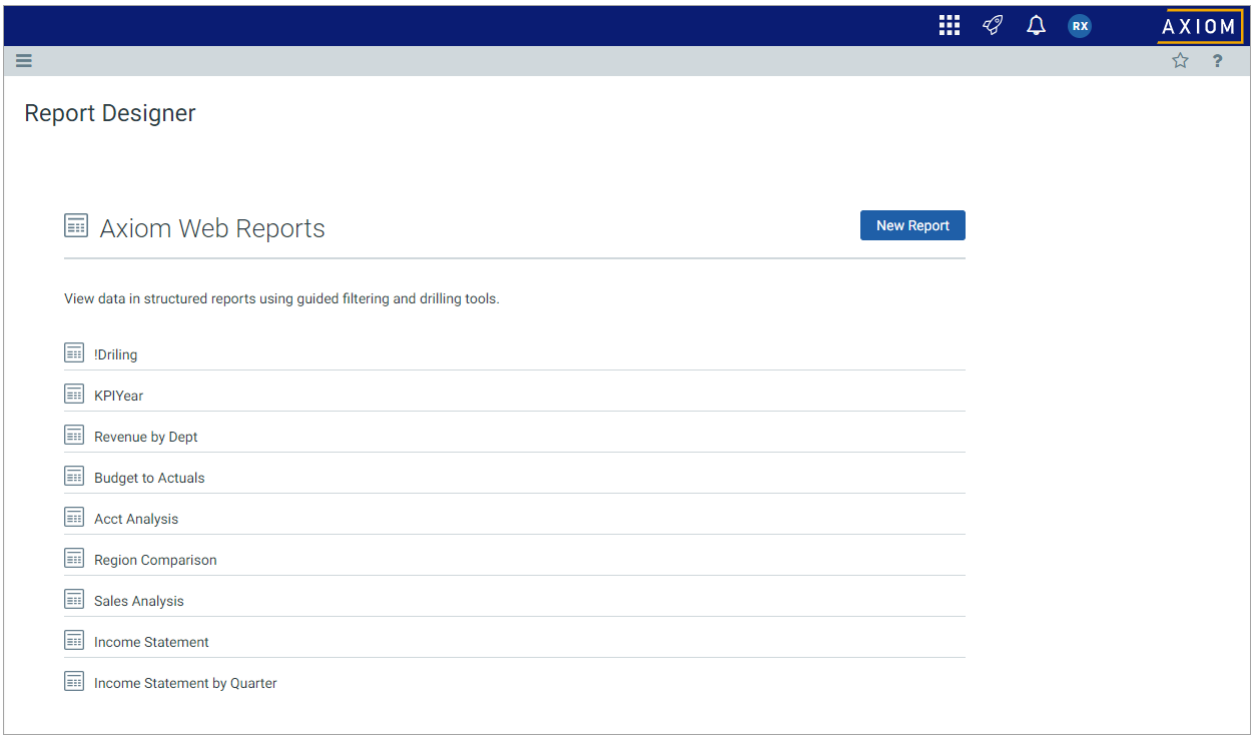


NOTE: If you do not see the Report Designer in the Navigation panel, this may mean that your organization's Navigation panel has not been updated (or that your organization has customized the panel to exclude it).

Alternatively, you can go to directly to the Report Designer page as follows:

Example On-Premise URL	`http://`*`ServerName`*`/Axiom/Reports` Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory.
Example Cloud System URL	`https://`*`ClientName`*`.axiom.cloud/Reports` Where *ClientName* is the name of your Axiom Cloud Service system.

All of the web reports that you have permission to access are listed underneath the **Axiom Web Reports** header. To open a report, click on it.



Example Report Designer page with web reports

Reports are displayed in last-modified order, with the most recently created or modified reports on top. You can hover your cursor over a report to see when the report was last modified and by whom.

Opening a web report using the Desktop Client

You can open a web report from the Reports Library in the Desktop Client (Excel Client or Windows Client). You can differentiate web reports from other types of Axiom Financial Planning reports using the following icons:

- Web report
- Axiom form
- Spreadsheet Axiom file

To open a web report:

1. On the **Axiom** tab, in the **Reports** group, click **Reports** to bring up the Reports menu.

   NOTE: In systems with installed products, this feature may be present on a different ribbon tab, such as the **Main** tab.

TIP: You can also open reports from the Explorer task pane or Axiom Explorer.

2. Use the Reports Library folders at the bottom of the menu to navigate to the specific web report that you want to open, and then click on it.

The web report opens in the Web Client using your default browser.

Viewing data in a web report

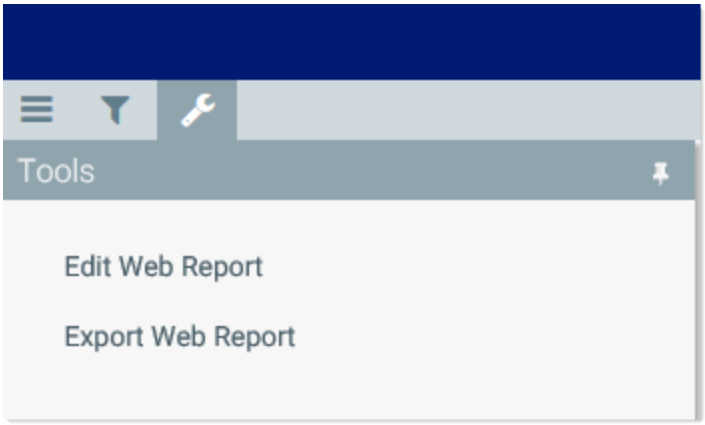
When you open a web report, it is automatically refreshed to show a predefined set of data. Depending on the report configuration, you may have the option to dynamically change the data shown in the report. If you have any questions about what you can do or see in a particular report, ask your system administrator or other local system contact.

Web reports may use the following features:

- **Data Grids**: Web reports may contain a data grid to display data. You can use the built-in data grid features to interact with the data, such as expanding / collapsing groups, filtering columns, sorting data, and more. For more information on what you can do in a data grid, see Using data grids in web reports.
- **KPIs**: Web reports may contain a series of boxes showing key performance indicators. If the box has an icon in the top right corner, you can click the icon to open a web page or an Axiom file relating to the KPI.
- **Filters**: Web reports may be designed so that you can filter the data in the report on demand, based on a predefined set of filter options. If the filter icon is present in the toolbar, you can use the **Filters** panel to change the data shown in the report. For more information on using the Filters panel, see Filtering data in web reports.

Advanced options

If you have read/write access to the web report, the following options are available from the **Tools** menu while you are in the report:

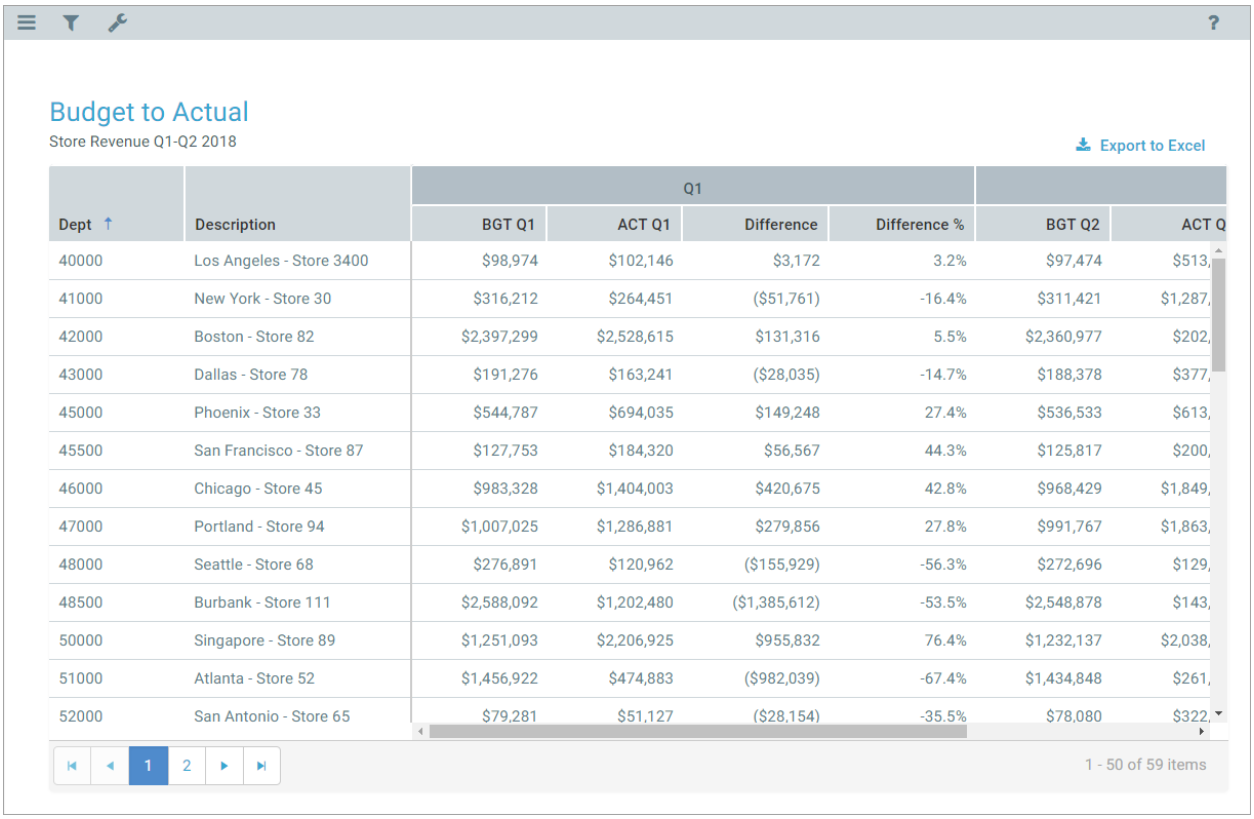


- **Edit Web Report**: Open the current report in the Report Designer for editing. For more information, see Using the Report Designer.
- **Export Web Report**: Download a copy of the AWR report file. Generally speaking, you would only use this to import the report into a different Axiom Financial Planning system, or for troubleshooting purposes when working with Axiom Support.

Using data grids in web reports

Web reports may contain one or more data grids to return data into the report. While viewing a data grid, you can make various adjustments to the display and also further explore the data.

This topic details the various features that you can use when viewing a data grid in a finished web report. For more information on creating a new web report and configuring a data grid, see Creating Web Reports and Data Grid component.



Budget to Actual

Store Revenue Q1-Q2 2018

Export to Excel

Dept	Description	Q1					
		BGT Q1	ACT Q1	Difference	Difference %	BGT Q2	ACT Q
40000	Los Angeles - Store 3400	$98,974	$102,146	$3,172	3.2%	$97,474	$513,
41000	New York - Store 30	$316,212	$264,451	($51,761)	-16.4%	$311,421	$1,287,
42000	Boston - Store 82	$2,397,299	$2,528,615	$131,316	5.5%	$2,360,977	$202,
43000	Dallas - Store 78	$191,276	$163,241	($28,035)	-14.7%	$188,378	$377,
45000	Phoenix - Store 33	$544,787	$694,035	$149,248	27.4%	$536,533	$613,
45500	San Francisco - Store 87	$127,753	$184,320	$56,567	44.3%	$125,817	$200,
46000	Chicago - Store 45	$983,328	$1,404,003	$420,675	42.8%	$968,429	$1,849,
47000	Portland - Store 94	$1,007,025	$1,286,881	$279,856	27.8%	$991,767	$1,863,
48000	Seattle - Store 68	$276,891	$120,962	($155,929)	-56.3%	$272,696	$129,
48500	Burbank - Store 111	$2,588,092	$1,202,480	($1,385,612)	-53.5%	$2,548,878	$143,
50000	Singapore - Store 89	$1,251,093	$2,206,925	$955,832	76.4%	$1,232,137	$2,038,
51000	Atlanta - Store 52	$1,456,922	$474,883	($982,039)	-67.4%	$1,434,848	$261,
52000	San Antonio - Store 65	$79,281	$51,127	($28,154)	-35.5%	$78,080	$322,

1 2

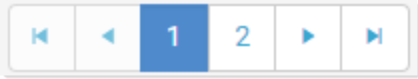
1 - 50 of 59 items

Example data grid

NOTE: If you refresh the data shown in the data grid—such as by using the Filters panel—then all user changes to the grid are reset along with the new data.

Grid basics

Data grids show a specified number of records per page. This page limit is configured per data grid, by the report creator. If the data in your grid exceeds the page limit, you can move between pages using the page controls at the bottom left of the grid.



Page controls for data grids

- Click a page number to move directly to that page.
- Click the single arrow buttons to move one page back or forward.
- Click the double arrow buttons to move to the first page or the last page.

You can make minor adjustments to the column display as follows:

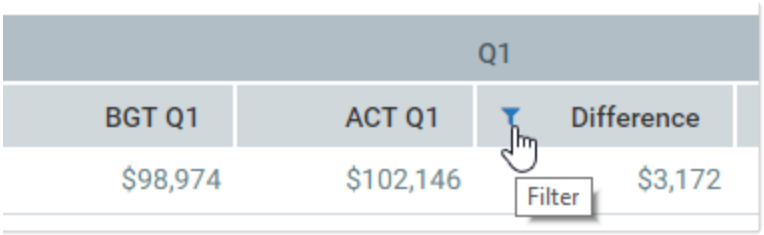
- To change the column width, hover your cursor along the right edge of the column header, then drag to make the column thinner or wider.
- To reorder columns, click on a column header and then drag it to a new location within the header. Note that columns cannot be moved in or out of a column group (meaning a set of columns grouped under header text). If a column belongs to a column group, you can change its order within the group but you cannot drag it out of the group.

Sorting and filtering data

To sort the grid by any column, click on the column header. Each click toggles between ascending sort, descending sort, and no sort. If the grid is currently sorted by a column, the sort direction is indicated by an arrow on the column header (up for ascending, down for descending).

Some columns may allow filtering the grid by the column data. For example, you might want to filter a data column to hide zero-value records, or to show all records above or below a certain value. You might want to filter a dimension column to hide or show certain dimensions (such as departments, accounts, and so on). The report creator determines whether a column is enabled for filtering.

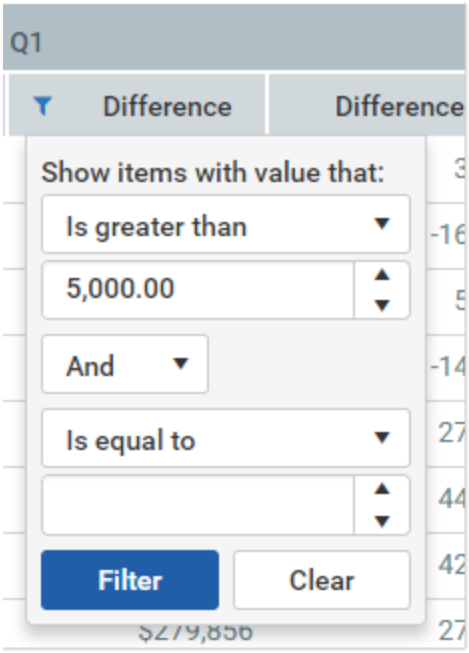
If a column allows filtering, the filter icon displays in the column header when you hover your cursor over the column header. The filter icon displays on the right side if the header text is left-aligned or center-aligned, and on the left side if the header text is right-aligned.



Filter icon for a column with filtering enabled

To filter the grid based on a column:

1. Click the filter icon in the column header to show the filter options.
2. Set the filter options as desired. You can set up to two filter options, combined with either AND or OR.



Example filtering options

3. Click **Apply**.

The grid updates to only show records that meet the filter. Additionally, the filter icon in the column header is now visible and blue to indicate that the grid is filtered by this column.

The filter is retained until you clear it, or until the data grid is refreshed with new data.

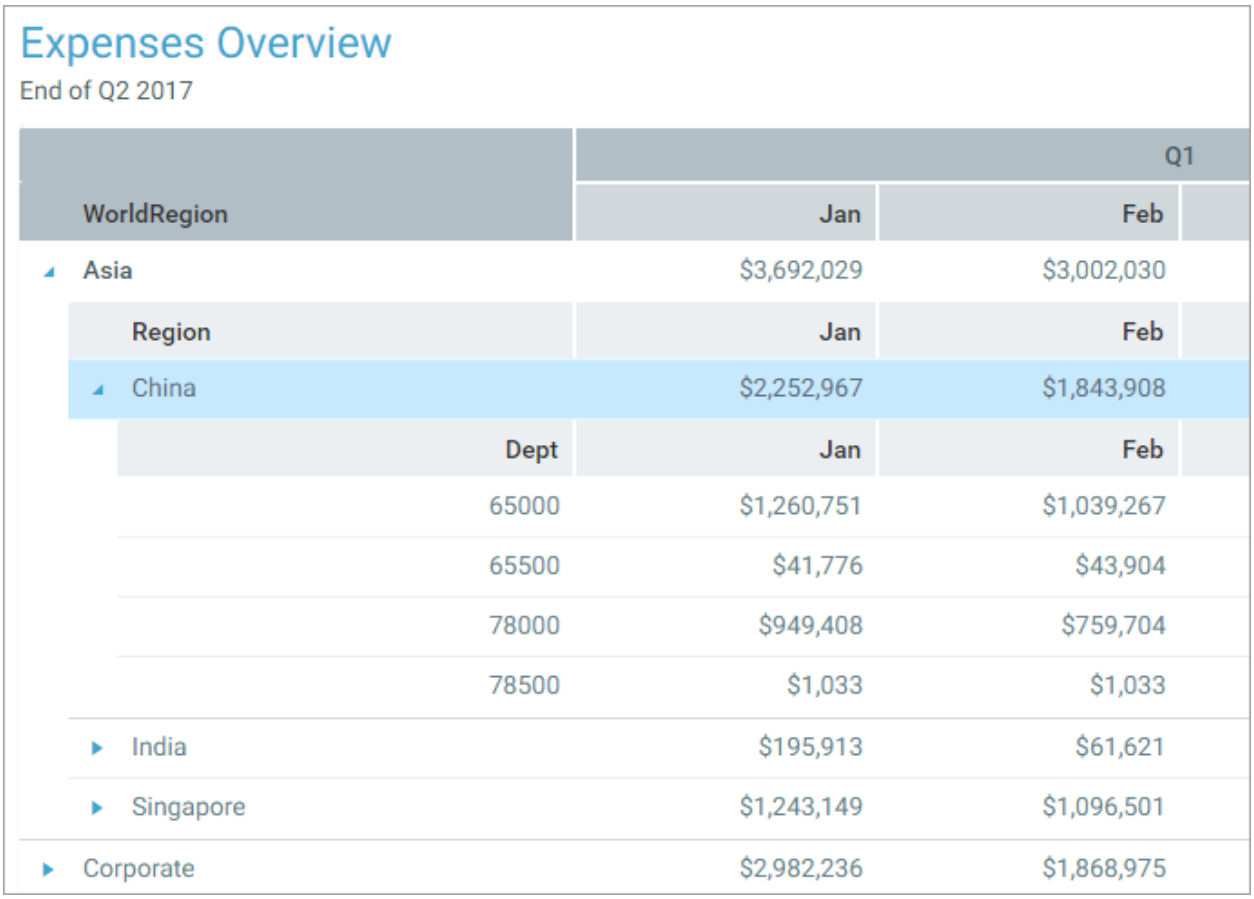
To clear a filter:

1. Click the filter icon in the column header to show the filter options.
2. Click **Clear**.

The grid updates to clear the filter. The filter icon is now only visible when hovering over the column header.

Viewing grouped data

Data grids may be configured to show data in hierarchical groups. For example, you may initially see the top level data by WorldRegion, then expand a world region to see the Region data within it, then expand a region to see the individual departments in that region. The report creator determines whether a grid is grouped or not, as well as the grouping levels.



Expenses Overview

End of Q2 2017

WorldRegion	Q1 Jan	Q1 Feb
Asia	$3,692,029	$3,002,030
Region	Jan	Feb
China	$2,252,967	$1,843,908
Dept	Jan	Feb
65000	$1,260,751	$1,039,267
65500	$41,776	$43,904
78000	$949,408	$759,704
78500	$1,033	$1,033
India	$195,913	$61,621
Singapore	$1,243,149	$1,096,501
Corporate	$2,982,236	$1,868,975

Example expanded groupings

If a grid is grouped, you can expand or collapse a grouping by clicking on the triangle icon in the left-hand side of the grid.

When viewing grouped data, the page controls apply to each grouping instead of to the overall grid. For example, if you expand a group and the next level of rows in that group exceed 50 rows (or whatever the configured row limit is), then the rows inside that group are paged.

Drilling data

If the data grid has been configured to enable drilling, you can drill any row in the grid as follows:

- Hover your cursor over the far left column in the grid so that a magnifying glass icon appears.
- Click the icon to drill the row.

DEPT.VP	GL2018.Q1
Bree Sigman	$6,781,793
Evan Simpson	$14,526,309
Frank Martinez	$529,937
Javier Guppy	$7,828,034

Hover and click to drill

You may be presented with a flat list of drilling levels, or you may be prompted to first select a drilling category and then choose a level within that category. The report creator determines whether a grid is enabled for drilling, and the drilling choices.

Once you select a drilling level, the drill results are displayed in a new tab. You can further drill the results if desired. If you drill the results, the new results are displayed in the same tab.

Export grid data to an Excel spreadsheet

If the data grid has been configured to allow exporting data, an **Export to Excel** button displays at the top right of the grid. You can click this button to export the grid data to a Microsoft Excel spreadsheet (XLSX file). The report creator determines whether exporting to spreadsheet is enabled.

Budget to Actuals

Store Revenue Q1-Q2 2018

Export to Excel

Dept	Description	Q1				
		BGT Q1	ACT Q1	Difference	Difference %	BGT Q2
40000	Los Angeles - Store 3400	$98,974	$102,146	$3,172	3.2%	$97,474
41000	New York - Store 30	$316,212	$264,451	($51,761)	-16.4%	$311,421
42000	Boston - Store 82	$2,397,299	$2,528,615	$131,316	5.5%	$2,360,977
43000	Dallas - Store 78	$191,276	$163,241	($28,035)	-14.7%	$188,378

Data grid configured to allow export to spreadsheet

When you export data, all of the data in the grid is copied into an XLSX file. This file is then handled by your browser to determine how you can open and/or save the file locally.

Any user formatting applied to the grid is not retained in the export file. This includes sorting, filtering, and moving columns. The grid data is exported in its original state. However, if you have used the Filters panel to filter the file, that filter is applied to the exported data.

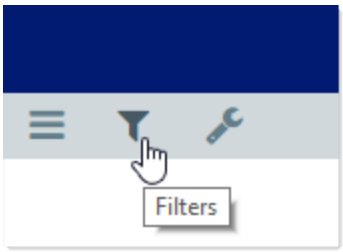
Filtering data in web reports

Web reports can be set up so that you can filter data based on selections made in the **Filters** panel. If filters are enabled for the report, you can apply and clear filtering options as desired to see the data that you want to see.

It is up to the web report creator to configure any desired filtering options using refresh variables in the Report Designer. If no refresh variables have been defined, the Filters panel is not available to the web report. For more information on creating web reports and configuring refresh variables, see Creating Web Reports and Configuring Refresh Variables.

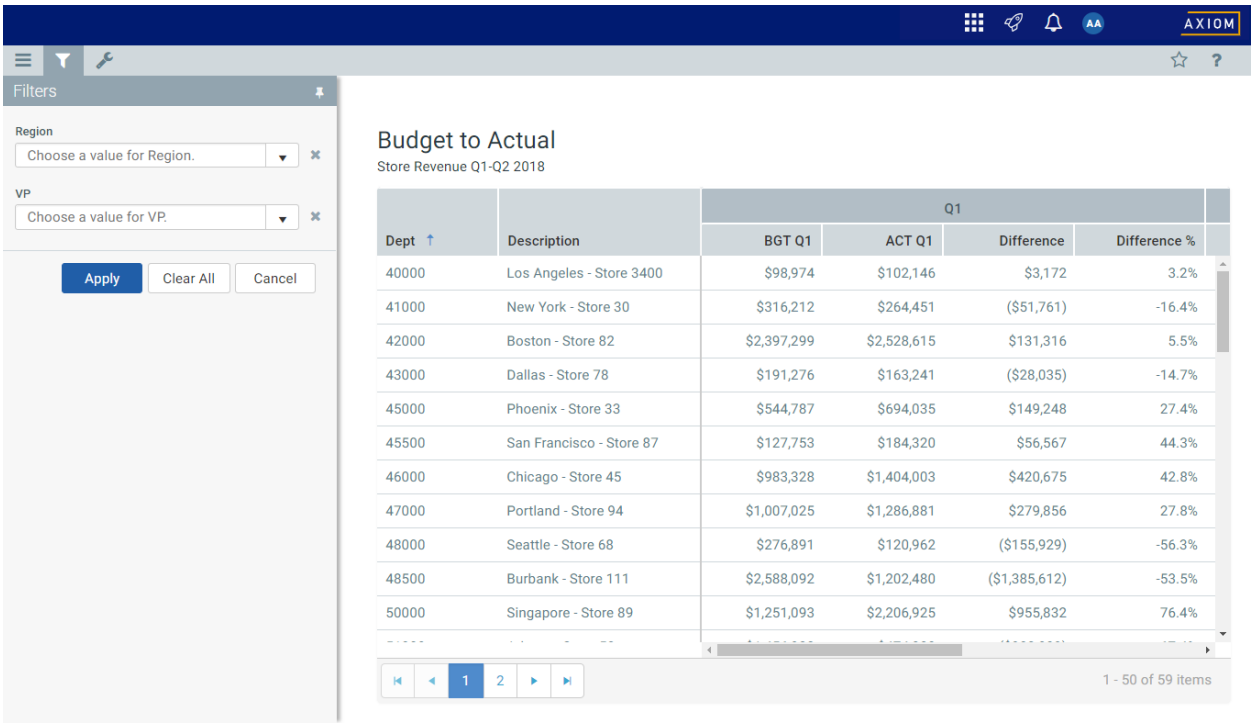
Using the Filters panel

Some reports may be configured so that the Filters panel automatically opens when the report is opened. If the Filters panel is not already open, click the **Filters** icon in the Web Client task bar to open it. If the Filters icon is not present, this means that the report does not have any filtering options.



Filters icon in the Web Client toolbar

The Filters panel displays the filtering options for the report. The following screenshot shows an example:



Example Filters panel for a web report

- To update the data in the report, make selections for each item as desired and then click **Apply**. The report is updated to show the latest data based on your selections.

  Filters can be required or optional. If the Apply button is inactive, this means that a selection has not yet been made for a required item. If an item is optional, then you can choose to leave it unselected.

- If the filters already have selected values, you can clear all existing values by clicking **Clear All**. You can then start over and select new values for each item. You can also clear any individual filter by clicking the **X** button to the right of the item.

- To close the Filters panel without changing the current report parameters, click **Cancel**. The form will not be updated, and any unapplied changes made to filter selections will be lost. (Note that if the panel is pinned open, clicking Cancel does not close it.)

The type and content of the filter options are up to the web report creator. Ideally, each filter should be named so that its meaning is obvious to you.

The visibility of the panel depends on whether it is opened as pinned or unpinned (as indicated by the pin icon in the top right corner of the panel).

- If pinned, the report contents are pushed to the side of the panel so that you can view the filter options and all of the report at the same time. The Filters panel remains open until you click the pin icon or the filter icon to close the panel.

- If unpinned, the panel overlays the report. When you click Apply or Cancel, the panel automatically closes so that you can view all of the report.

Creating Web Reports

You can create *web reports* to report on Axiom Financial Planning data using a lightweight, web-enabled reporting option.

In order to create a web report, you must have read/write access to at least one folder in the Reports Library, as defined in Axiom Financial Planning security. Also, if you have access to My Documents, you can create and save web reports there.

The basic web report creation process is as follows:

- You select a report template and define the name and folder location for the web report. The new web report is created using the selected template, and opens automatically in the Report Designer.
- You optionally specify an associated file group for the report. This filters the available tables and columns based on the file group, and leverages table variables in the report configuration.
- You define a data source for the report. All web reports have at least one data source that is used as the basis to query data for the report. The data source consists of a primary table and an optional filter.
- You configure the components in the report to show the desired data and other display details, like titles. The template determines the components in the report and their layout.

  The Data Grid component is the primary component used to display report data in web reports. To display data in the grid, you must add columns to the grid, set the sum by level for the grid, and configure other grid and column options.
- You optionally define refresh variables for the report and set up dependencies to the data source. End users can use refresh variables to change the data shown in the report on-the-fly.

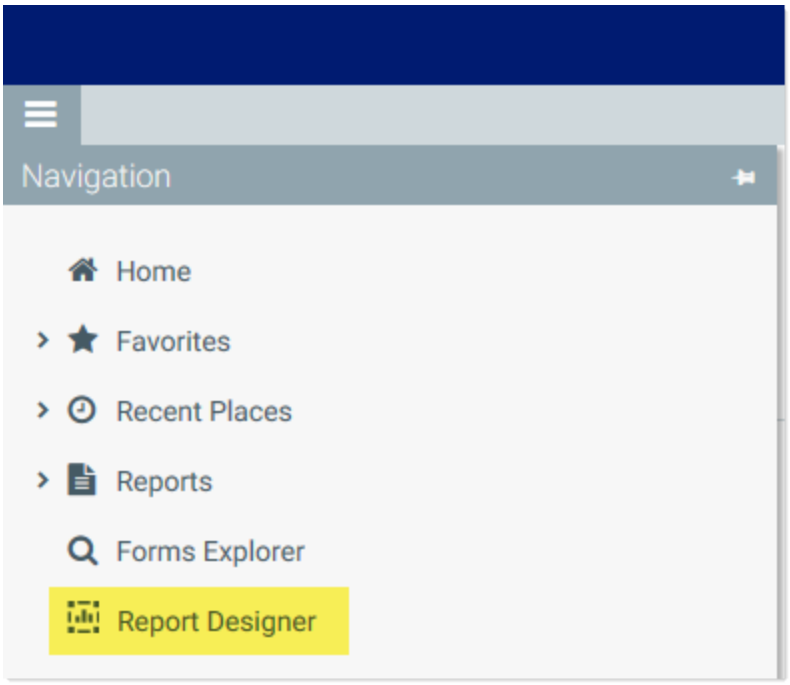
You can start the creation of a web report from either the Web Client or the Desktop Client. However, all web report creation and editing takes place in the Web Client. If you start the creation from the Desktop Client, you are automatically taken to the Web Client.

Creating a web report in the Web Client

In the Web Client, you can create new web reports using the Report Designer page.

To create a web report in the Web Client:

1. Click the menu icon in the left side of the Task Bar to open the Navigation panel. Then, select **Report Designer**.

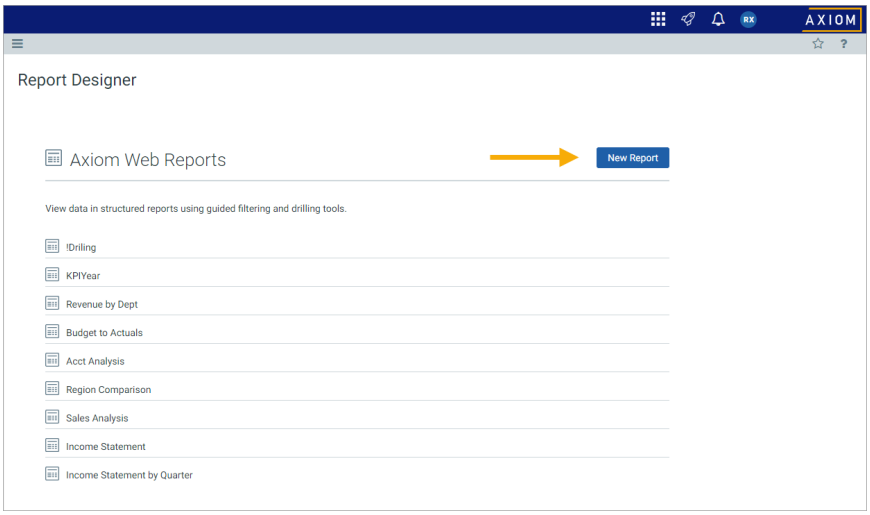


Alternatively, you can go to directly to the Report Designer page as follows:

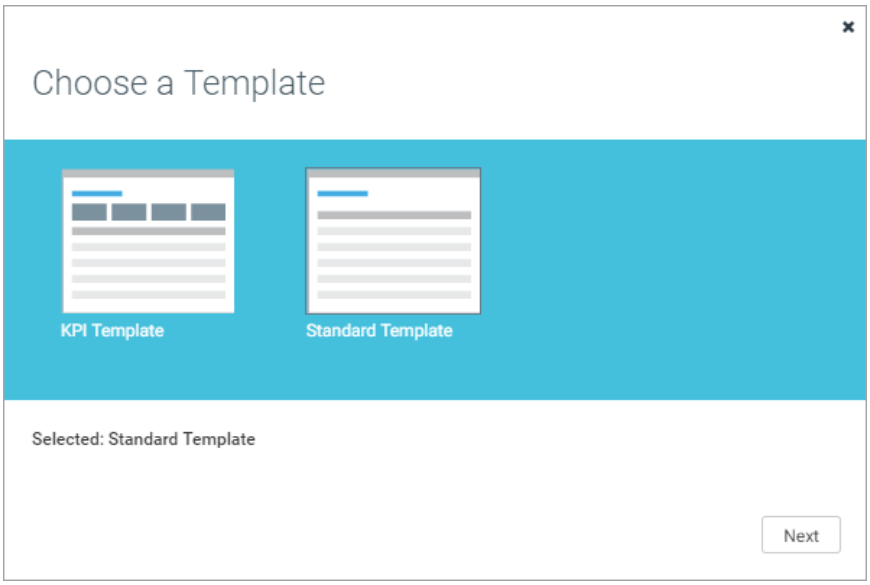
Example On-Premise URL	`http://ServerName/Axiom/Reports` Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory.
Example Cloud System URL	`https://ClientName.axiom.cloud/Reports` Where *ClientName* is the name of your Axiom Cloud Service system.

NOTE: If you do not see the Report Designer in the Navigation panel, this may mean that your organization's Navigation panel has not been updated (or that your organization has customized the panel to exclude it).

2. In the Report Designer page, click the **New Report** button to the right of the **Axiom Web Reports** header.



3. In the **Choose a Template** screen, select the template that you want to use, and then click **Next**.



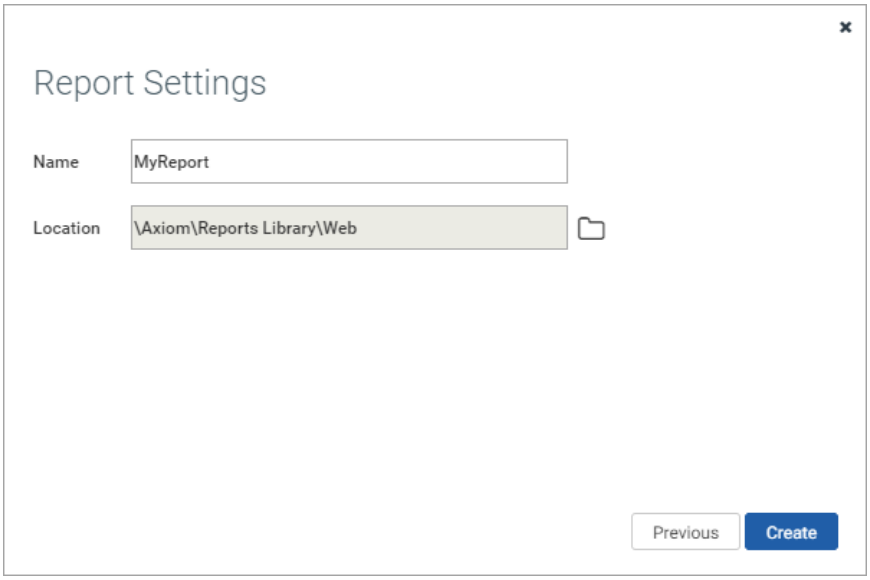
The template determines the report layout and the available components. Axiom Financial Planning provides two templates by default:

- **Standard Template**: Standard report configuration with a title and a subtitle, and a data grid to display data.
- **KPI Template**: A variation of the standard template that displays key performance indicators (KPIs) plus a data grid.

In systems with installed products, the products may provide additional templates.

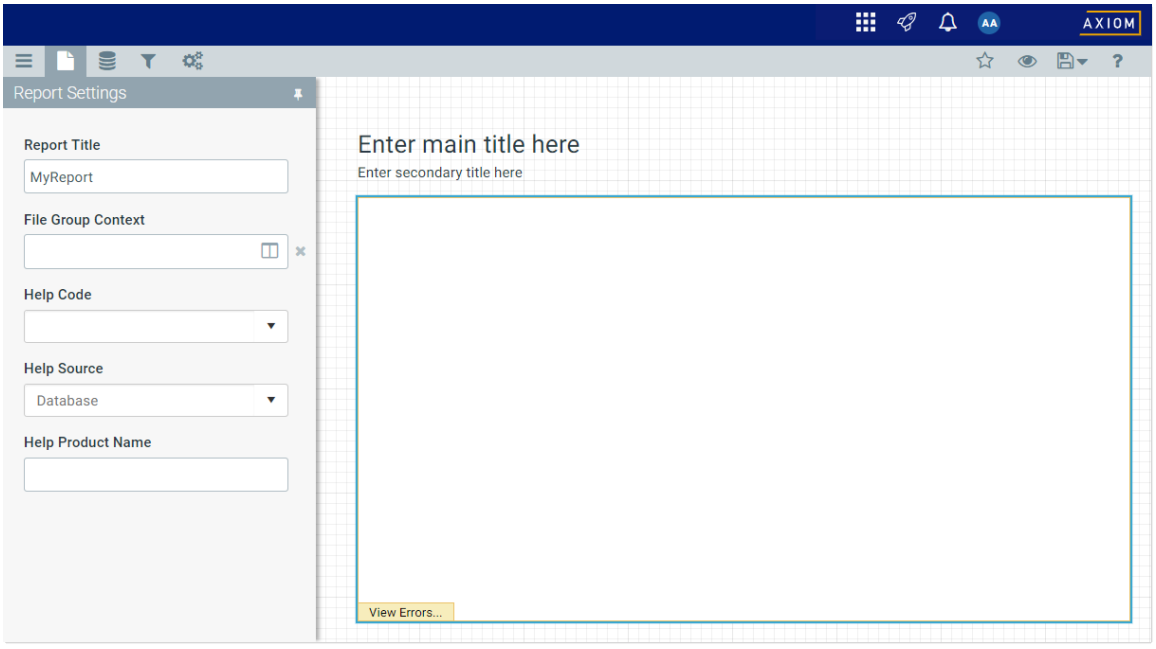
4. In the **Report Settings** screen, complete the following settings and then click **Create**:
   - **Name**: Type the name of the report.

- **Location**: Click the folder icon to the right of the box to select a folder location. In the **Select Folder** dialog, you can select any folder in the Reports Library where you have read/write access . If you have access to the My Documents folder, you can also save the report there.



Example Report Settings screen

When you click Create, the new report is created by copying the selected template. The new report is then automatically opened in the Report Designer, with the **Report Settings** panel active.



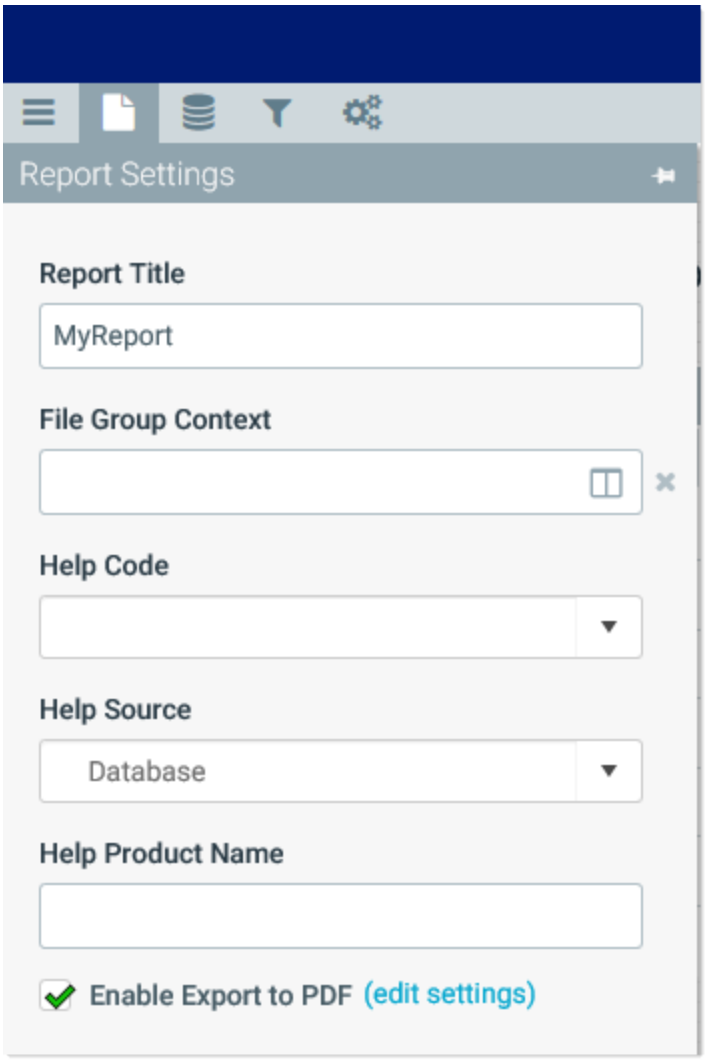
New report in the Report Designer using the Standard Template

The Report Designer is where you configure the report, including specifying a data source and configuring the components used in the report. For detailed information, see Using the Report Designer.

5. On the **Report Settings** panel of the Report Designer, complete the following optional settings as needed:
    - **Report Title**: Define a title for the report, to be displayed in the browser tab. By default, the file name is used as the report title if no alternate title is defined.
    - **File Group Context**: Select a file group if you want to associate this report with the file group. If a file group context is specified, the table variables in the file group are leveraged to streamline lists of available tables and to enable dynamic table and column references. For more information, see Associating a web report with a file group.

      NOTE: If you plan to use a file group context, this selection should be made first, before configuring other areas of the report.

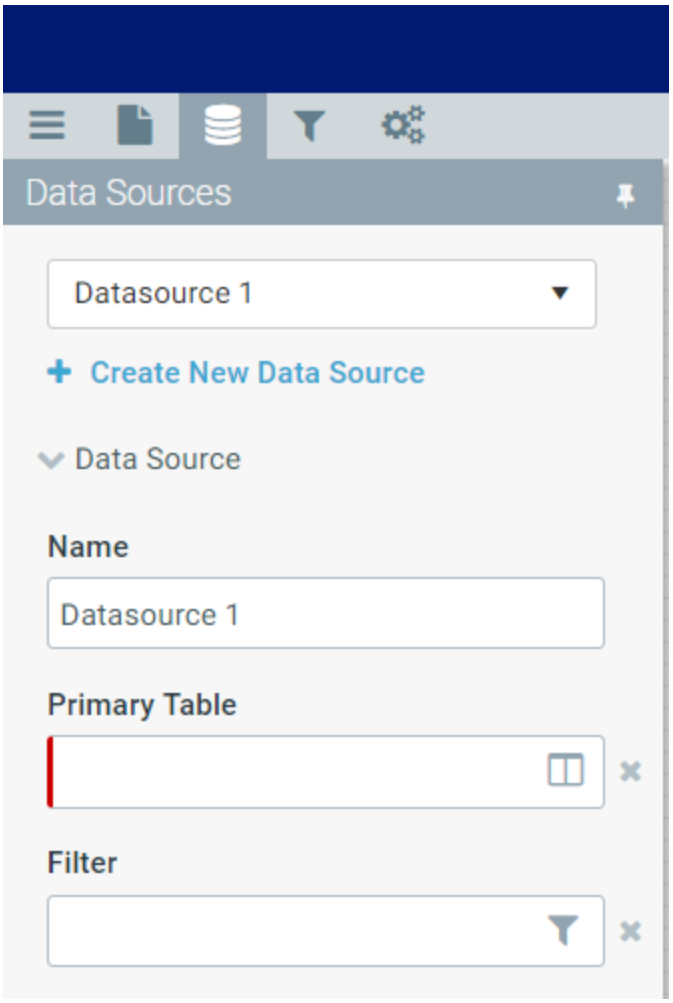
    For more information on other report settings, see Each web report has a set of general report properties to define the following:.



Example Report Settings tab of the Report Designer

6. On the **Data Sources** panel of the Report Designer, define a data source for the report. The data source is used by Data Grid components to determine the data that can be displayed in grids. Each web report must have at least one defined data source in order to display data in data grids.

   By default, all web reports start with an initial data source, **Datasource 1**. You can edit this data source to specify a primary table and an optional filter, and you can change the name of the data source. You can also create additional data sources as needed. For more information, see Defining data sources for Data Grid components.

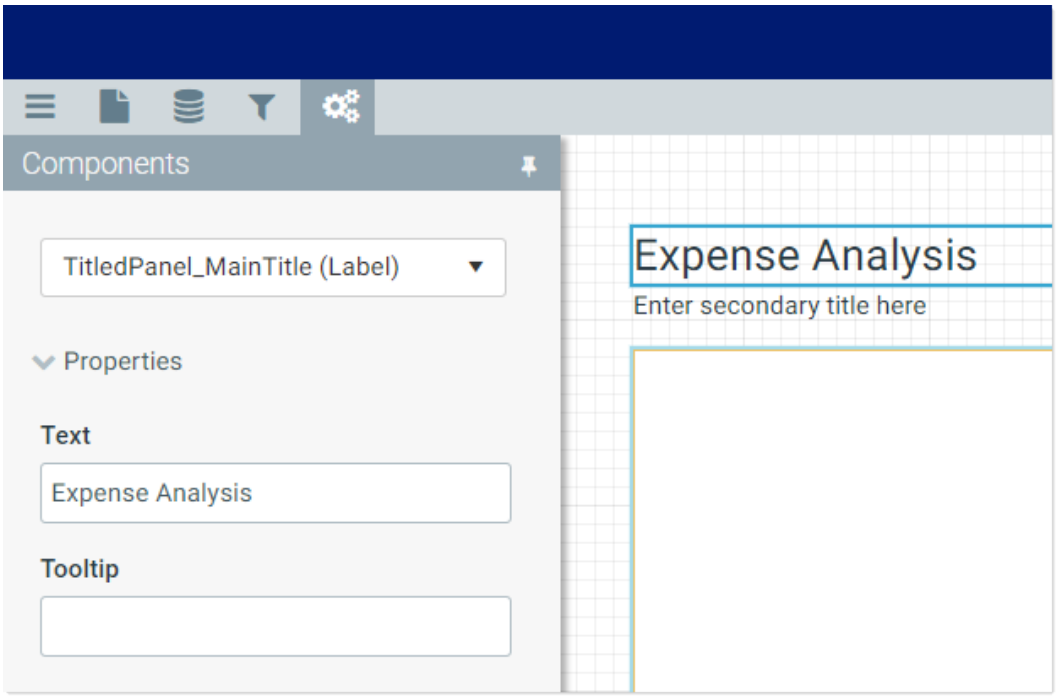


Example Data Source tab of the Report Designer

7. On the **Components** panel of the Report Designer, configure the report components as desired. To configure a component, select the component in the report canvas, or use the drop-down list at the top of the tab. Once you select a component, the properties for that component display in the tab. For more information, see Web Report Components.

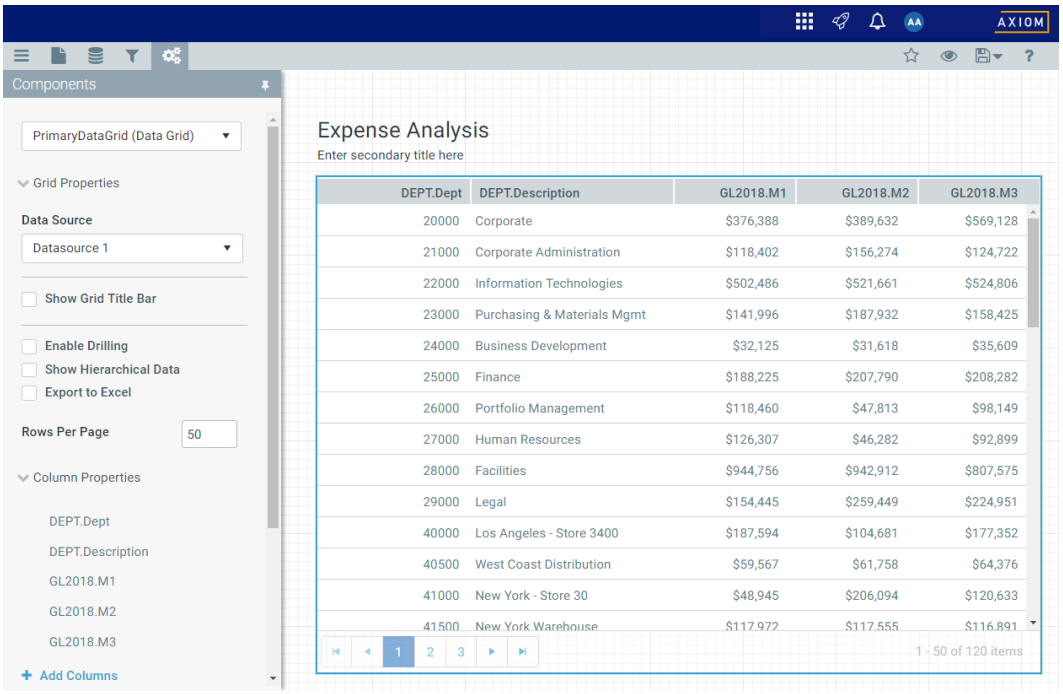
   For example, in the Standard Template provided by Axiom Financial Planning, you should configure the following components:

   - **TitledPanel_MainTitle** and **TitledPanel_SubTitle**: These Label components define the main title text and the subtitle text for the report. Select each component and type the desired title text into the **Text** field.



Example configured title text

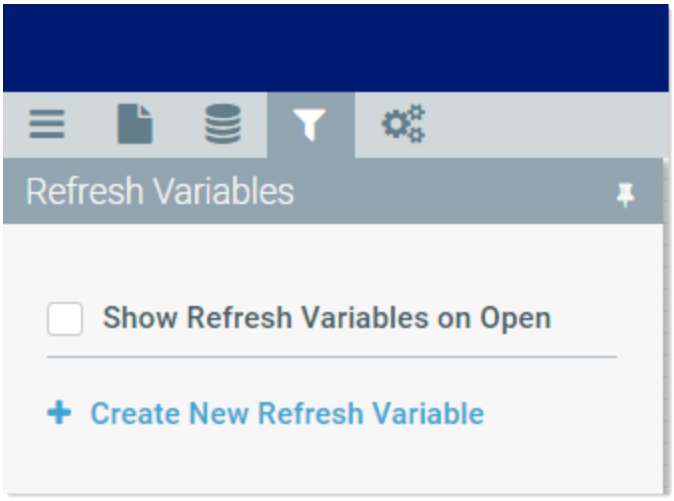
- **PrimaryDataGrid**: This Data Grid component should be configured to show the desired data. Select the component and then start adding table columns and calculations, set the sum by columns, and configure other grid and column properties.



Example configured grid after adding columns and setting the sum level

NOTE: You must have completed the configuration of at least one data source before you can configure components that reference table data, such as the Data Grid component.

8. Optional. On the **Refresh Variables** panel of the Report Designer, define refresh variables to allow users to change the data in the report based on selected values. For more information, see Configuring Refresh Variables.



Example Refresh Variables tab of the Report Designer

For example, you could set up a refresh variable for Entity, so that the data grid would be filtered to only show data for the selected entity. To do this you would first create the variable, then set up a dependency between that variable and the data source used by the grid.

9. After making configuration changes, click the **Save** button in the top right corner to save the report.

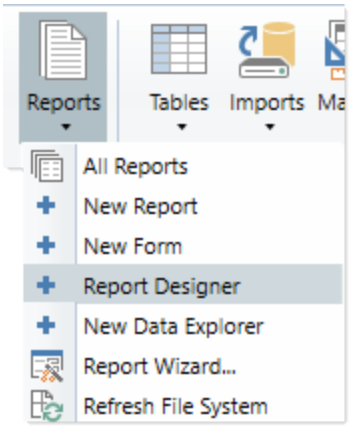
   You can also click the **Preview** button at any time to view and interact with the report as end users will see it. When you click **Preview**, the report is automatically saved. To return to the Report Designer from the preview, click **Leave Preview**.

Creating a web report in the Desktop Client

In the Desktop Client (Excel Client or Windows Client), you can create new web reports from the Reports menu.

To create a web report in the Desktop Client:

- On the **Axiom** tab, in the **Reports** group, select **Reports > Report Designer**.



NOTE: In systems with installed products, this feature may be present on a different ribbon tab, such as the **Main** tab.

The Web Client opens to the Report Designer page. From this point, all creation activities take place in the Web Client, and the steps are the same as described in the previous section.

Editing a web report

You can edit existing web reports as needed, as long as the report was not installed by a product package. You must have read/write access to the report file in order to edit it, as defined in Axiom Financial Planning security.

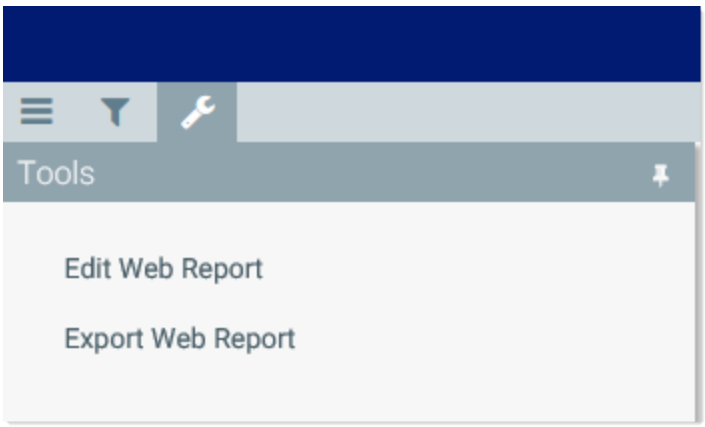
Web reports can only be edited in the Web Client Report Builder. Although you can open existing web reports from within the Desktop Client, you cannot edit them in that client. Once the report is open, all editing activities take place in the Web Client.

Only one user at a time can open a web report for editing in the Report Designer. If another user attempts to edit a web report while it is locked to another user, then it can only be opened as read-only. When a report is opened as read-only in the Report Designer, no changes can be saved, but Save As can be used to save a copy of the file. Although the report is locked for editing, other users can continue to view the report outside of the Report Designer as normal.

Product-controlled web reports are locked and cannot be edited. However, if you have read/write access to the locked report, then you can open the report as read-only in the Report Builder for purposes of saving a copy of it with a new name.

To edit a web report:

1. Open the report that you want to edit.
2. In the gray task bar, click the wrench icon to open the **Tools** menu, then select **Edit Web Report**.



   The web report opens in the **Report Designer**.
3. Using the Report Designer panels, edit the web report as needed. For more information, see Using the Report Designer.
4. After making configuration changes, click the **Save** button in the right-hand side of the task bar to save the report. If you want to save a copy of the report, click the arrow next to the save button and then select **Save As**.

   NOTE: If you have opened the report in the editor as read-only, then clicking the save button automatically uses Save As.

   You can also click the **Preview** button at any time to view and interact with the report as end users will see it. When you click **Preview**, the report is automatically saved. To return to the Report Designer from the preview, click **Leave Preview**.

Deleting a web report

Web reports cannot be deleted in the Web Client; they must be deleted in the Desktop Client.

You can delete a web report if you have read/write permission to the parent folder, and if the report was not installed by a product package. Product-controlled web reports are locked and cannot be deleted.

To delete a web report:

1. On the **Axiom** tab, in the **Administration** group, click **Manage > Axiom Explorer**.

   TIP: You can also use the Explorer task pane to delete a web report.

   NOTE: If you are using an Axiom packaged product, you can access this feature from the **Admin** tab. Click **System Browser** to open Axiom Explorer.

2. Navigate to the **Reports Library**, and then locate the web report that you want to delete.
3. Right-click the report and then select **Delete**.

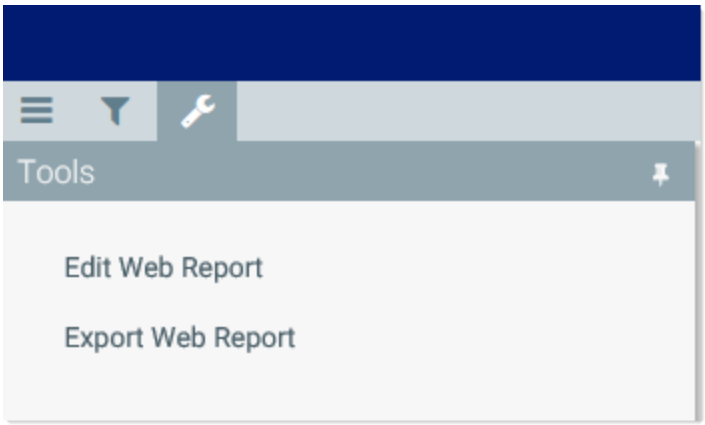
Using the Report Designer

Using the Report Designer, you can configure all aspects of a web report, including:

- Defining general report settings like the display title, PDF settings, and optional associated file group
- Defining one or more data sources to determine the data available to the report
- Configuring component properties to determine the data and/or text shown in each component, and other display properties
- Defining refresh variables to allow users to change the data in the report based on their selected values

The Report Designer is available as follows:

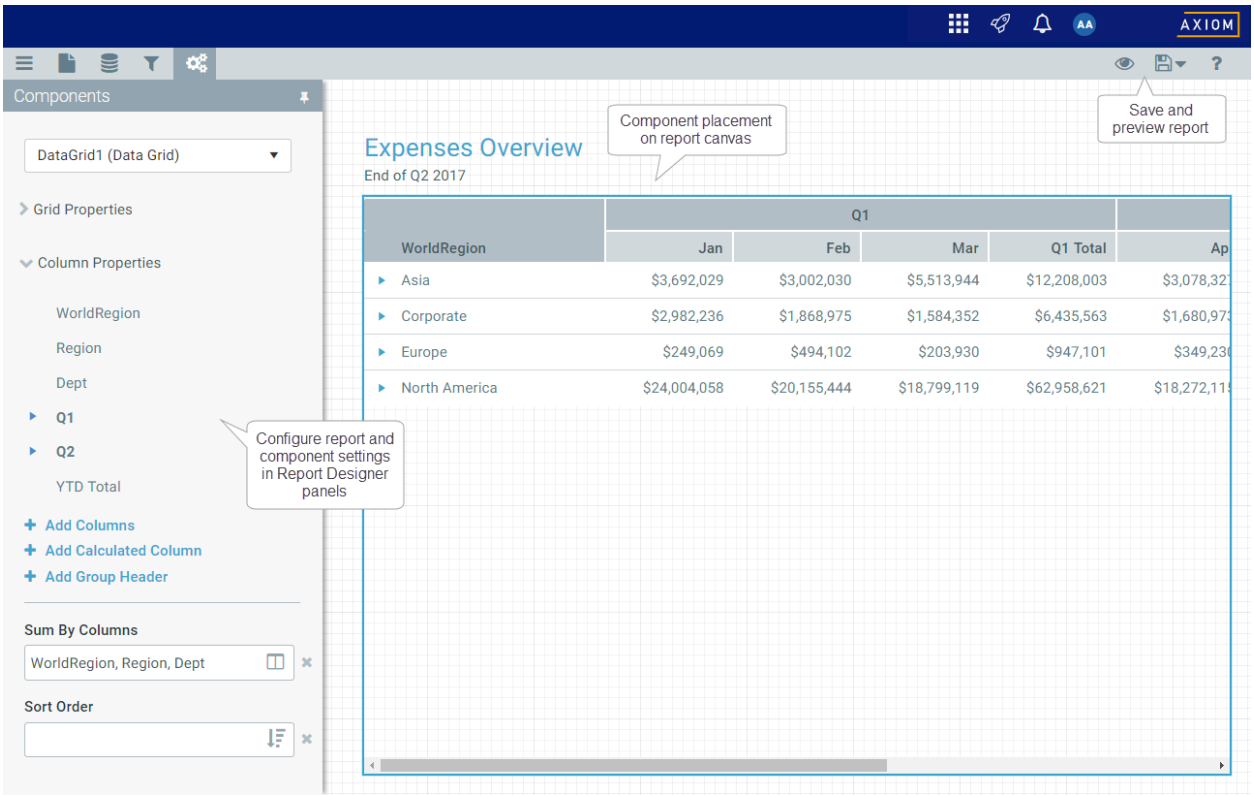
- When you create a new web report, the new report is automatically opened in the Report Designer.
- You can edit existing reports in the Report Designer. Open the web report that you want to edit, then select **Tools > Edit Web Report** to open the report in the Report Designer.



Report Designer overview

The Report Designer consists of the following:

- Configuration panels docked along the left-hand side of the screen, to configure various aspects of the report.
- A report canvas area showing the placement of the components in the report.
- A secondary toolbar in the right-hand side of the task bar to save and preview the report.



Example Report Designer

The Report Designer configuration is organized into the following panels. Select the icons in the left-hand side of the task bar to switch between different panels.

Report Designer Panels	Icon	Description
Report Settings		Optional. Define general settings for the report, such as a title and an associated file group.
Data Source		Define one or more data sources for the report. Data sources determine the data available to Data Grid components.
Refresh Variables		Optional. Define one or more refresh variables for the web report, to allow users to filter the report data on demand.

Report Designer Panels	Icon	Description
Components		Configure the components in the report, such as a Label component for the report title, and a Data Grid component to display data. Component properties determine the display and content of each component.

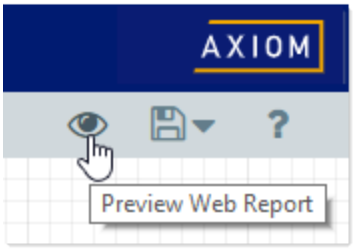
Previewing and saving the web report

At any time, you can save the current web report configuration by clicking the Save icon in the right-hand side of the task bar.

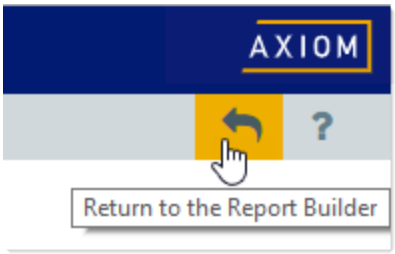
If you want to save a copy of the web report, click the down arrow next to the Save icon to open the Save menu, then click **Save As**.

Although the display of the web report in the Report Designer is close to the actual display, components are not fully interactive within the editor. If you want to see how end users can interact with the web report, you can use the preview feature.

- To preview the web report, click Preview (the eye icon) in the right-hand side of the task bar. This automatically saves the report and opens it in the normal web report view. You can then test interactivity as needed.



- To return to the Report Designer and make further changes, click Return (the back arrow icon) in the right-hand side of the task bar.

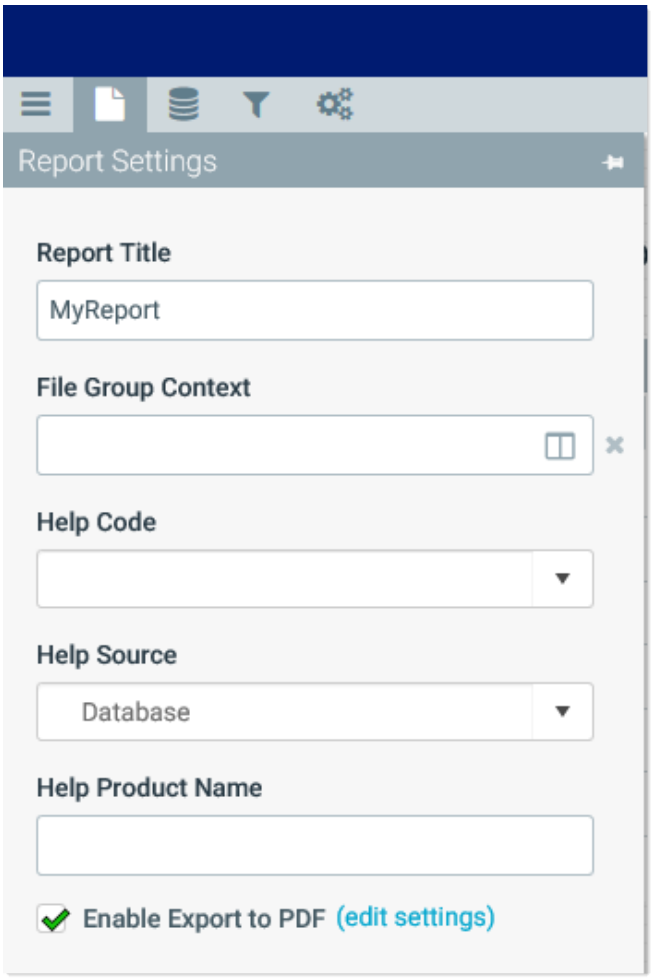


Report Settings

Each web report has a set of general report properties to define the following:

- Display title for the report browser tab
- Associated file group for the report
- Associated help code for the report
- PDF settings to enable and control PDF generation

The general report properties are defined on the **Report Settings** panel of the Report Designer. All of these settings are optional.



Example Report Settings panel

The following settings are available:

Item	Description
Report Title	Optional. Defines alternate title text to display in the browser tab instead of the full file name. By default, the file name is set as the report title.
File Group Context	Optional. Associates the web report with a file group. You can do this if you want to limit the available tables in the report to tables used by the file group, and you want the report to be dynamic based on file group table variables. For more information, see Associating a web report with a file group.
Help Code Help Source Product Name	Optional. Associates the web report with a custom help code, to provide report-specific help. This feature is only for use by product developers or system administrators.

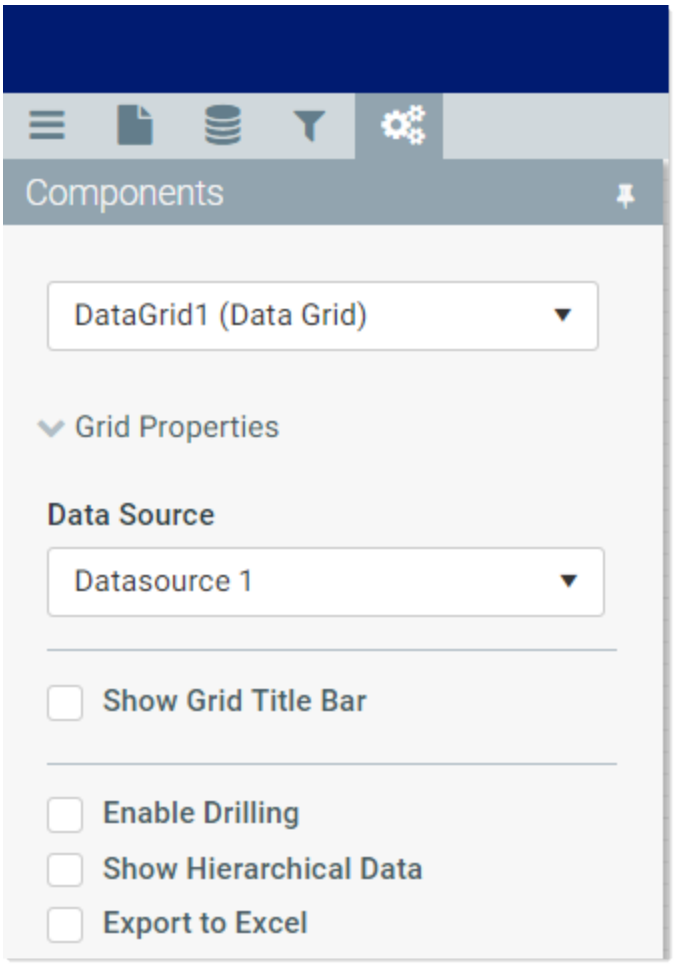
Item	Description
Product Area	Optional. The product area that the file belongs to, for display purposes in the Web Client. This option is only present in systems with installed products.
Enable Export to PDF	Specifies whether users can generate a PDF of the web report, for printing purposes. By default, this is disabled, which means that the PDF icon is not available in the Task Bar for the report. For more information, see Configuring a web report for printing to PDF.

Web Report Components

When you create a new web report in the Report Designer, the report has one or more *components* as determined by the template used to create the report. The report components define the content of the report. Currently, it is not possible to add or remove components, or to move or resize components. However, you can configure the component properties.

Each component has properties that determine the display and content of that component. For each component in the report, you must review these properties and configure them as needed. For example, Label components have display text, and Data Grid components have selected columns to display in the grid.

Components are configured on the **Components** panel  of the Report Designer.



Example Components panel

To configure a component in a web report:

1. Select the component that you want to configure. You can do either of the following to select the component:
   - Click on a component in the web report canvas to select it.

     OR

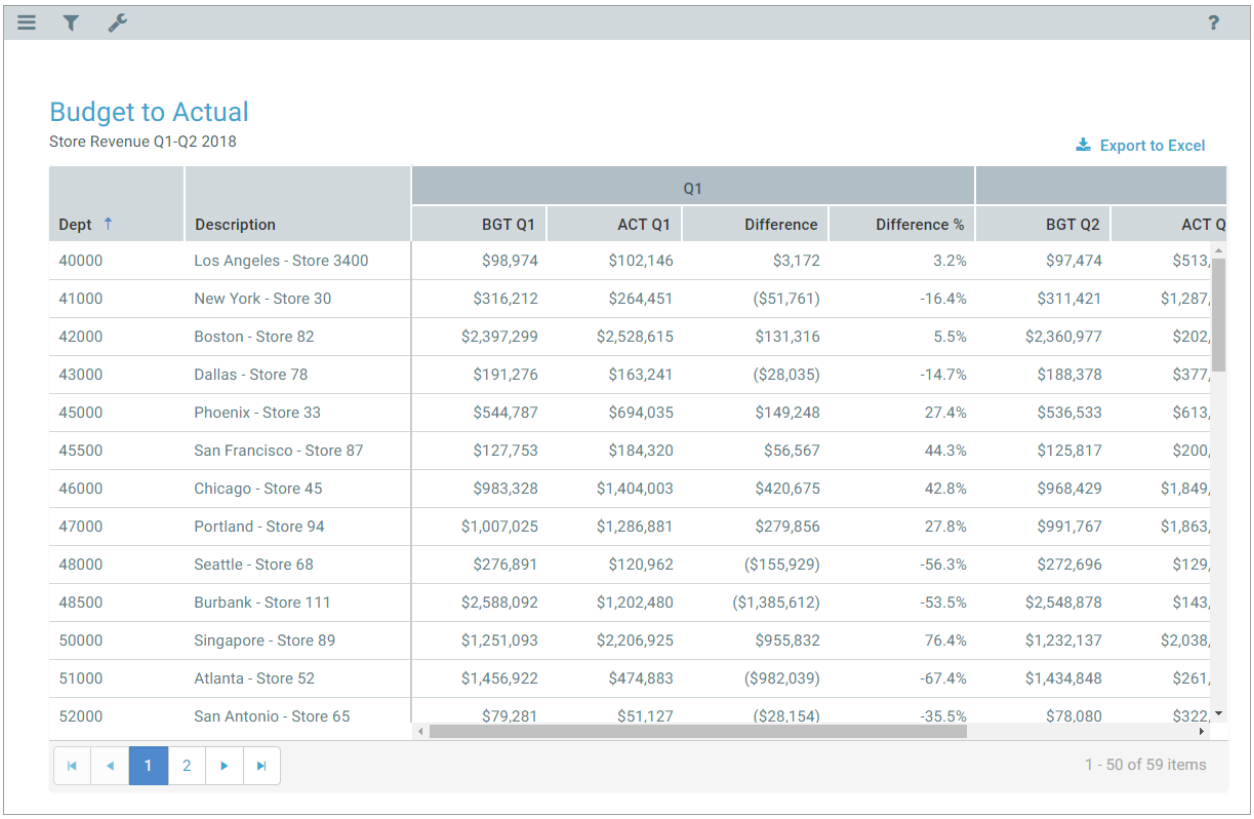
   - Use the drop-down list at the top of the **Components** tab to select a component. Components are listed by component name and type.

   The properties for the selected component display in the panel.
2. Edit the component properties as needed. The specific properties depend on the component type. For more information, see the topic for the appropriate component:
   - Data Grid: Query data from the Axiom Software database and display it in a grid.
   - Hyperlink: Users can click the hyperlink text to open a web page or a document.

- KPI Panel: Display key performance indicators (KPIs) in a series of automatically-formatted boxes.
- Label: Display small amounts of user-defined text, such as for titles, descriptions, or contact information.

Data Grid component

The Data Grid component queries data from the Axiom Financial Planning database and displays that data in a grid within the web report. This component is the primary means of returning data into a web report.



Budget to Actual

Store Revenue Q1-Q2 2018

Export to Excel

		Q1					
Dept	Description	BGT Q1	ACT Q1	Difference	Difference %	BGT Q2	ACT Q
40000	Los Angeles - Store 3400	$98,974	$102,146	$3,172	3.2%	$97,474	$513,
41000	New York - Store 30	$316,212	$264,451	($51,761)	-16.4%	$311,421	$1,287,
42000	Boston - Store 82	$2,397,299	$2,528,615	$131,316	5.5%	$2,360,977	$202,
43000	Dallas - Store 78	$191,276	$163,241	($28,035)	-14.7%	$188,378	$377,
45000	Phoenix - Store 33	$544,787	$694,035	$149,248	27.4%	$536,533	$613,
45500	San Francisco - Store 87	$127,753	$184,320	$56,567	44.3%	$125,817	$200,
46000	Chicago - Store 45	$983,328	$1,404,003	$420,675	42.8%	$968,429	$1,849,
47000	Portland - Store 94	$1,007,025	$1,286,881	$279,856	27.8%	$991,767	$1,863,
48000	Seattle - Store 68	$276,891	$120,962	($155,929)	-56.3%	$272,696	$129,
48500	Burbank - Store 111	$2,588,092	$1,202,480	($1,385,612)	-53.5%	$2,548,878	$143,
50000	Singapore - Store 89	$1,251,093	$2,206,925	$955,832	76.4%	$1,232,137	$2,038,
51000	Atlanta - Store 52	$1,456,922	$474,883	($982,039)	-67.4%	$1,434,848	$261,
52000	San Antonio - Store 65	$79,281	$51,127	($28,154)	-35.5%	$78,080	$322,

1 2

1 - 50 of 59 items

Example data grid in a web report

In order to configure a Data Grid, you must complete the following properties:

- **Data Source:** You must define a data source for the web report, and then assign that data source to the grid in the component properties. The data source determines the table columns available for display in the grid, and also determines whether users can filter the data grid using refresh variables. For more information, see Defining data sources for Data Grid components.
- **Columns:** You select a set of table columns to display in the grid, as well as their order in the grid and other display properties. The columns available to show in the grid depend on the primary table specified in the data source for the report. If the data source has a filter, the data grid also honors that filter when querying the data to display in the grid. See Defining columns for the grid.

- **Sum By:** You specify the sum level of the rows in the grid by configuring one or more columns as "sum by" columns. For example, if the sum by level is Dept.Dept, then each row in the grid represents the sum of data per unique department. If the sum by level is Dept.Dept and Acct.Acct, then each row in the grid represents the sum of data per unique department / account combination. See Specifying sum by columns for the grid.

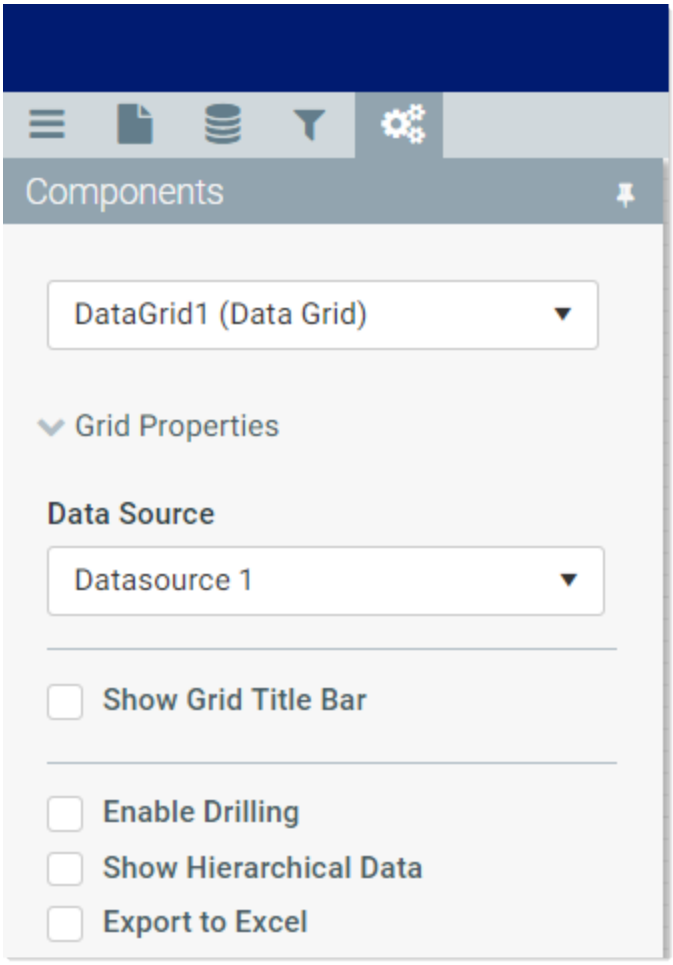
You can also optionally configure the following for a data grid:

- **Calculations:** You can create one or more calculated columns, to show the results of calculated data in the grid. For example, you can show the summed total of a set of columns, or the difference between two columns, and so on. See Defining calculated columns for the grid.
- **Group Headers:** You can create column groups, in order to display header text over groups of columns. For example, you may want the header text "Q1" over the three columns in the first quarter, "Q2" over the next three columns, and so on. See Defining group headers for the grid.
- **Sort Order:** You can define an initial sort order for the grid, by specifying one or more sort columns and the sort direction. When users view the grid, they can change the sort to use any column. See Specifying the sort order for the grid.
- **Additional features:** You can enable grid features such as hierarchical groupings, drilling, and export to spreadsheet. See General properties.

To configure component properties in the Report Designer, select the component in the report and then edit the properties as needed using the **Components** panel.

General properties

The general properties for a Data Grid component are located at the top of **Components** panel, in the **Grid Properties** section.



Example general properties for a data grid

You can define the following general properties for a Data Grid component. The **Data Source** is required; all other properties are optional.

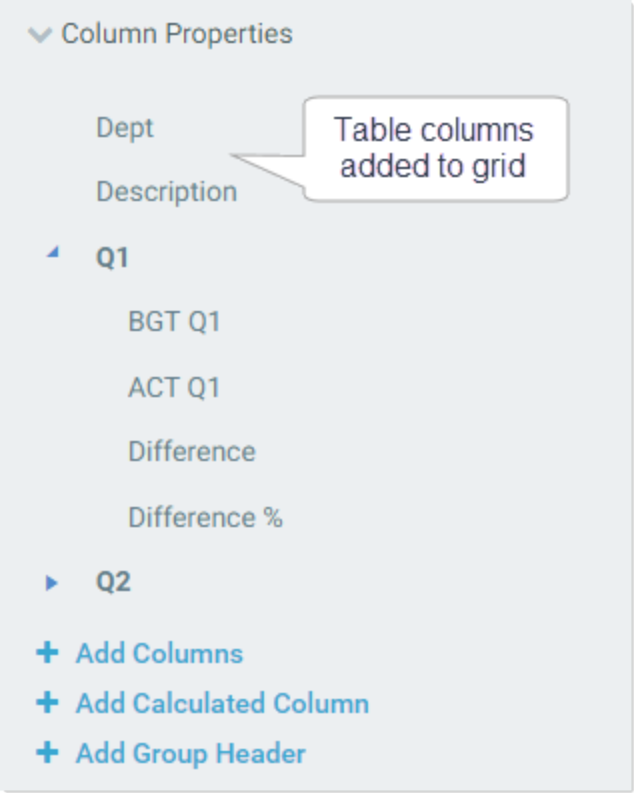
Item	Description
Data Source	Specifies the data source for the data grid. The data source determines the columns available for use in the grid. By default, new grids use the default data source for the web report. This data source is named **Datasource 1**, but it can be renamed. You can continue to use this default data source, or you can edit the grid properties to use any data source that you have defined on the **Data Source** tab. **IMPORTANT:** In order to configure the Data Grid component, at least one data source must be configured on the **Data Source** tab. If you are using the default data source, at minimum it must be assigned a primary table before the data grid can be configured. For more information, see Defining data sources for Data Grid components.
Show Grid Title Bar	Specifies whether the component has a title bar. • If enabled, the component displays in a bordered box with a title bar across the top. The defined title text displays within the title bar. • If disabled, the title bar and its border do not display on the component.
Title	The title text for the component. This text displays in the component title bar, if the title bar is enabled. If the title bar is disabled, then this text does not display at all in the web report. If **Export to Excel** is enabled, the name of the export file is the title if it is defined. If you want to define a title for use with the export but not show the title in the web report, then you can enable **Show Grid Title Bar** for purposes of defining the title text, then disable the title bar again. The title text will be retained for use with the export.
Enable Drilling	Specifies whether drilling is enabled for the data grid. • If enabled, users can "drill down" a row in the grid to see the data in that row at a different level of detail. • If disabled, drilling is not available. If you enable this option, then you must also complete the **Drilling Hierarchies**. For more information on the drilling options and how end users drill the grid, see Setting up drilling for Data Grid components.
Drilling Hierarchies	The hierarchies available for drilling, if **Enable Drilling** is enabled. For more information on the drilling options and how end users drill the grid, see Setting up drilling for Data Grid components.

Item	Description
Show Hierarchical Data	Specifies whether data in the grid is grouped based on hierarchical dimensions. • If enabled, the grid is grouped based on the sum by columns for the grid. The first sum by column determines the top-level grouping, the next sum by column determines the next level grouping, and so on. At least two sum by columns must be specified when grouping is enabled. • If disabled (default), all data returned by the query is displayed in a flat list with no grouping.
Export to Excel	Specifies whether users can export the grid contents to an Excel spreadsheet (XLSX). • If enabled, an **Export to Excel** button displays over the top right corner of the grid, so that users can export the grid contents. • If disabled (default), the button does not display. When a user clicks the **Export to Excel** button, the contents of the grid are exported to an Excel spreadsheet. Configured number formats are not preserved, but default number formatting is applied based on the column data type. User changes to the grid, such as changing the sort order or filtering a column, are not preserved. However, if a refresh variable is used to filter data in the grid, this is preserved. The name of the exported file is the **Title** for the component, if defined. Otherwise, a system generated name is used. It is recommended to define title text for this purpose when using the export feature, even if the title bar is not enabled. The following features are not supported with the export feature: • **Hierarchical groupings:** Groupings are disabled and data is exported as a flat list. • **Column group headers:** Column group headers are omitted from the export.
Rows Per Page	Determines how many rows are shown in each page of the grid. By default, the page size is 50. If the results returned by the query exceed the page size, then the grid data is separated into multiple pages. Users can use the page controls at the bottom of the grid to move among pages. If set to 0 or blank, all rows display on the same page. **NOTE:** The Report Designer is limited to showing no more than 50 rows per page, regardless of the grid configuration. If you have set your rows per page to more than 50, you must preview the report to see the result.

Defining columns for the grid

The columns in the data grid determine the data to display in the grid. You specify which columns to include and their order, as well as other display properties such as alignment and number format.

If columns have already been added to the grid, these columns are listed in the **Column Properties** section of the **Components** panel. From here you can add new columns, reorder existing columns, edit column properties, and delete columns.



Example columns in the Column Properties section

To add columns in the grid:

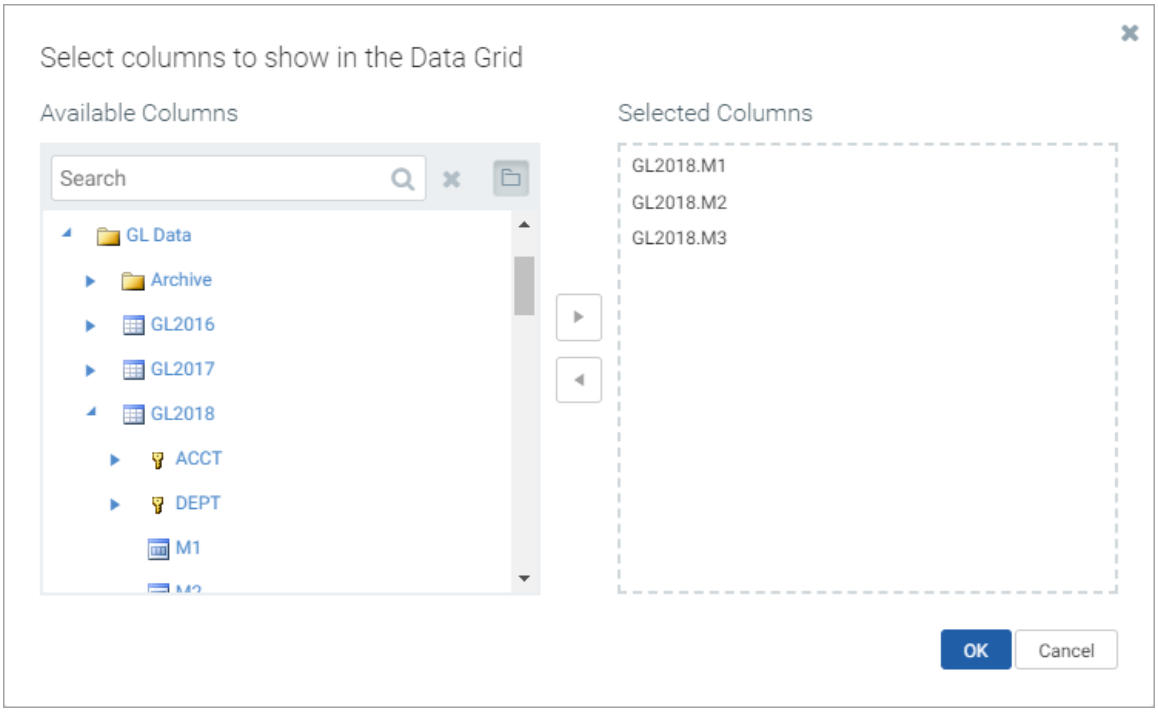
1. In the **Column Properties** section of the Data Grid component properties, click **Add Columns**.

   TIP: If you want to add one or more columns to a column group, select the column group before clicking **Add Columns**. The new columns will be added to the group instead of at the end of the columns list.

2. In the column selection dialog, locate the desired columns in the **Available Columns** box, and add them to the **Selected Columns** box. You can add regular table columns and calculated fields.

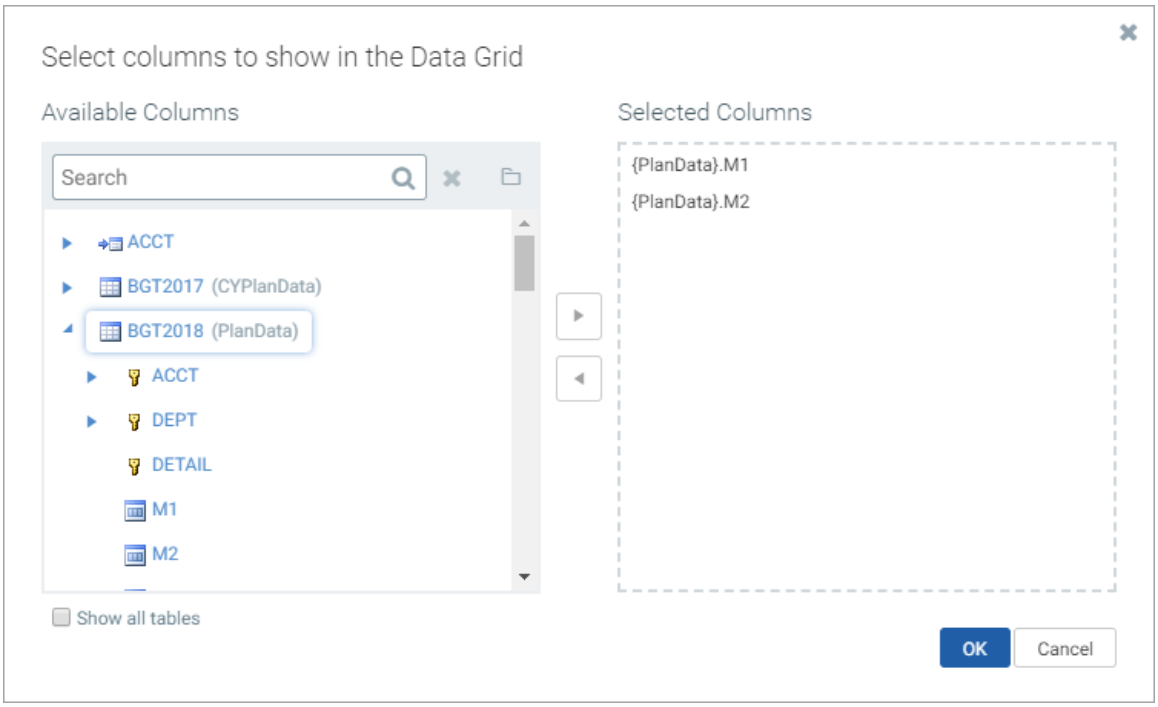
Available columns are listed by table in a treeview. You can click the folder icon to toggle the treeview from showing tables by folders or by table name. You can also use the **Search** box to filter the view by table name.

To add a column to the Selected Columns box, you can double-click it, or select it and use the arrow keys, or drag and drop it. Repeat this process for as many columns as you want to add at this time. Currently, it is not possible to multi-select columns in this dialog; you must add the columns to the Selected Columns box one-by-one.



Example column selection dialog for data grids

If the report has an associated file group, then the column selection dialog is limited by default to showing tables associated with the file group (and related lookup tables). Table variable names display in parentheses after the table names. If you add a column from a table with a variable, the column reference is stored using that variable name, so that it can dynamically change as the variable value changes.



Example column selection dialog limited by an associated file group

If you want to add a column from a table that is not associated with the file group, select **Show all tables** at the bottom of the dialog. The dialog updates to show all eligible tables, based on the primary table for the data source.

Eligible table columns

Only the tables that are eligible to be included in the grid are displayed in this dialog, based on the primary table specified for the web report's data source. This is determined as follows:

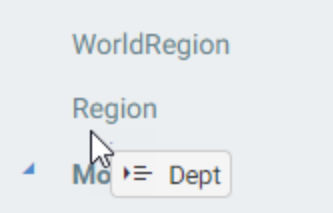
- If the primary table of the data source is a data table, you can include any column from the data table, as well as any reference table it looks up to (including multiple-level lookups). You can also include any column from other data tables that share at least one validated key column with the primary table.
- If the primary table of the data source is a reference table, you can include any column from the reference table, as well as any reference tables it looks up to. You can also include any column from a data table that looks up to the reference table.

NOTE: The column selection dialog only shows tables that meet these rules. However, tables that meet these rules may become invalid for inclusion in the grid based on other configuration settings in the grid. For example, imagine that the primary table is a data table with validated key columns of Dept and Acct. You can include a column from another data table if it also has a validated key of Dept. But if the sum by level for the grid is set to Acct, then the column from the other data table is no longer valid for inclusion, because it does not have the Acct key.

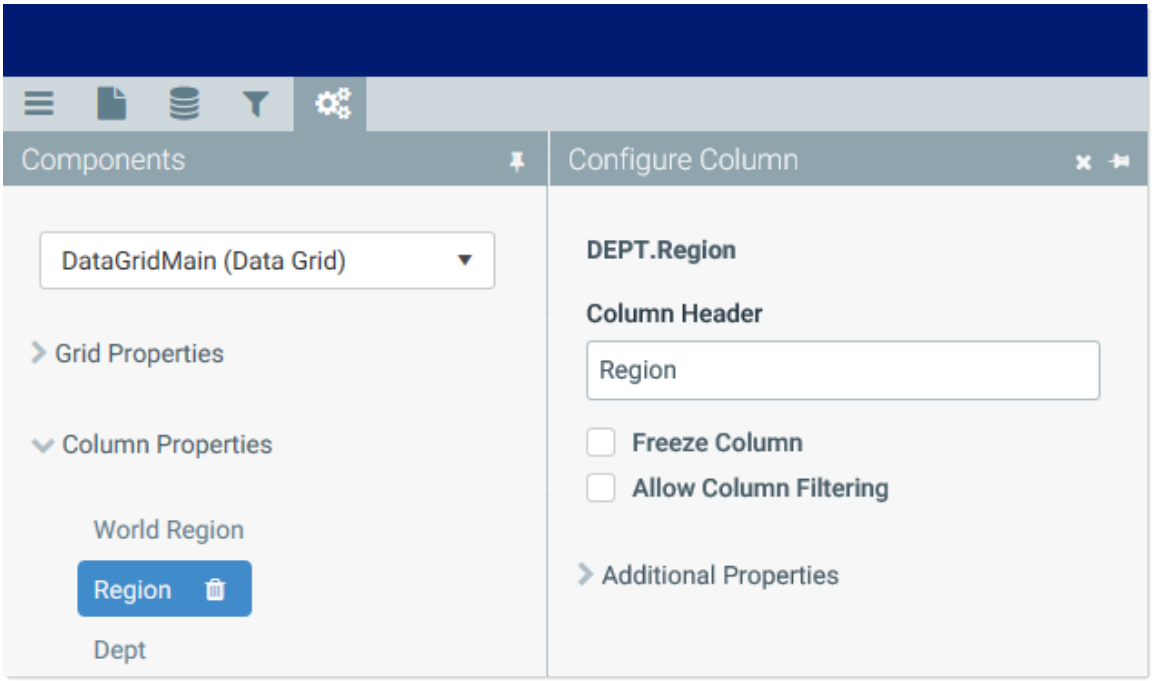
3. Click **OK** to add the selected columns to the data grid. The columns now display in the columns list.

Once columns have been added to the grid, you can reorder, edit, and delete columns as follows:

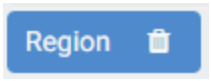
- **Reorder:** To reorder columns, drag and drop them in the columns list. When you drag a column above or below an existing column, you will see an icon as shown in the following screenshot. If you drop the column when that icon shows, the column will be moved to that location.



- **Edit:** To edit column properties, select the column in the columns list. This opens the **Configure Column** panel to the right. (You can also hover over the column name and click the pencil icon to open the panel.)

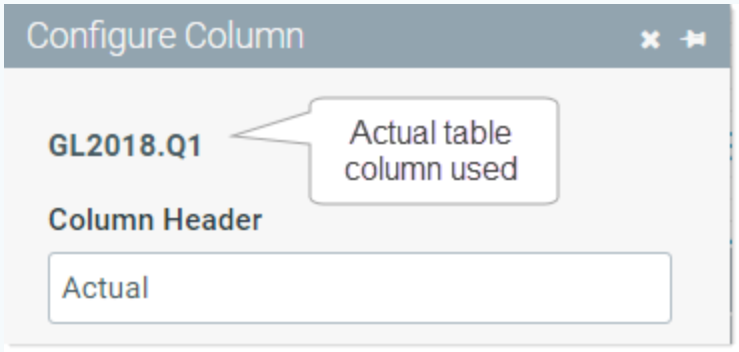


- **Delete:** To delete a column, select the column in the columns list and then click the Delete icon. (The icon is also available on hover.)



General column properties

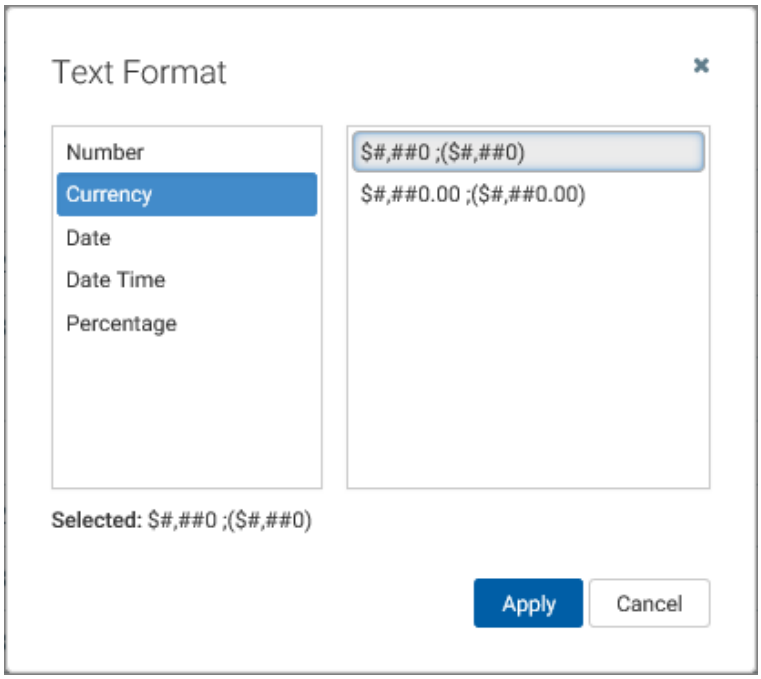
The following general properties can be defined for each column in the grid.

Item	Description
Column Header	The text to display in the grid header for the column. By default, the Table.Column value is used. Once header text is defined, the column displays using the header text in the column list. In order to see the actual Table.Column being displayed in the grid, you can view the column name at the top of the Configure Column panel.  If the report has an associated file group, and the column was selected from a file group table variable, then the table variable name displays after the actual Table.Column name.
Freeze Column	Specifies whether the column is frozen at the left-hand side of the screen for scrolling purposes. • If enabled, the column displays in the frozen area—before any unfrozen columns, regardless of its placement in the column list. Within the frozen area, the frozen columns display in the order they are located in the column list. • If disabled (default), the column displays in the unfrozen area, in the order it is located in the column list. If **Show Hierarchical Data** is enabled for the grid, then this option is unavailable. Columns cannot be frozen when using hierarchical groupings in the grid.
Allow Column Filtering	Specifies whether users can filter the grid by the displayed values in the column. • If enabled, then filtering controls are available on the column header in the rendered grid. These controls are visible when a user hovers over the column header. • If disabled (default), then filtering controls are not available for the column.

Additional properties

The following optional properties can be used to impact the display of the column and the data shown in the column.

Item	Description
Header Alignment	The alignment of the column header text. Select one of the following: **Default**, **Left**, **Right**, or **Center**. By default, the header text uses the same alignment as the column values.
Column Alignment	The alignment of the column values. Select one of the following: **Default**, **Left**, **Right**, or **Center**. The default alignment is as follows: • Values in frozen columns are left-aligned. • Values in non-frozen columns are left-aligned for strings and right-aligned for numbers.
Column Width	The width of the column in the grid, in pixels. If left blank, the default column width is as follows, depending on the column type: • Numeric, Date, Boolean: 120 • Integer (all variations), Identity (all variations), or DateTime: 150 • String: 200

Item	Description
Number Format	A valid format string to define the display format used by the column. To specify a format, click the edit icon in the right-hand side of the box. You can then select from several predefined formatting options. When you click **Apply**, the selected format string is placed in the Format box.  If you do not define a format for columns with numeric data, then the default format for the column's specified numeric type is used.
Visible on Grid	Determines whether the column is visible in the grid. This property is enabled by default. You can optionally use this property to include the column in the query but not display it in the grid. If a column is not visible but it is specified as a "sum by" column or as a sort column, then it will still be included in the data query and will impact the results. Columns are visible in the grid in the order they are defined in the column list, with frozen columns displayed first, followed by all other unfrozen columns.

Item	Description
Filter Column Data	An optional filter to limit the data queried for the column. Click the filter icon to create a filter using the Filter Wizard. The Filter Wizard is limited to only showing valid selections for the current column. Defining a column filter is different than enabling filtering in the grid using **Allow Column Filtering**. The column filter is part of the database query and limits the data returned into the grid for this column (same behavior as column filters in Axiom queries). In contrast, the filter controls on the column header allow users to perform ad hoc filtering based on the values displayed in the column. Also keep in mind that the column filter only affects the data in this particular column. If you want to filter the data coming into the entire data grid, then you must define a filter on the data source used by the grid. **NOTE:** If the report has an associated file group, the tables in the Filter Wizard show with table variable names (as applicable), but the filter is not stored using these variable names. The filter does not update for changes to the table variable values.
Aggregation	Specifies the aggregation type used to aggregate data in the column. In most cases this should be left at **Default** to use the default aggregation for the column—for example, to sum data columns. If you want to override the default aggregation type for a column, select a valid aggregation type. The behavior of the aggregation types is the same as when using an alternate aggregation in an Axiom query.

Specifying sum by columns for the grid

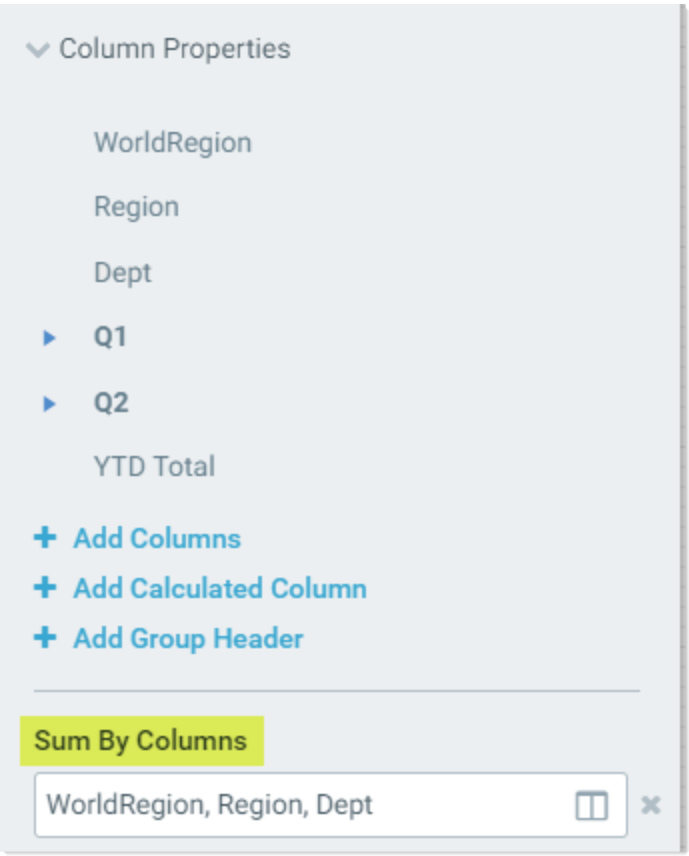
Each data grid must have at least one column specified as the "sum by" column for the grid. This determines the level of summation for each row of data in the query. The sum level is not assumed; it must be explicitly specified.

For example, if the sum by level is `Dept.Dept`, then each row in the grid represents the sum of data per unique department. If the sum by level is `Dept.Dept` and `Acct.Acct`, then each row in the grid represents the sum of data per unique department / account combination.

If **Show Hierarchical Data** is enabled for the data grid, then the sum by columns determine the hierarchical grouping levels for the grid. In this case, there must be at least two sum by columns, and the sum by columns must be in the intended order, with the top-level group listed first. For example, if you are grouping by Country > Region > Dept, then `Dept.Country` must be the first sum by column in the list.

If a column is designated as a sum by column, it is always included in the query, regardless of whether it is visible. Generally speaking, sum by columns should always be visible. If **Show Hierarchical Data** is enabled and a column is designated as a sum by column, that column is automatically visible.

The sum by columns are configured in the **Column Properties** section of the **Components** tab, using the **Sum By Columns** property. If sum by columns have already been specified, the names of the columns display in this field.



Example sum by columns for a data grid

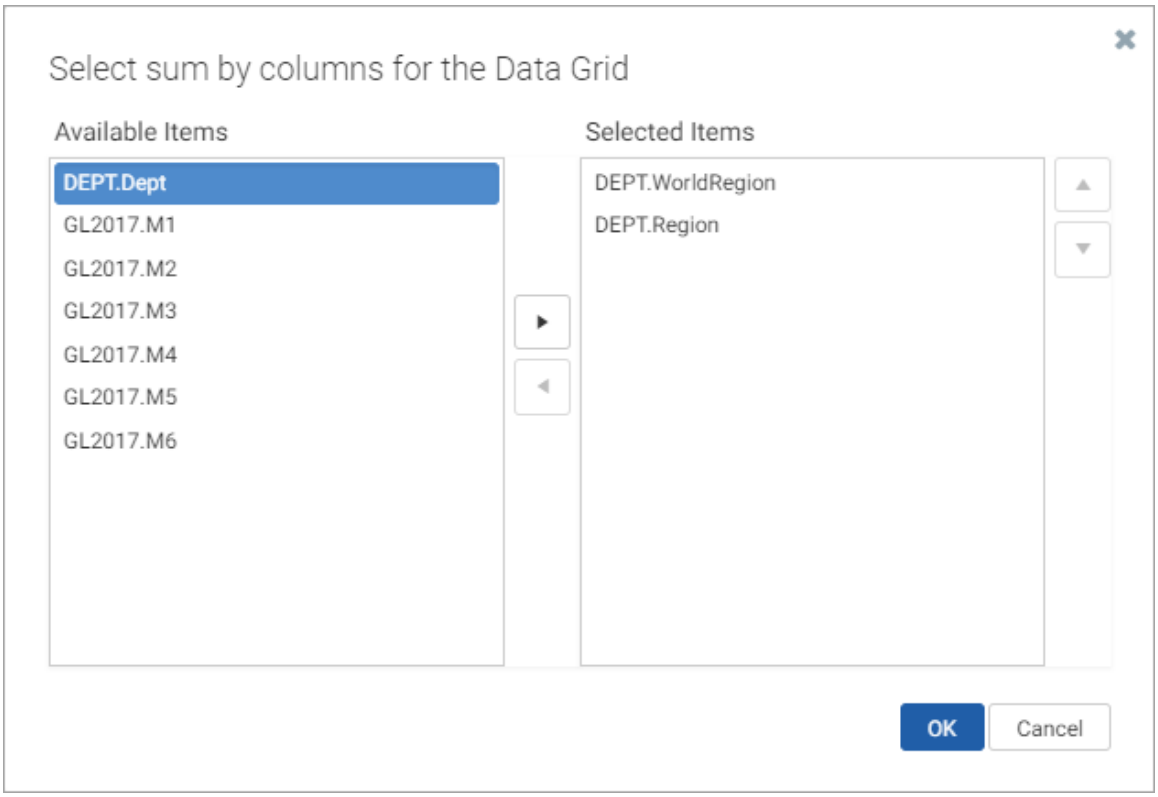
NOTE: The column must already be added to the grid in order to use it as a sum by column.

To specify the sum by columns for a data grid:

1. Click the table icon in the right-hand side of the **Sum By Columns** box.

2. Locate the desired columns in the **Available Items** box, and move them to the **Selected Items** box.

   You can select one or more columns (using CTRL or SHIFT to select multiple), and then use the arrow keys in the middle to move them between boxes. You can also double-click on an individual column to move it between boxes.



   The Available Items box lists all columns that have been added to the grid.

3. If **Show Hierarchical Data** is enabled for the grid, use the up and down arrows to order the sum by columns in the order that you want the groupings to display. The top column in the list is the top-level grouping.

   If you are not grouping by hierarchical data, then the order of the sum by columns does not matter.

4. Click **OK** to set the sum by level of the grid to the selected columns.

You can change the sum by columns using the same process, and you can clear the currently selected columns by clicking the **X** button to the right of the box. However, the data grid will not be valid unless at least one sum by column is specified (or two, if **Show Hierarchical Data** is enabled).

If the report has an associated file group, and a selected sum by column is from the target table of a table variable in the file group, then the column is stored using the variable so that it can change dynamically.

Valid sum by columns

The following columns are valid to be used as sum by columns for the grid, depending on whether the primary table of the data source is a data table or a reference table. The sum by dialog does not filter out invalid column selections. If you select an invalid column, an error will occur when the sum by level is applied to the data grid.

When the primary table is a data table and no other data tables are included in the grid, the following database columns can be used to define the sum level:

- Any column in the primary table.
- Any column in a lookup table.

When the primary table is a data table and additional data tables are included in the grid, the following database columns can be used to define the sum level:

- Any shared validated column in the data tables, key or non-key. The sum by must be set to the shared lookup column, not to the column in the data tables. For example, you can specify `Dept.Dept` as the sum by, but *not* `GL2020.Dept`. (Though if GL2020 is the primary table, this will still work and will be assumed as `Dept.Dept`.)
- Any column in a shared lookup table.
- Any shared non-validated column in the data tables, key or non-key. In this case you must specify the column from the primary table with the shared name. For example, if all of the data tables in the query have a column named Date, and the primary table is GL2020, you can specify `GL2020.Date` as the sum by.

When the primary table is a reference table, the following database columns can be used to define the sum level:

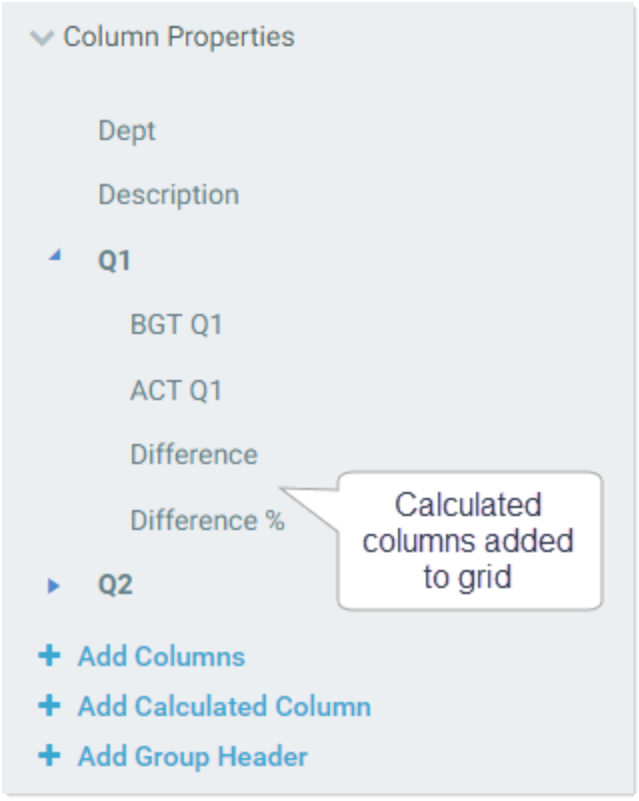
- Any column in the primary table.
- Any column in a lookup table.

Defining calculated columns for the grid

You can optionally add *calculated columns* to the data grid, to display custom calculations. Calculated columns can be used to display totals, differences, percentages, and other calculations.

NOTE: In this context, "calculated column" refers to a custom calculation that you define for use in the grid. It does not refer to calculated fields defined on tables. Calculated fields can be added to the grid like regular table columns, using **Add Columns**.

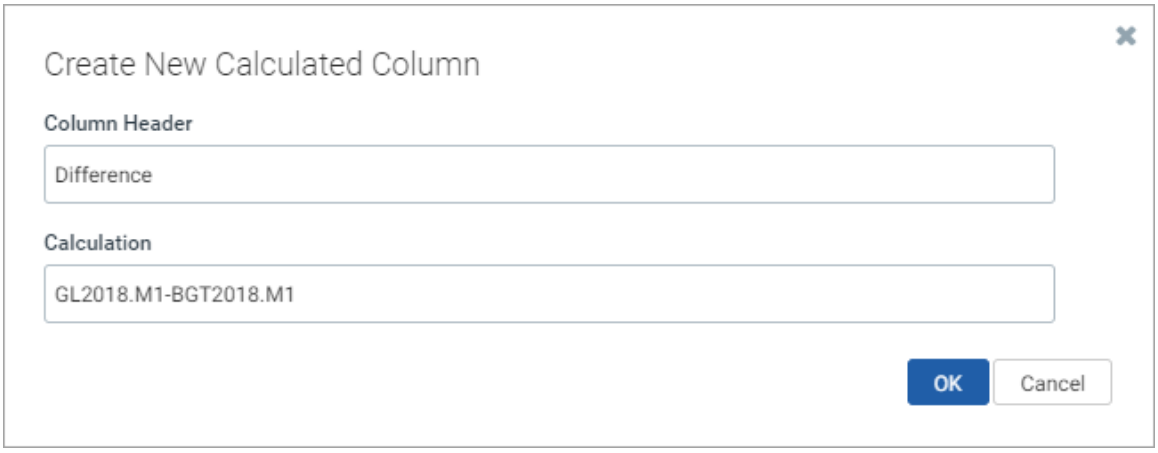
If calculated columns have already been added to the grid, these columns are listed in the **Column Properties** section of the **Components** panel. From here you can add new calculated columns, reorder existing columns, edit column properties, and delete columns.



Example calculated columns in the Column Properties

To add a calculated column to the grid:

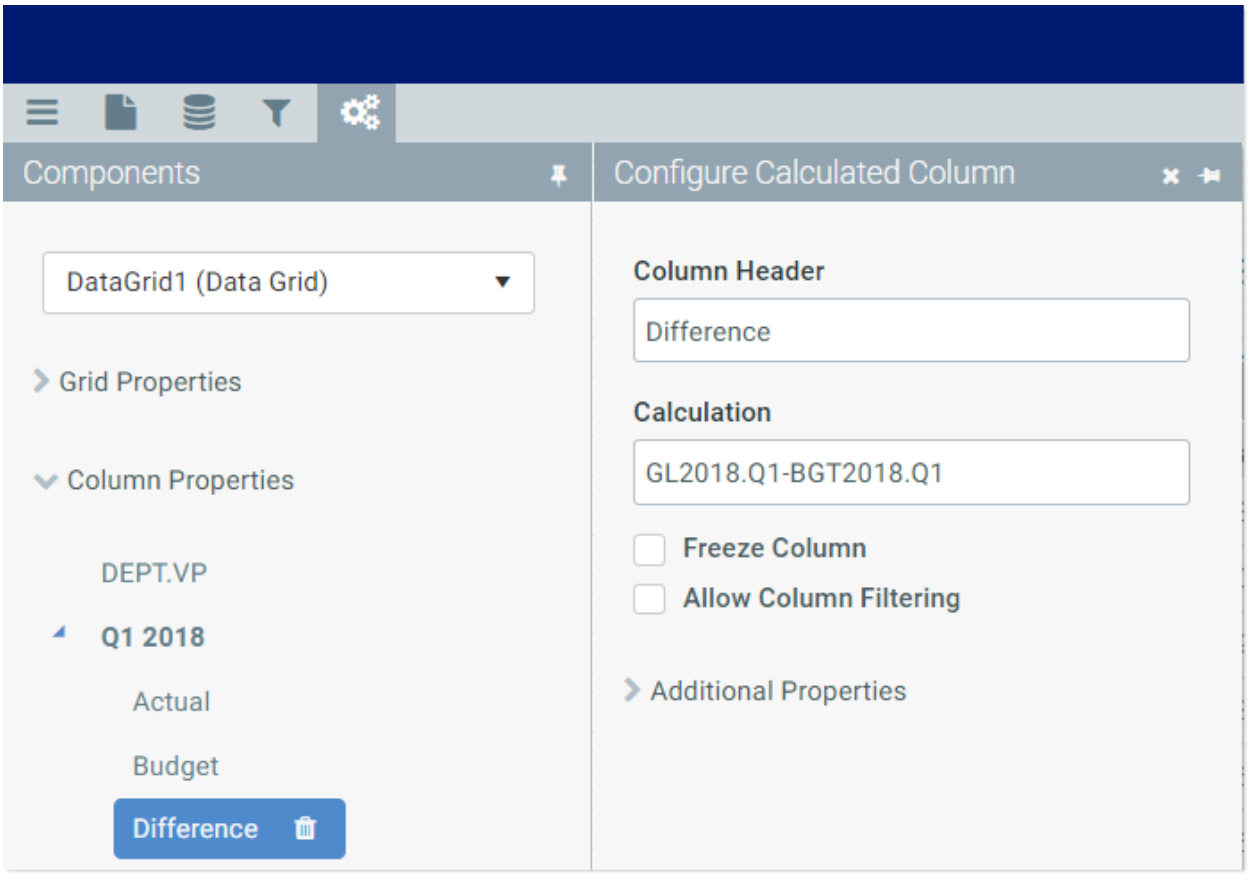
1. In the **Column Properties** section of the Data Grid component properties, click **Add Calculated Column**.
2. In the **Create New Calculated Column** dialog, define the **Column Header** text for the column, and the **Calculation**.



For more information on how to define the calculation, see the calculated column properties. If you are not ready to define the calculation at this point, you can enter anything into the Calculation field and then edit it later (however, the data grid may be invalid in the meantime).

3. Click **OK** to add the calculated column to the data grid. The column now displays in the columns list.

Once calculated columns have been added to the grid, you can reorder, edit, and delete them just like regular columns.



Example calculated column properties

General calculated column properties

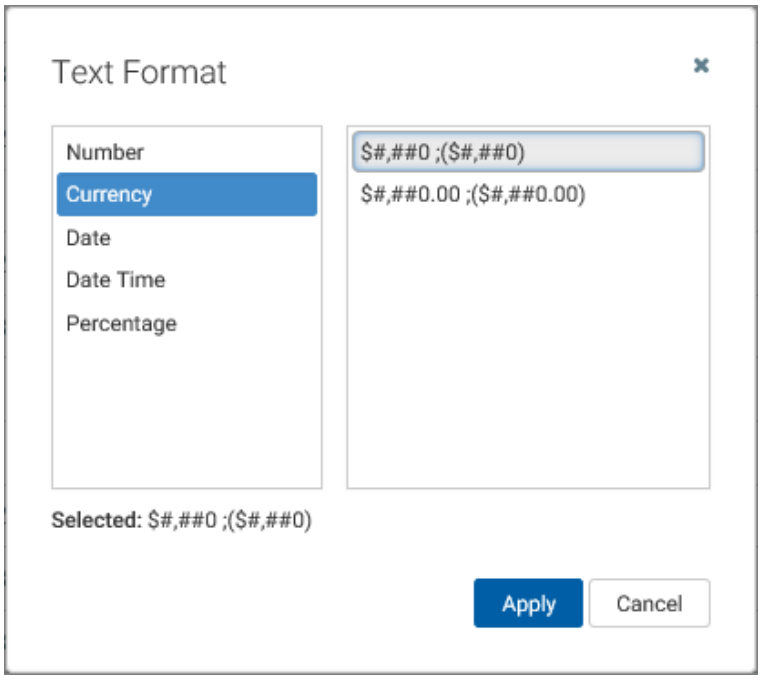
The following general properties can be defined for each calculated column in the grid.

Item	Description
Column Header	The name to display in the grid header for the column. This text is required for a calculated column.

Item	Description
Calculation	Enter the desired calculation as a text string, without an equals sign. The calculation must consist of valid database column names and one or more of the following operators: addition (+), subtraction (-), multiplication (*), division (/), remainder (%), or unary negation (-). For example: `GL2020.M1+GL2020.M2` This calculation displays the sum of the two columns, for each row of the grid. Use parentheses to determine calculation order, such as: `(GL2020.Q1-BGT2020.Q1)/BGT2020.Q1`. The calculation can use regular table column names, calculated field names, column alias names, and numbers. Table columns and calculated fields must use full Table.Column syntax. You can use any database column that would be valid for inclusion in the data grid, though the column does not have to be added to the grid in order to be used in the calculation. **NOTE:** Currently, it is *not* supported to use table variables in calculations when the report has an associated file group.
Freeze Column	Specifies whether the column is frozen at the left-hand side of the screen for scrolling purposes. • If enabled, the column displays in the frozen area—before any unfrozen columns, regardless of its placement in the column list. Within the frozen area, the frozen columns display in the order they are located in the column list. • If disabled (default), the column displays in the unfrozen area, in the order it is located in the column list. If **Show Hierarchical Data** is enabled for the grid, then this option is unavailable. Columns cannot be frozen when using hierarchical groupings in the grid.
Allow Column Filtering	Optional. Specifies whether users can filter the grid by the displayed values in the column. If enabled, then filtering controls are available on the column header in the rendered grid. These controls are visible when a user hovers over the column header.

Additional properties

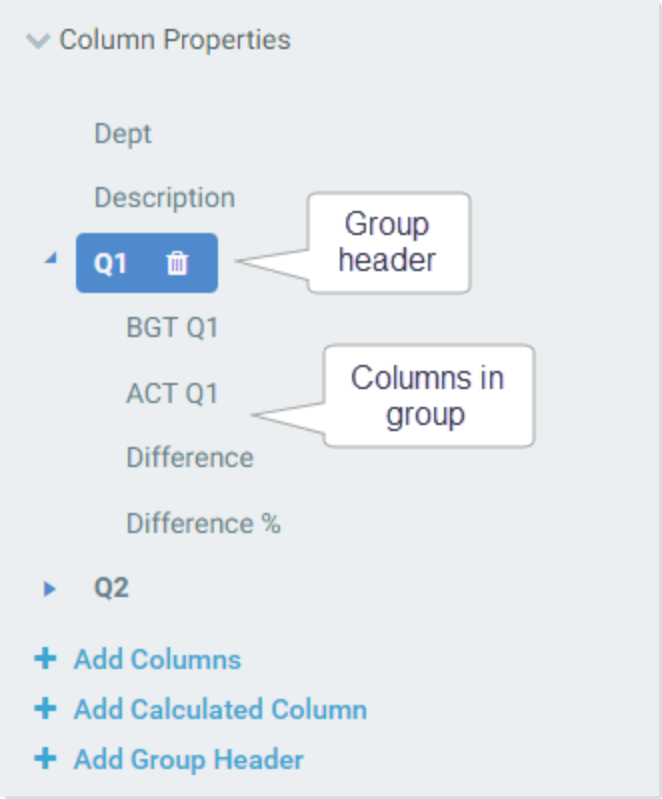
The following optional properties can be used to impact the display of the calculated column.

Item	Description
Header Alignment	The alignment of the column header text. Select one of the following: **Default**, **Left**, **Right**, or **Center**. By default, the header text uses the same alignment as the column values.
Column Alignment	The alignment of the column values. Select one of the following: **Default**, **Left**, **Right**, or **Center**. The default alignment is as follows: • Values in frozen columns are left-aligned. • Values in non-frozen columns are left-aligned for strings and right-aligned for numbers.
Column Width	The width of the column in the grid, in pixels. The default column width is 120px.
Number Format	A valid format string to define the display format used by the column. To specify a format, click the edit icon in the right-hand side of the box. You can then select from several predefined formatting options. When you click **Apply**, the selected format string is placed in the Format box. 
Visible on Grid	Determines whether the column is visible in the grid. This property is enabled by default. Columns are visible in the grid in the order they are defined in the column list, with frozen columns displayed first, followed by all other unfrozen columns.

Defining group headers for the grid

You can optionally add group headers, to define header text that spans across multiple columns. For example, you may want the header text "Q1" over the three columns in the first quarter, "Q2" over the next three columns, and so on.

If group headers have already been added to the grid, these groups are listed in the **Column Properties** section of the **Components** panel. From here you can add new groups, reorder existing groups, edit group properties, and delete groups.



Example group header in the Column Properties

Dept	Description	Q1			
		BGT Q1	ACT Q1	Difference	Difference %
40000	Los Angeles - Store 3400	$98,974	$102,146	$3,172	3.2%
41000	New York - Store 30	$316,212	$264,451	($51,761)	-16.4%

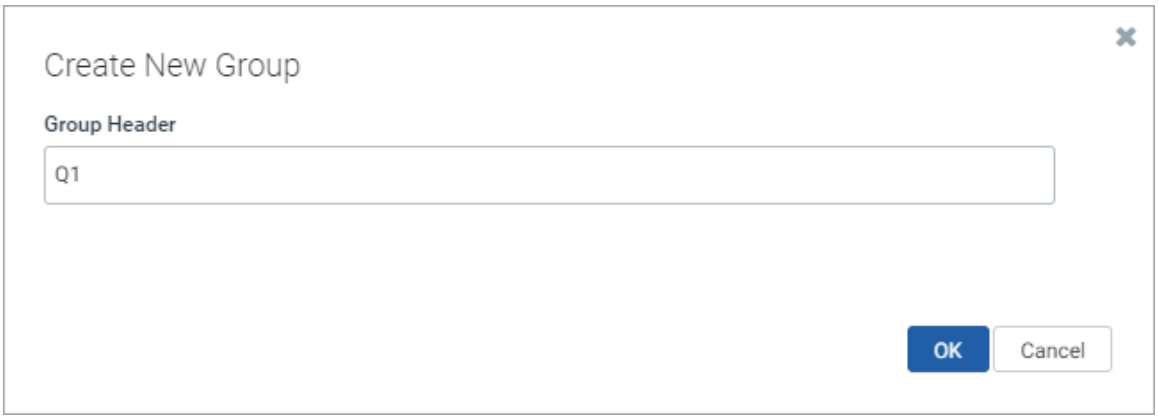
Example group header in rendered data grid

To add a group header to the grid:

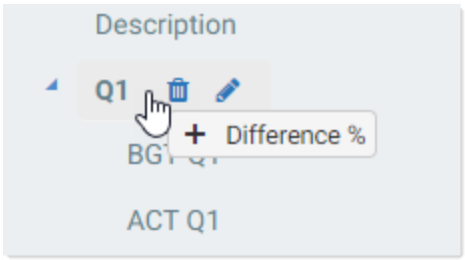
1. In the **Column Properties** section of the Data Grid component properties, click **Add Group Header**.

TIP: If you want to create a nested group, select the existing parent group name first, then click Add Group Header. The new group will be created within the existing group. Alternatively, you can drag and drop groups to create nested groups.

2. In the **Create New Group** dialog, enter the **Group Header** name to use for this group. For example, the name might be something like Q1, Months, or 2020 Actuals. Click **OK** to add the group to the column list.



3. To add columns to the group, you can do either of the following:
   - Drag and drop existing columns to the group. When you drag a column onto the group name, you will see a plus icon. If you drop the column at that point, it is added to the group.

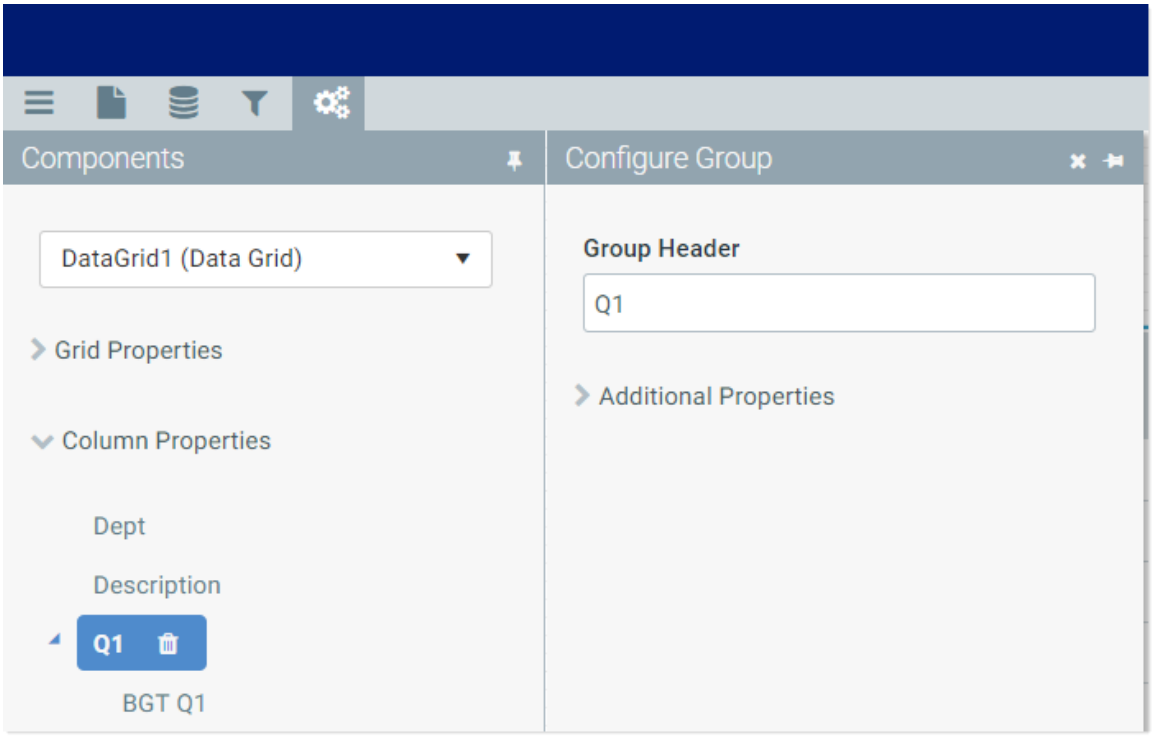


   - Select the group name and click **Add Columns** to add new columns directly to the group.

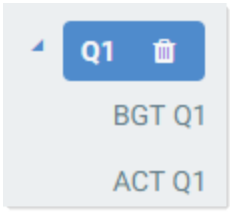
Once the group has been created, you can reorder it, edit it, and delete it as follows:

- **Reorder:** You can drag and drop columns within the group to change their order in the group. You can also select the group and move the entire column group to different locations within the column list (including underneath another group).

- **Edit:** To edit the group properties, select the group name in the column list. This opens the **Configure Group** panel to the right. (You can also hover over the name and click the pencil icon to open the panel.)



- **Add or Remove Columns:** You can drag and drop columns in and out of the group as needed. You can also delete columns in the group.
- **Delete Group:** To delete the entire group, select the group name and click the Delete icon. (The icon also displays on hover.)



If you delete a group, all columns in the group are also deleted. A confirmation dialog displays before proceeding, so you have an opportunity to cancel the process. If you don't want the columns to be deleted, remove the columns from the group before deleting the group.

General group properties

The following general properties can be defined for each group in the grid.

Item	Description
Group Header	The text to display in the group header. The group header spans above the columns in the group.

Additional properties

The following optional properties can be defined for each group in the grid.

Item	Description
Header Alignment	The alignment of the group header text. Select one of the following: **Default**, **Left**, **Right**, or **Center**. By default, group header text is centered across the columns in the group.

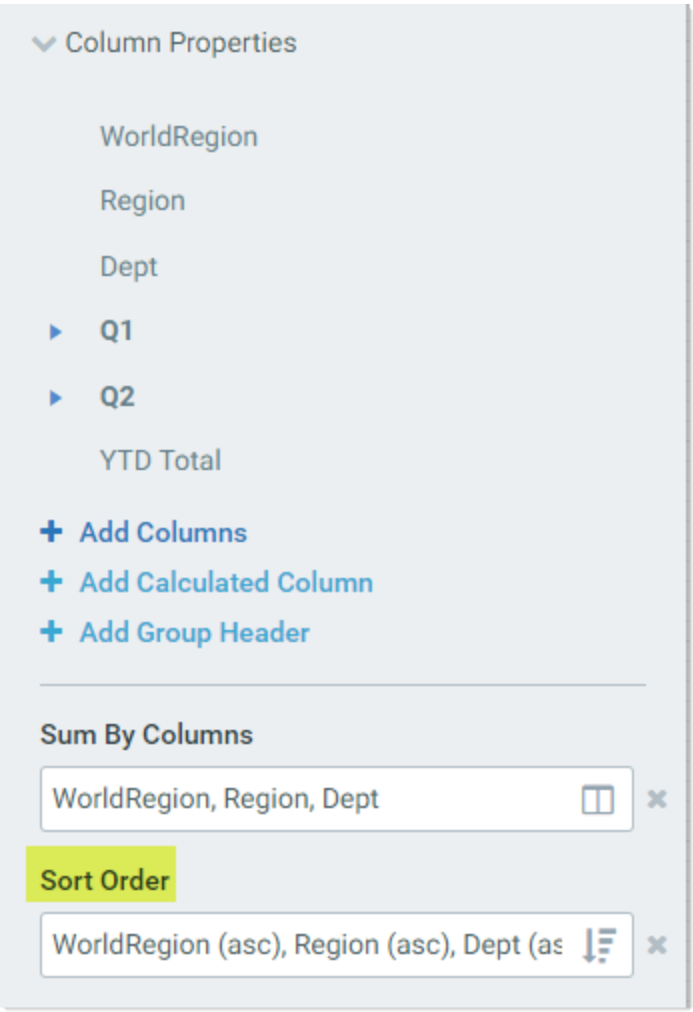
Specifying the sort order for the grid

You can optionally specify one or more sort columns to determine the initial sort order for the grid. Once the grid is rendered, users can change the sort as desired by clicking on a column header to sort by that column. Each click toggles between ascending sort, descending sort, and no sort.

For example, you can specify `Dept.Dept` as a sort column to sort the grid by departments. Or you can specify both `Dept.Region` and `Dept.Dept` to sort the grid first by region and then by department.

Sort columns can be table columns or calculated columns. The sort can be ascending or descending. If you do not define a sort column, by default the grid is sorted in ascending order using the sum by columns.

The sort columns are configured in the **Column Properties** section of the **Components** panel, using the **Sort Order** property. If sort columns have already been specified, the names of the columns display in this field.

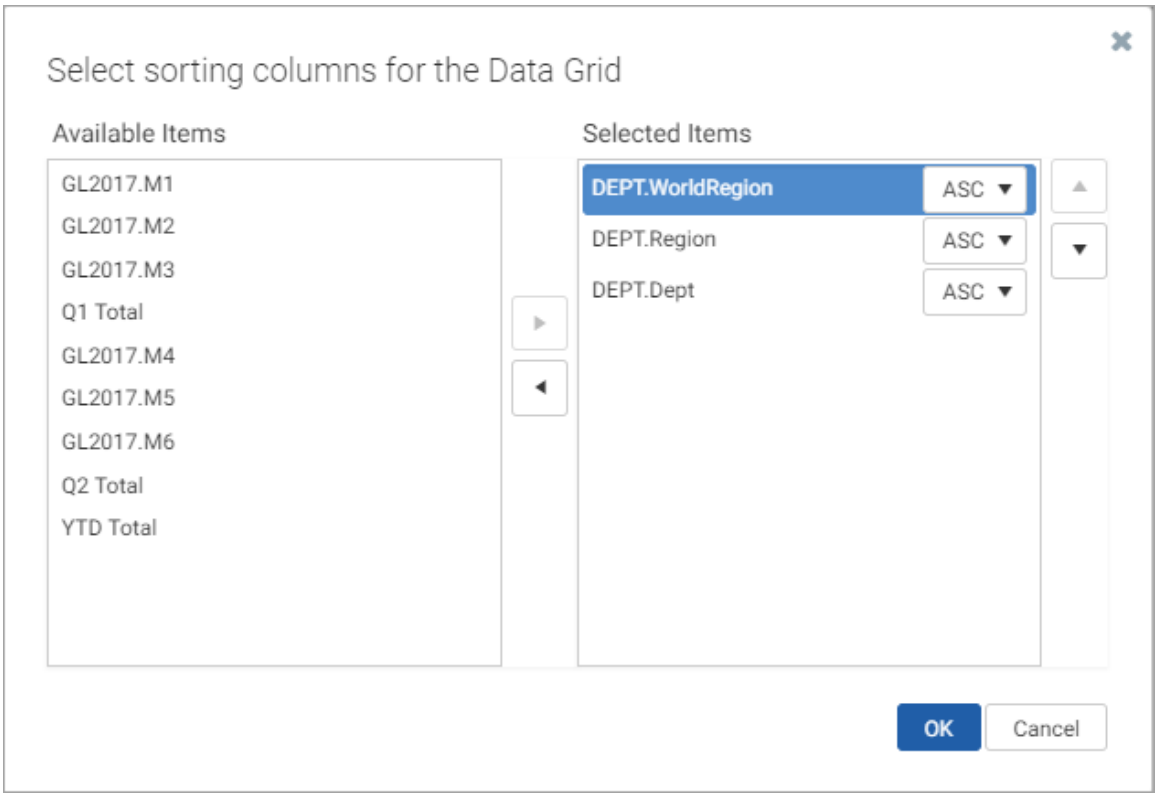


Example sort order for the data grid

NOTE: The column must already be added to the grid in order to use it as a sort column.

To specify the sort order for a data grid:

1. Click the sort icon in the right-hand side of the **Sort Order** box.
2. Locate the desired columns in the **Available Items** box, and move them to the **Selected Items** box. You can select one or more columns (using CTRL or SHIFT to select multiple), and then use the arrow keys in the middle to move them between boxes. You can also double-click on an individual column to move it between boxes.



The Available Items box lists all columns and calculated columns that have been added to the grid.

3. Use the up and down arrows as needed to arrange the columns in the desired sort order. The top column in the list is the top-level sort.
4. Use the drop-down list next to the column name to change the sort direction as needed. By default, the sort direction is ascending (**ASC**). If desired, you can change this to descending (**DESC**).
5. Click **OK** to set the sort order of the grid to the selected columns.

You can change the sort columns using the same process, and you can clear the currently selected columns by clicking the **X** button to the right of the box.

If the report has an associated file group, and a selected sort order column is from the target table of a table variable in the file group, then the column is stored using the variable so that it can change dynamically.

Defining data sources for Data Grid components

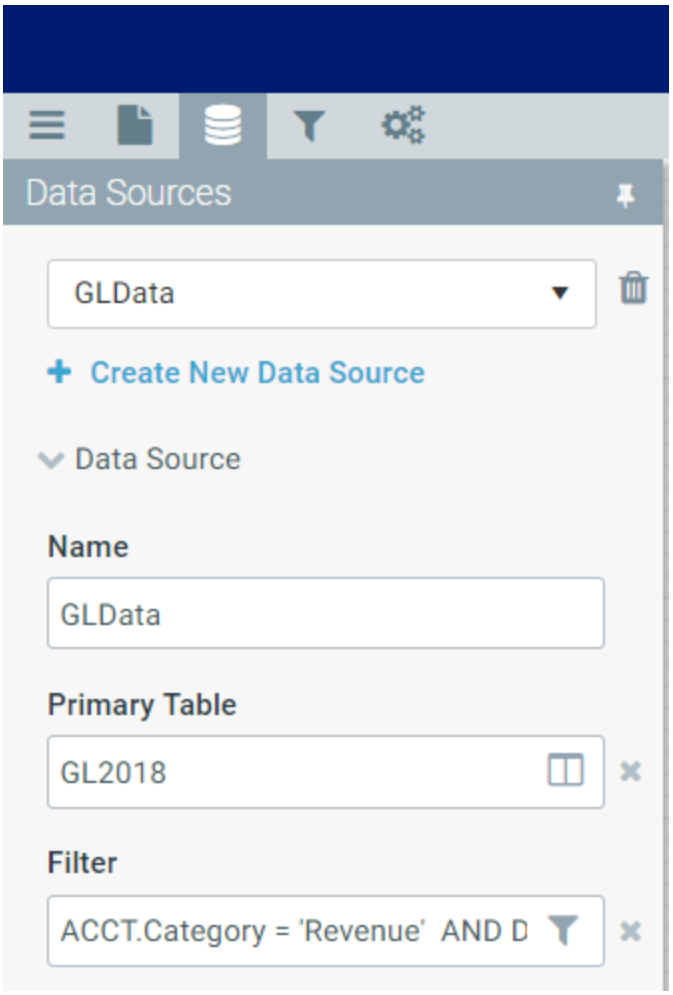
Web reports that use Data Grid components must have at least one *data source*. The data source specifies a primary table (such as GL2020 or Dept) and an optional filter. The data source can then be assigned to various Data Grid components in the web report to determine the data available to that component.

Data sources are defined separately from the Data Grid component properties, so that they can be controlled centrally. For example, you can have two or three Data Grid components that all use the same data source. If you decide you need to change the data source properties, you can do it in one place instead of needing to modify all of the components individually.

NOTE: If the report does not contain a Data Grid component, then you do not need to define a data source. Currently, the Data Grid component is the only component that uses data sources.

Managing data sources for a web report

Data sources are defined on the **Data Source** panel of the Report Designer.

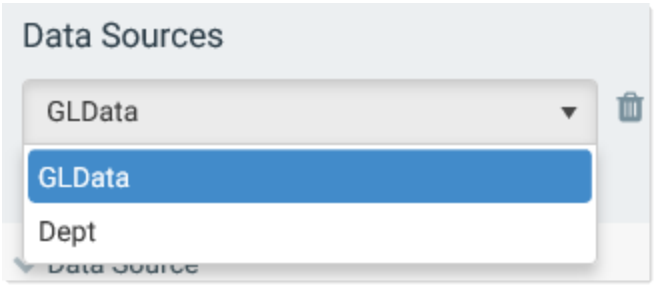


Example Data Source tab

When you first create a new web report, it has one data source named **Datasource 1** by default. Any Data Grid components in the report are configured to use this initial data source by default. You can edit this data source to define a primary table and optional filter, and change its name.

To edit a data source:

- Select the data source name from the drop-down list at the top of the panel.



The panel updates to show the properties for the selected data source. You can edit any of the data source properties as needed.

NOTE: If refresh variable dependencies have been created for the data source, the primary table cannot be changed. You must delete the dependencies first.

IMPORTANT: If you change the primary table for an existing data source, any components that use the data source may now have invalid configurations. For example, existing columns in a Data Grid component may now be invalid in the context of the new primary table. If that is the case, errors will occur when attempting to render the component. You must edit the component to remove or change any invalid settings.

To add a data source:

1. Click **Create New Data Source**.
2. In the **Create New Data Source** dialog, define the data source properties as needed. You must define a name and a primary table.

3. Click **OK** to save the new data source.

Remember, just creating a data source does not have any impact on the web report. You must assign the data source to one or more components in order to display data from the data source in the web report.

To delete a data source:

1. Select the data source name from the drop-down list at the top of the panel.
2. Click the **Delete Data Source** icon to the right of the name. Note that the icon does not display if there is only one data source, since that data source cannot be deleted.

   If the data source is assigned to one or more components, the data source cannot be deleted. You must first edit the components to use different data sources, and then you can delete the data source.

Data source properties

Item	Description
Name	The name of the data source. By default, the first data source is named Datasource 1. All newly created data sources start with the name Datasource 2, Datasource 3, and so on. When assigning data sources to components, you choose from a list of these data source names. You can change the data source name as needed. It is recommended to give it a name that is indicative of the data that can be queried using the data source. For example, you might name the data source something like "Actuals Data" or "Department Data". You might also want to use the name of the primary table as the data source name.
Primary Table	The primary table for the data source. Click the table icon to select a table. Each data source must have a primary table. In the **Select a Primary Table** dialog, the tables available for selection are determined as follows: • If the report does not have an associated file group, then you can select any table in the Table Library. • If the report has an associated file group, then the table list is limited by default to showing tables associated with the file group (and related lookup tables). Table variable names display in parentheses after the table names. If you select a table with a variable name, the table reference is stored using that variable name, so that it can dynamically change as the variable value changes. If you want to use a table that is not associated with the file group, enable **Show all tables** at the bottom of the dialog. The dialog updates to show all tables. The primary table determines the valid list of tables and columns for use in components that use the data source, and thereby determines the data that can be displayed in the components. • If the primary table is a data table, the valid tables include the primary table itself, reference tables that the primary table looks up to, and other data tables that share validated keys with the primary table. • If the primary table is a reference table, the valid tables include the primary table itself, reference tables that the primary table looks up to, and data tables that look up to the primary table.

Item	Description
Filter	Optional. Specify a filter criteria statement to limit the data available to components that use this data source. Click the filter icon to create a filter using the Filter Wizard. The Filter Wizard is limited to only showing valid selections for the primary table. When data is queried into a component that uses the data source, this filter is automatically applied (in addition to the user's applicable table security filters). **NOTE:** If the report has an associated file group, the tables in the Filter Wizard show with table variable names (as applicable), but the filter is not stored using these variable names. The filter does not update for changes to the table variable values.

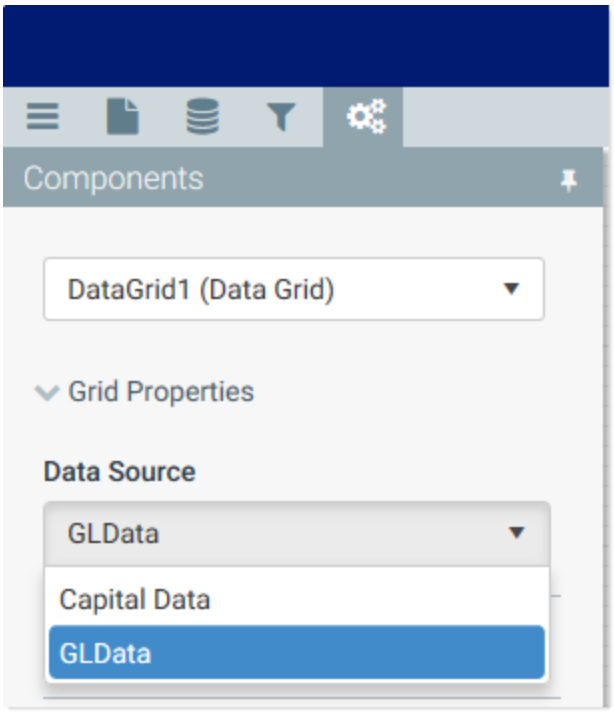
Assigning a data source to a Data Grid component

When you first create a new web report from a template, any Data Grid components in the report are automatically assigned to the default data source **Datasource 1**. Once you have configured the default data source, the Data Grid components are now ready to be configured if you want them to use that data source. However, if you have created additional data sources and you want the Data Grid components to use different data sources, then you must change the data source assignment in the component properties.

Data Grid components are configured on the **Components** panel of the Report Designer.

To assign a data source to a Data Grid component:

1. In the **Components** panel, select the Data Grid component that you want to configure. You can use the drop-down list at the top of the panel to select the component, or you can select the data grid directly in the web report canvas.
2. In the **Component Properties** section, use the **Data Source** list to select the desired data source.



Once a data source has been specified for a Data Grid component, the grid is now limited to using table columns that are valid within the context of the primary table for the data source. Dialogs such as the **Add Columns** dialog are automatically filtered to show valid selections.

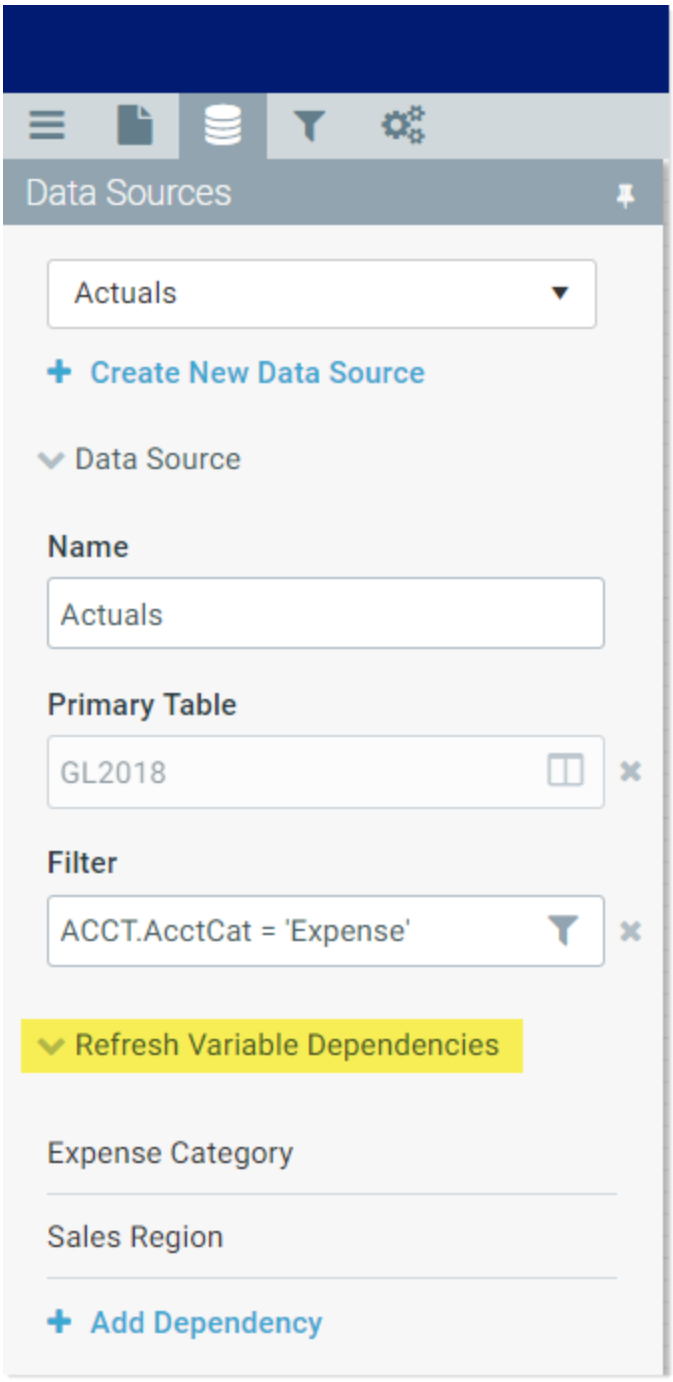
If you change the data source for a Data Grid component after columns have already been added to the grid, the existing columns may now be invalid in the context of the new data source. If the data grid has invalid columns, they must be removed in order to render the grid without error. However, if the existing columns are still valid in the new data source, then the data grid will continue to work after changing the data source.

Defining refresh variable dependencies for data sources

Data sources can be dependent on one or more refresh variables, so that users can filter the data in the associated Data Grid components on demand.

In order to create a dependency, the refresh variable must already be created on the **Refresh Variables** panel. For more information on creating refresh variables and how dependencies work, see Configuring Refresh Variables.

Refresh variable dependencies for data sources are defined in the **Refresh Variable Dependencies** section of the **Data Sources** panel. If the currently selected data source already has defined dependencies, they are listed in this section. Dependencies are listed by the name of the variable they are associated with.



Example refresh variable dependencies for a data source

To create a refresh variable dependency:

1. Select the desired data source from the drop-down list at the top of the panel. If your report only has one data source, then it is selected by default.
2. In the **Refresh Variables Dependencies** section, click **Add Dependency**.

3. In the **Create a Dependency** dialog, complete the following:

Item	Description
Variable	Select the name of the variable that you want to associate with this data source. You can select any variable defined on the Refresh Variables tab, except for Year variables. Year variables do not use dependencies.
Table Reference	This field only displays if the primary table of the data source has multiple column paths to the variable. In this case, you must select the column path that you want to use for this variable. If the primary table only has one column path to the variable, then this field does not display. You do not have to configure the column association between the data source and the variable because it is automatically set.

NOTE: If the primary table of the data source does not contain a path to the value column for the variable, the dependency cannot be created because there is no way to filter the data source based on the variable. In this case, the dialog displays a message "No dependencies available" after you select the variable name.

4. Click **OK** to create the dependency.

Refresh variable dependencies cannot be edited once they are created. They can only be deleted. To delete a dependency, hover your mouse over the dependency in the list and then click the Delete icon.

NOTE: If you change the value column or hierarchy for the refresh variable after you create the dependency, the dependency will still work as long as there is only one path to both the original and the new value column or hierarchy (and assuming the new selection is still valid against the data source). However, if the original dependency had a table reference, or if the new value column needs a table reference, then you must delete and re-create the dependency in order for the variable to work.

Setting up drilling for Data Grid components

You can enable drilling for Data Grid components in web reports, and configure the grid so that certain drilling selections are available to users. If drilling is enabled, users can drill any row in the grid by clicking on a drill icon that displays on each row. Users can select a drilling level from among the available selections, and then the drilling results are presented in a separate web page. Users can continue to drill the drilling results if desired, or return to the original grid and drill again from there.

When configuring drilling for the grid, you specify one or more hierarchies from a lookup table (based on the primary table of the data source). Users can then drill to any level of the hierarchy.

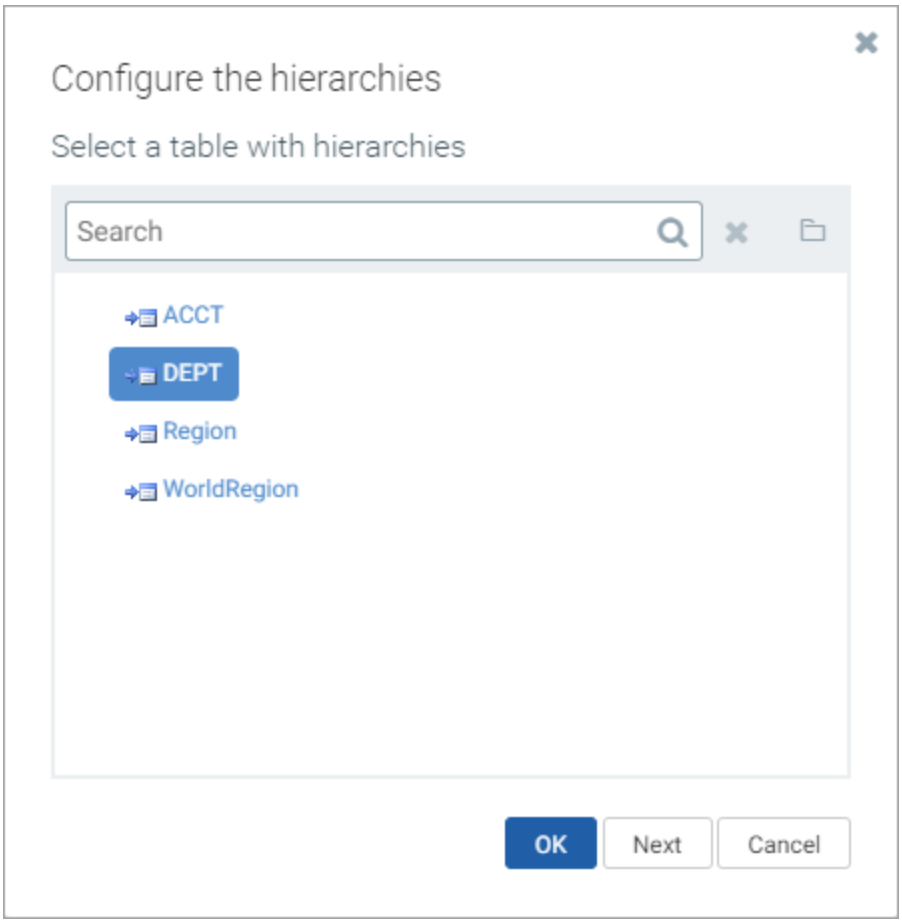
NOTE: Some browsers may require pop-ups to be allowed for the Axiom Software site in order to perform drilling in a web report.

Enabling drilling for a Data Grid component

Drilling is configured on the **Components** panel of the Report Designer. Select the grid that you want to configure, then complete the following properties in the **Grid Properties** section:

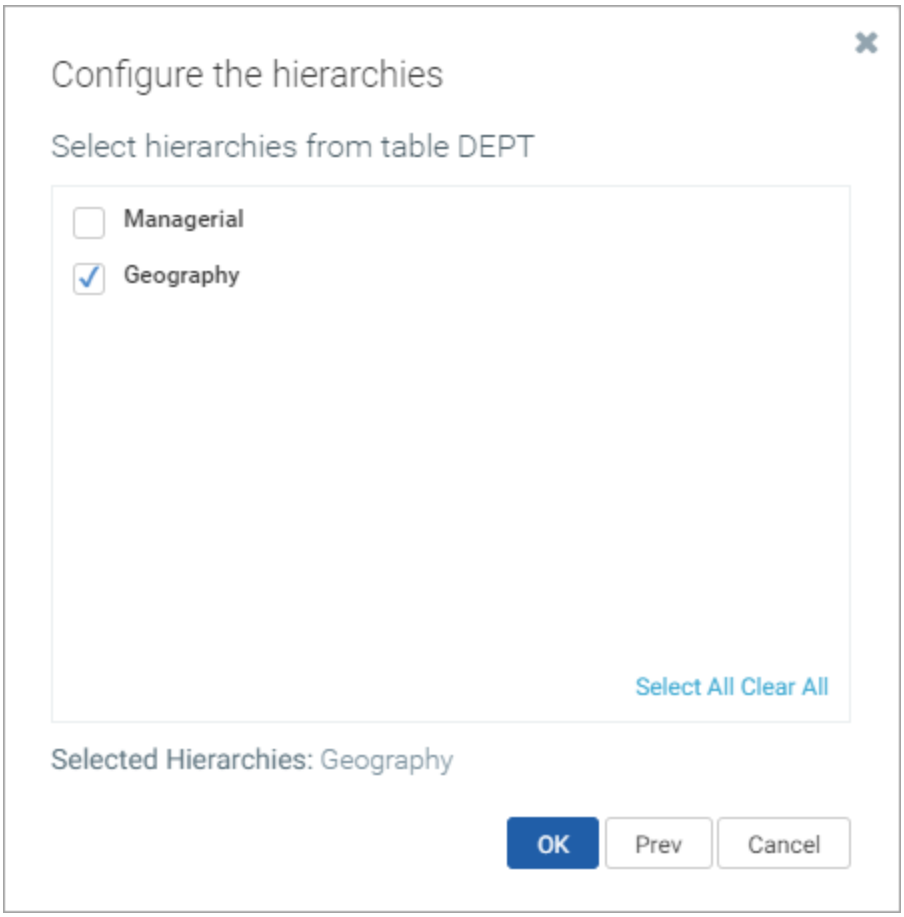
Item	Description
Enable Drilling	Select this check box to enable drilling for the data grid. If enabled, users can "drill down" a row in the grid to see the data in that row at a different level of detail.
Drilling Hierarchies	Specify one or more hierarchies in a lookup table to determine the drilling levels available to users. To select hierarchies, click the hierarchies icon in the right side of the Drilling Hierarchies box. Once you have made your selections, the Drilling Hierarchies box is populated with either the selected table name (if using all hierarchies on a table), or with the names of the selected hierarchies on that table. **NOTE:** If you leave the Drilling Hierarchies box blank, then the user can drill on any valid hierarchy. Essentially, this is as if you selected all tables in the Select Table dialog, showing all hierarchies on those tables.

When selecting hierarchies for drilling, you are first prompted to choose a table. The dialog is limited to showing only reference tables with hierarchies, where the primary table of the data source has a lookup relationship to the tables. Once you have selected a table, you can click **OK** to use all hierarchies on that table, or you can click **Next** to select specific hierarchies.



Example table selection for drilling hierarchies

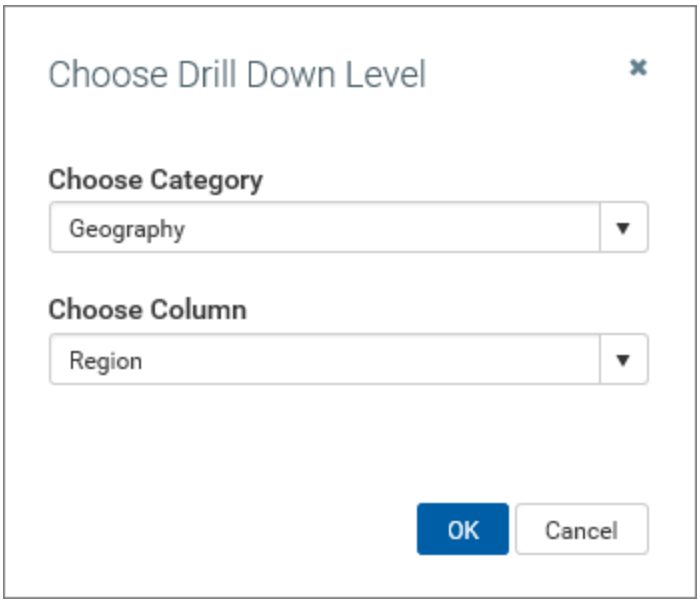
If you click Next, the next screen prompts you to choose one or more hierarchies on that table. Select the hierarchies that you want to use, and then click **OK**.



Example hierarchy selection for drilling hierarchies

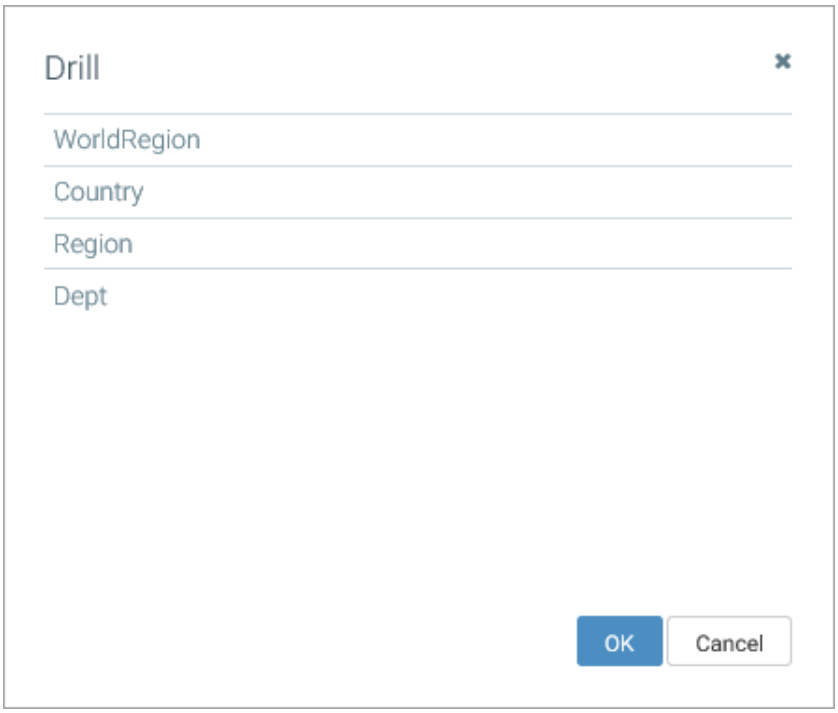
Display of drilling options

If multiple hierarchies are available for drilling, users first select a category (the hierarchy) and then select a column in the hierarchy. In the following example, the user has selected the Geography hierarchy and then the Region column, so the drilling data will use regions as the rows.



NOTE: If the query data contains multiple paths to the hierarchy columns, the same hierarchy will show multiple times (once for each valid path). The user must select the path that they want to use for the drill.

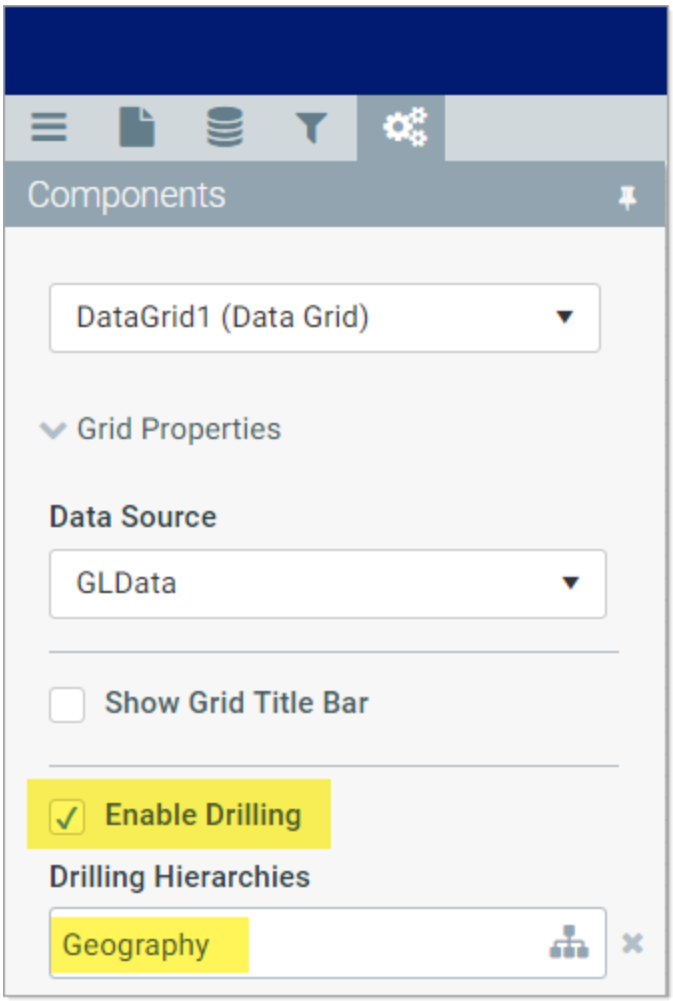
If only one hierarchy is available (and the data has only one path to that hierarchy), then the user does not have to select the hierarchy. Instead, the columns in the hierarchy are presented directly in the dialog. In the following example, the Geography hierarchy is the only available hierarchy, so the user can directly select any column in that hierarchy.



Drilling example

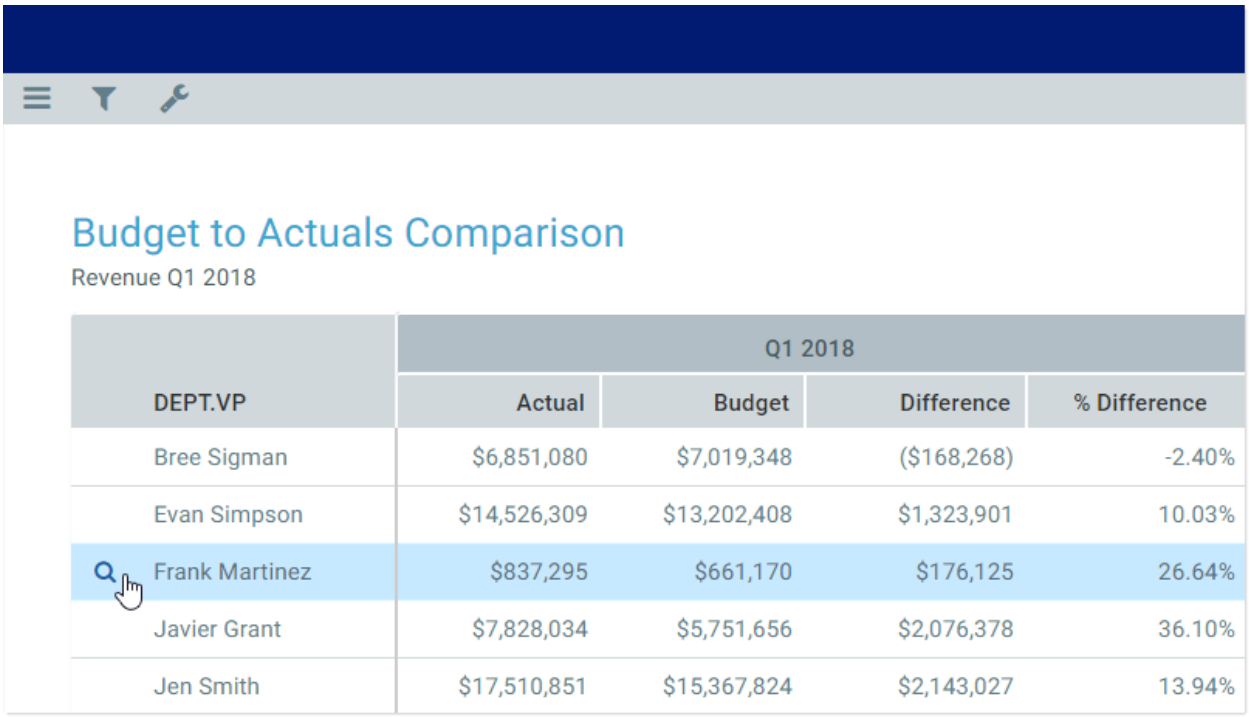
The following example is intended to give web report creators an idea of the user experience when drilling a Data Grid component.

In this example, the Data Grid component is configured as follows:



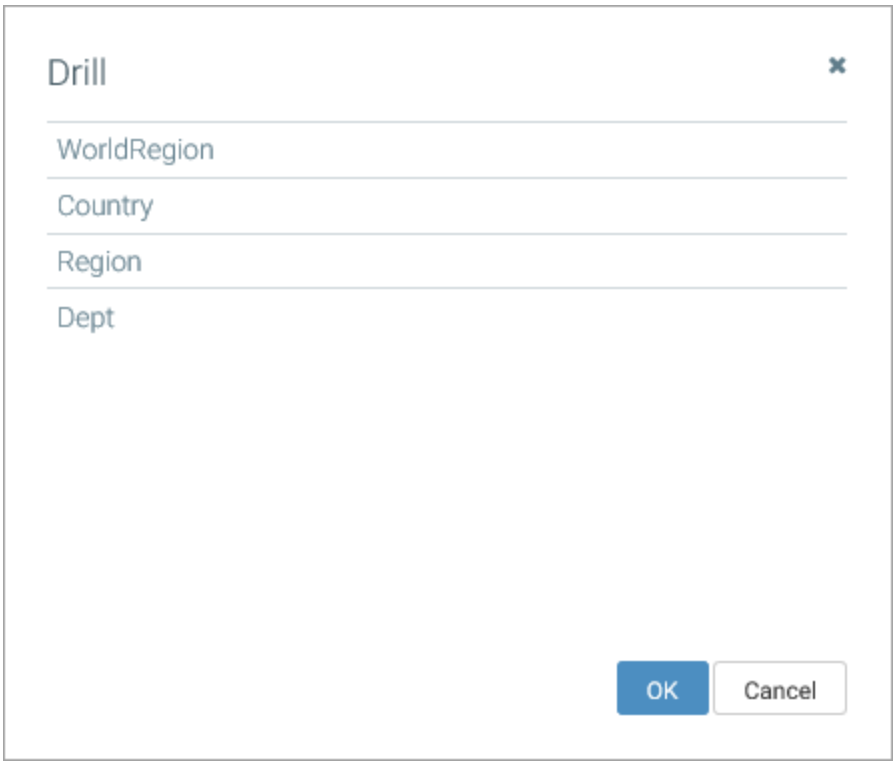
- The primary table of the assigned data source is GL2020.
- **Enable Drilling** has been enabled for the component.
- The **Drilling Hierarchies** property is set to the Geography hierarchy on the Dept table.

When the web report is viewed, the first column in the data grid is now the drill action column. When a user hovers their cursor in that column, they can see a drill icon (a magnifying glass) for the current row. The user can click on the icon to initiate a drill for that row.



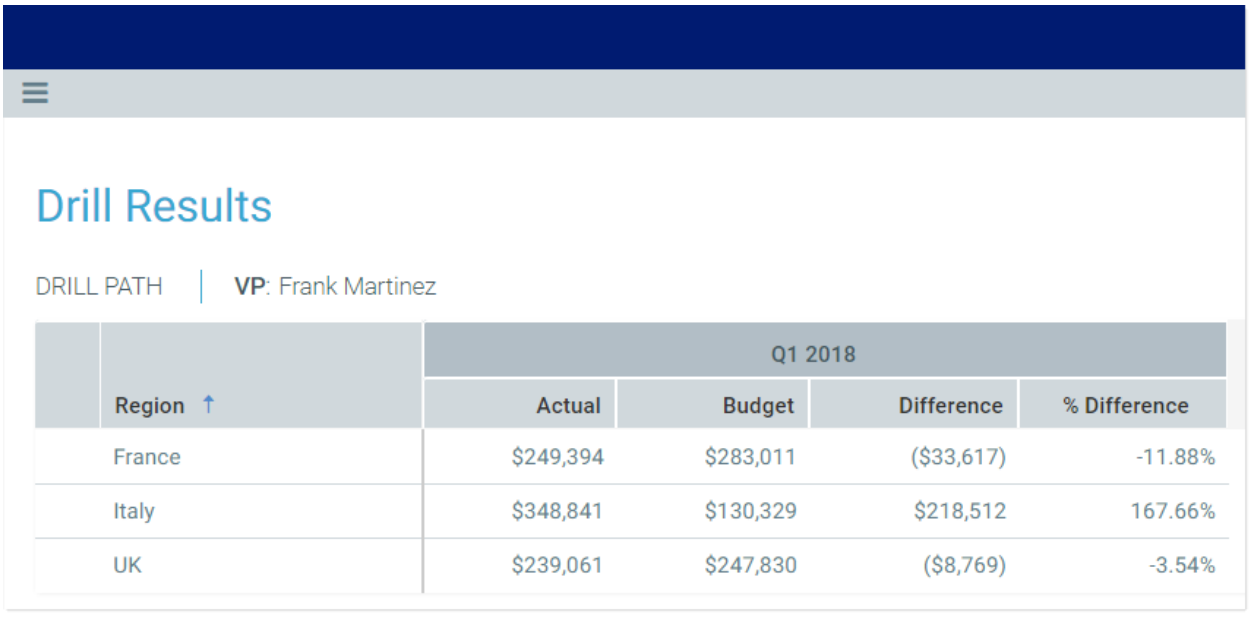
Drill action column displays drill icon on hover

Once the user has initiated the drill, a dialog opens to display the available drilling levels. In this example, these drill levels are the columns in the Geography hierarchy. (If instead multiple hierarchies were available for drilling, the dialog would first prompt users to select the hierarchy and then select the desired column in that hierarchy.)



User is prompted to select drill level

After the user selects a drill level, a new browser tab opens to display the drill results. In this example, the data for the VP Frank Martinez row is now shown at the region level.



	Region	Q1 2018 Actual	Budget	Difference	% Difference
	France	$249,394	$283,011	($33,617)	-11.88%
	Italy	$348,841	$130,329	$218,512	167.66%
	UK	$239,061	$247,830	($8,769)	-3.54%

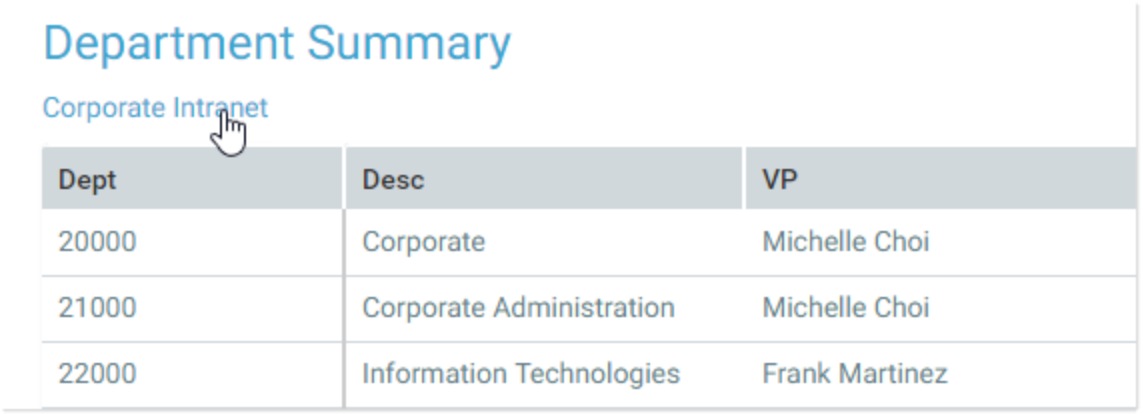
Drill results display in a new tab

The drill results automatically include all columns from the original data grid except for the sum by columns, which are replaced by the selected drill level. The current drilling path is displayed at the top of the page.

If desired, the user can further drill on the drill results, using the same drilling options. For example, the user could now choose to drill down to view the departments in a region. In this case, the drill results are presented in the same browser tab, replacing the current drill results.

Hyperlink component

The Hyperlink component displays a hyperlink to a given URL. Users can navigate to the URL by clicking the link text on the web report.



Example hyperlink in a web report

Component properties

You can define the following properties for a Hyperlink component. To configure component properties in the Report Designer, select the component in the report and then edit the properties as needed using the **Components** panel.

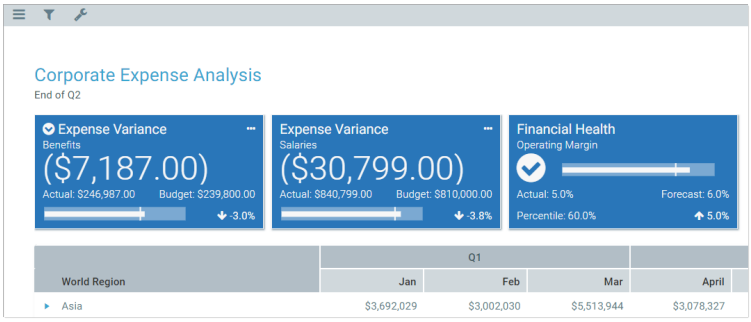
Item	Description
Text	The display text for the hyperlink.
URL	The URL to launch when the button is clicked. The URL must use full HTTP syntax—meaning, use `http://www.axiomepm.com`, *not* `www.axiomepm.com`. If desired, you can use the URL to open an Axiom form, a web report, or a spreadsheet Axiom file. However, in order to do this, you must have access to the Desktop Client to generate the URL and copy it to the component properties. For example, you can use GetFormDocumentURL, GetWebReportDocumentURL, or GetDocumentHyperlink within a spreadsheet file to generate a hyperlink to a given file, and then copy the URL from the spreadsheet to the component properties.

KPI Panel component

The KPI Panel component displays key performance indicators (KPIs) in a series of eye-catching, automatically-formatted boxes. The design of the component is flexible to accommodate various numbers and display configurations.

The KPI Panel component displays each KPI using a primary value or status, and several optional supporting values. Each KPI can be shown with an optional bullet chart or sparkline chart. KPIs can be flagged as trending up or down, which is indicated using an arrow and a color (green for up, red for down). KPIs can also be configured to execute one or more actions using a button in the top-right corner or a fly-out menu.

The KPI values for the component must come from a KPI table. A KPI table is a special class of reference table that stores all of the properties necessary to display a KPI in the KPI Panel. The component reads the values from the specified table and displays them in the panel, using one KPI box per row of the table. You can define an optional filter on the component to determine which KPIs from the table display in the panel. If your system does not already have a KPI table, one must be created and populated before you can use the KPI Panel component in web reports.



Example KPIs in a web report

How KPIs display in the component

The KPI Panel component depends on a predefined data structure so that it can automatically format and position the KPI data into a series of KPI boxes. KPI tables provide this data structure using a set of required columns that are automatically created when the KPI table is created. For more information about the KPI table structure, see About KPI tables.

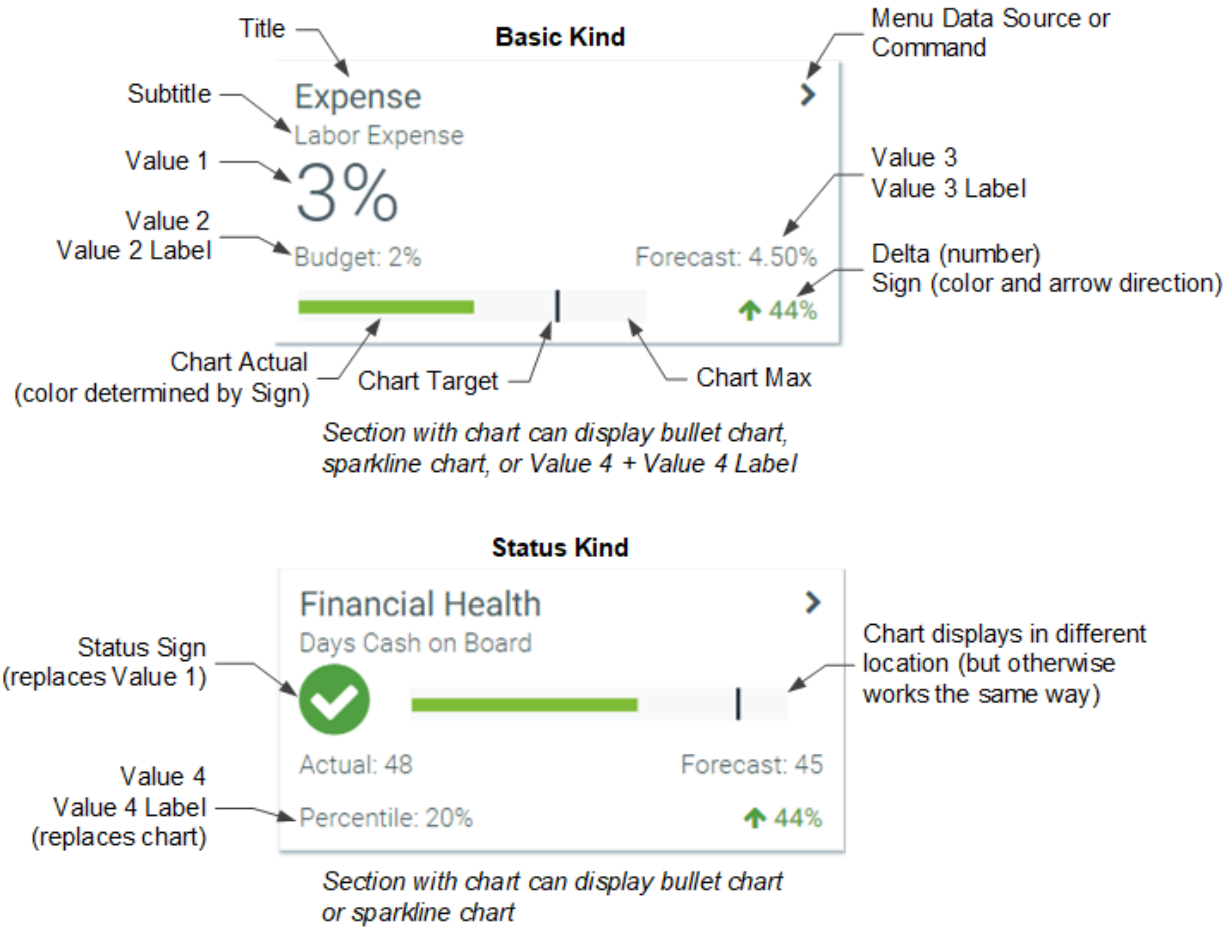
The KPI boxes automatically flow within the KPI Panel component, from right to left and then down. If the component is sized wide and short, the KPI boxes will flow horizontally across the page. If the component is sized tall and thin, the KPI boxes will flow vertically down the page. The size and position of the KPI Panel is determined by the template; it cannot be changed within the web report.

The KPI boxes in the panel can display in a variety of ways, depending on the following:

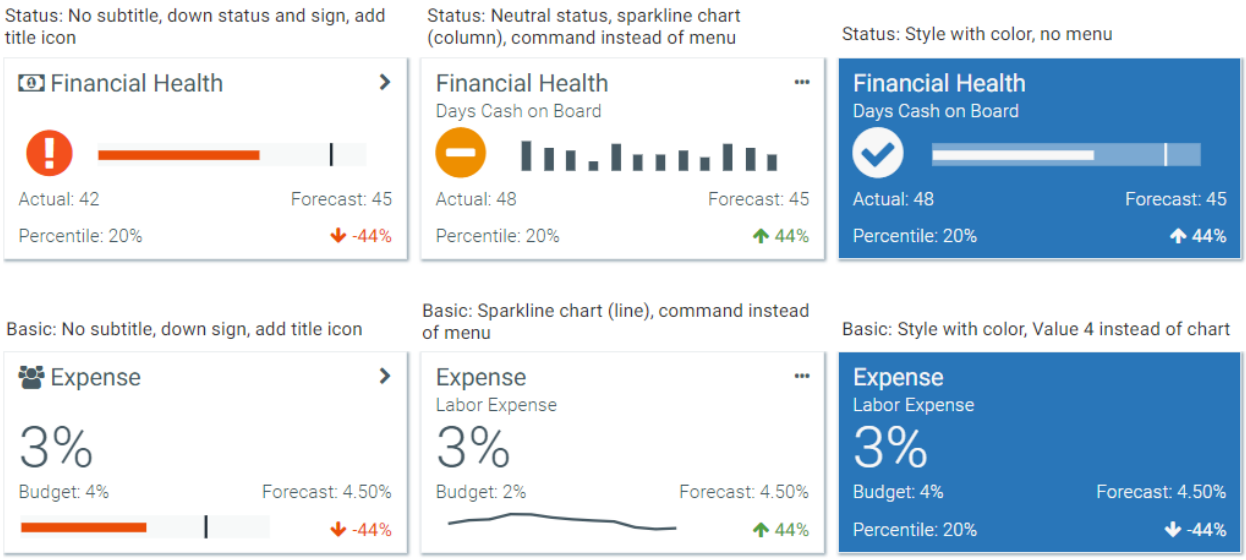
- **KPI Kind**: The kind specified for each KPI determines the information that displays in each KPI box. **Basic** KPIs emphasize numeric detail, whereas **Status** KPIs are intended to show whether a KPI is "good" or "bad" at a glance. Basic and Status KPIs can be mixed within the same panel.

- **Other KPI Properties**: The various properties that are populated for each KPI affect the display of that KPI. For example, a Basic KPI can display either Value 4 or a chart, but not both.
- **KPI Size**: The KPI size is set at the template level and determines how much detail displays in each box. Currently it is not possible to change the KPI size within a web report, because the template has been designed to accommodate a certain size of KPI.

The following diagram shows how the major KPI properties are displayed in Basic and Status KPIs, so that you can see how the data structure maps to the presentation of KPI boxes.

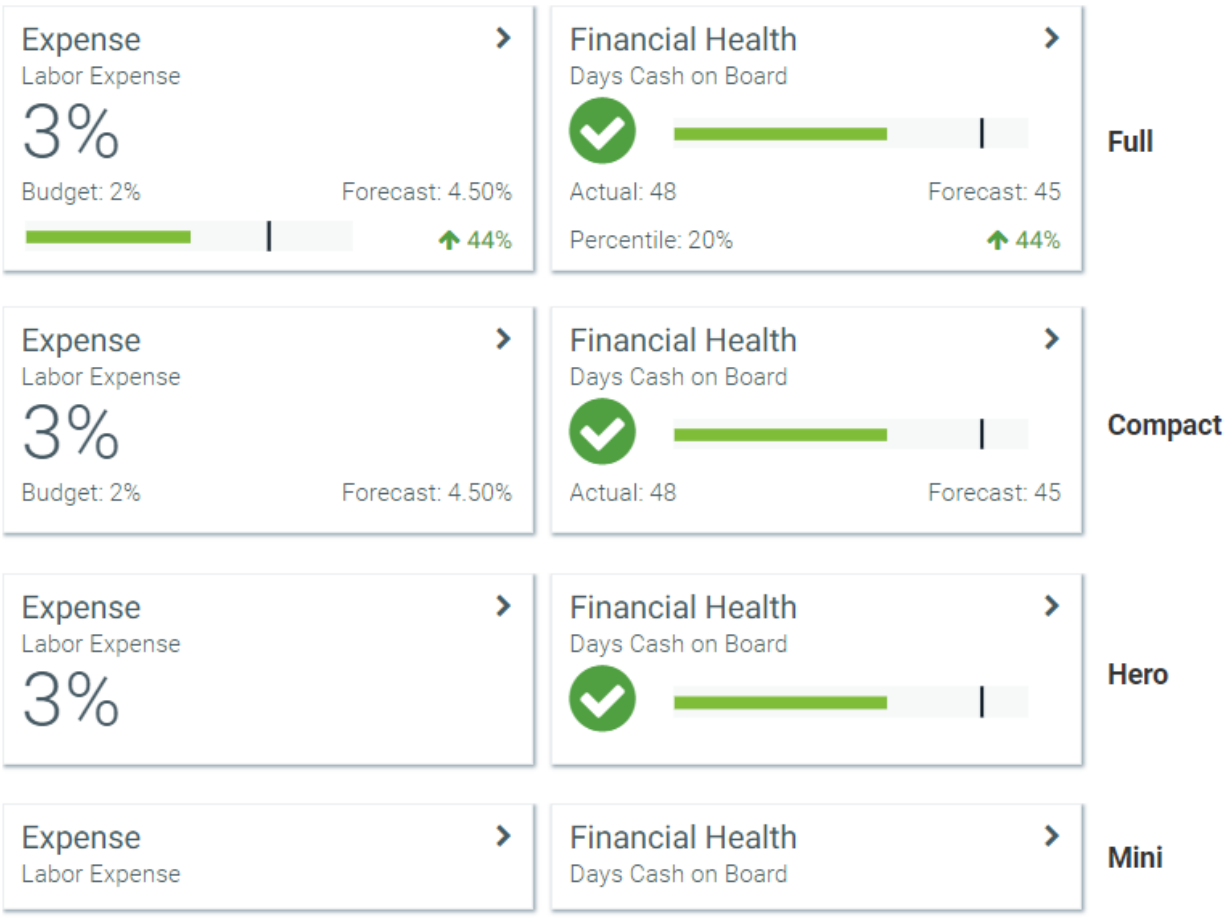


The following screenshot shows some common variations on this structure:



NOTE: If the value of any property is too long to display in its allotted space, the value is truncated and displays with an ellipsis. The full value is shown in a tooltip.

The following screenshot shows how the specified size affects the presentation of Basic and Status KPIs.


Expense
Labor Expense
3%
Budget: 2%
Forecast: 4.50%
44%
Financial Health
Days Cash on Board
Actual: 48
Forecast: 45
Percentile: 20%
44%
Full
Expense
Labor Expense
3%
Budget: 2%
Forecast: 4.50%
Financial Health
Days Cash on Board
Actual: 48
Forecast: 45
Compact
Expense
Labor Expense
3%
Financial Health
Days Cash on Board
Hero
Expense
Labor Expense
Financial Health
Days Cash on Board
Mini

Component properties

You can define the following properties for a KPI Panel component. To configure component properties in the Report Designer, select the component in the report and then edit the properties as needed using the **Components** panel.

Item	Description
KPI Table	The table that contains the KPI values to display in the component. Click the table icon to select a table. Only KPI tables can be used, because KPI tables contain the necessary columns that map to the properties used by the KPI Panel component. In the **Select a KPI Table** dialog, the tables available for selection are determined as follows: • If the report does not have an associated file group, then you can select any KPI table in the Table Library. • If the report does have an associated file group, then the table list is limited by default to showing KPI tables associated with the file group (and related lookup tables). Table variable names display in parentheses after the table names. If you select a table with a variable name, the table reference is stored using that variable name, so that it can dynamically change as the variable value changes. If you want to use a table that is not associated with the file group, enable **Show all tables** at the bottom of the dialog. The dialog updates to show all KPI tables.
Filter	Optional. A filter to limit the KPIs shown in the component. Click the filter icon to create a filter using the Filter Wizard. **NOTE:** If the report has an associated file group, the tables in the Filter Wizard show with table variable names (as applicable), but the filter is not stored using these variable names. The filter does not update for changes to the table variable values. If no filter is defined, then all KPIs in the table display in the component by default (except for rows with the **Hidden** column set to **True**). If desired, you can set up refresh variable dependencies for the KPI Panel component, so that users can filter the KPIs shown in the component on demand. If the component has refresh variable dependencies, then any filter set here is applied in addition to any refresh variable values.

Item	Description
Sort Order	Optional. One or more columns to determine the sort order of the KPIs shown in the component. If no sort columns are specified, then by default the KPIs are sorted by the **Name** key column. Click the sort icon to select columns on the KPI table. In the **Select KPI Sort Columns** dialog: • Move the desired sort column(s) from the **Available Items** box to the **Selected Items** box. You can select one or more columns (using CTRL or SHIFT to select multiple), and then use the arrow keys in the middle to move them between boxes. You can also double-click on an individual column to move it between boxes. • Use the drop-down list next to the column name to change the sort direction as needed. By default, the sort direction is ascending (**ASC**). If desired, you can change this to descending (**DESC**). • If you have selected multiple columns, you can use the up and down arrows as needed to arrange the columns in the desired sort order. The top column in the list is the top-level sort. If the report has an associated file group, and the KPI Table is the target of a table variable in the file group, then the sort order column is stored using the variable so that it can change dynamically.

Defining refresh variable dependencies for KPI Panel components

KPI Panel components can be dependent on one or more refresh variables, so that users can filter the KPIs that show in the component on demand.

In order to create a dependency, the refresh variable must already be created on the **Refresh Variables** tab. For more information on creating refresh variables for web reports and how refresh variable dependencies work, see Configuring Refresh Variables.

In the Report Designer, refresh variable dependencies for KPI Panel components are defined in the **Refresh Variable Dependencies** section of the **Components** tab. If the currently selected component already has defined dependencies, they are listed in this section. Dependencies are listed by the name of the variable they are associated with.

To create a refresh variable dependency for a KPI Panel:

1. In the **Refresh Variables Dependencies** section of the **Components** tab, click **Add Dependency**.
2. In the **Create a Dependency** dialog, complete the following:

Item	Description
Variable	Select the name of the variable that you want to associate with this component. You can select any variable defined on the Refresh Variables tab, except for Year variables. Year variables do not use dependencies. The selected variable must reference the KPI table itself or a lookup table, in order to be valid for filtering the KPI Panel component.
Table Reference	This field only displays if the KPI table for the component has multiple column paths to the variable. In this case, you must select the column path that you want to use for this variable. If the table has only one column path to the variable, then this field does not display. You do not have to configure the column association between the component and the variable because it is automatically set.

NOTE: If the KPI table for the component does not contain a path to the value column for the variable, the dependency cannot be created because there is no way to filter the KPI Panel based on the variable. In this case, the dialog displays a message "No dependencies available" after you select the variable name.

3. Click **OK** to create the dependency.

Refresh variable dependencies cannot be edited once they are created. They can only be deleted. To delete a dependency, hover your mouse over the dependency in the list and then click the Delete icon.

NOTE: If you change the value column or hierarchy for the refresh variable after you create the dependency, the dependency will still work as long as there is only one path to both the original and the new value column or hierarchy (and assuming the new selection is still valid against the component). However, if the original dependency had a table reference, or if the new value column needs a table reference, then you must delete and re-create the dependency in order for the variable to work.

Executing commands from KPI Panels

You can configure a KPI box in a KPI Panel component to execute one or more commands. For example, you may want to launch a file with supporting information about the KPI.

There are several different ways that you can configure commands for KPIs. The approach to use depends on whether you need to execute one command or multiple, and whether you need to use custom icons with the command.

- **Basic Single Command:** If you only need to execute a single command, and you don't need a custom icon, then you can define the command in the Command column of the KPI table. The KPI box displays with a three-dots icon in the upper right corner. Users can click this icon to execute

the command.

- **Custom Single Command:** If you want to display a custom icon with a single command, then you can use a separate KPIMenu data source to define the command and its icon. The KPI box displays with the custom icon in the upper right corner. Users can click this icon to execute the command.
- **Custom Menu with Multiple Commands**: If you need to present multiple command options to users, then you can use a separate KPIMenu data source to define these commands. The KPI box displays with a carat icon in the upper right corner. Users can click this icon to open a fly-out menu that displays all of the commands using their defined names and icons.

Example KPIs with commands

If you want to use a KPIMenu data source with the KPI table, this must be part of the save-to-database file that is being used to save data to the table. See Saving KPIMenu values when using a KPI table for more information.

Valid command strings for use in KPIs

Command strings for KPIs can be any of the following items:

Valid Commands	Description
URL	Specify a URL (starting with HTTP/S) to open a web page, Axiom form, or web report. For example, you can use GetFormDocumentURL or GetWebReportDocumentURL to generate a URL to another Axiom file and launch it from the KPI.
Document shortcut	Specify a document shortcut to a file in the Axiom Financial Planning file system. Document shortcuts use the syntax `document://filepath`. For example: `document://\Axiom\Reports Library\Reports\expense_analysis.xlsx`

Commands from the Command Library cannot be used in web reports. If a command is used, no error displays and no action occurs when a user clicks on the menu item.

Creating a KPIMenu data source

Using the KPIMenu data source, you can define one or more commands to display with custom icons on a KPI box. When using the data source with a KPI table, the data source must be created in the save-to-database file that is being used to populate the table.

The tags for the data source are as follows:

Primary tag

[KPIMenu;*DataSourceName*]

The DataSourceName identifies this data source so that it can be assigned to a KPI in a KPI Panel. Data source names must be unique within a file and must start with a letter. Names can only contain letters, numbers, and underscores. Names are validated when the file is saved; an invalid name will prevent the save.

The placement of this primary tag defines the control column and the control row for the data source.

- All column tags must be placed in this row, to the right of the tag.
- All row tags must be placed in this column, below the tag.

Row tags

[MenuItem]

Each row flagged with this tag defines an item to display in the menu.

Column tags

[ID]

An ID that uniquely identifies each row in the data source. The ID can consist of numbers, text, or a combination of both, as long as it is unique for each row.

[Name]

The name of the menu item. This is the text that displays on the menu. The user clicks on the text to execute the menu item.

[Icon]

The name of an icon to display in the menu for this menu item. Enter any valid icon name, such as `fa-bar-chart`. The icon names are the same as the symbol names available for use in Axiom form components such as Formatted Grids.

To look up valid icon names, you can use the symbol choosers available for Formatted Grid, Label, and Button components. Currently, no helpers are available to populate the Icon column with icon names directly.

[Tooltip]

Optional. Defines text to display in a tooltip when a user hovers their cursor over the menu item.

[Command]

The command to execute when a user clicks the menu item. For more information, see Valid command strings for use in KPIs.

[Disabled]

Optional. Specifies whether the item is disabled on the menu (True/False). The default value is False if omitted or blank.

If True, then the item continues to display on the menu, but it is grayed out and cannot be selected. This option can be used to dynamically enable or disable a menu item based on a condition.

[Hidden]

Optional. Specifies whether the item displays on the menu (True/False). The default value is False if omitted or blank.

If True, then the item does not display on the menu. This option can be used to dynamically show or hide a menu item based on a condition.

NOTES:

- The primary tag must be placed in the first 500 rows of the sheet.
- Formulas can be used to create the tags, as long as the initial bracket and identifying keyword are whole within the formula.

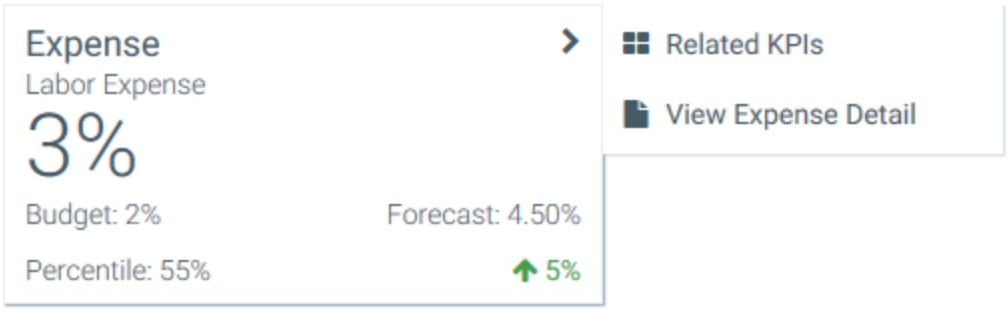
The following example data source defines a KPI menu with two items:

	B	C	D	E	F	G	H
19							
20		[KPIMenu;Menu]	[ID]	[Name]	[Icon]	[Tooltip]	[Command]
21		[MenuItem]	1	Related KPIs	fa-th-large	Related KPIs	document://\Axiom\SystemFolderName_ReportsLibrary\Forms\kpireport.xlsx?ds=Tr
22		[MenuItem]	2	View Expense Detail	fa-file	View Expense D	document://\Axiom\SystemFolderName_ReportsLibrary\Forms\expensereport.xlsx?c

Example KPIMenu data source

To use the Data Source Wizard to add the tags, right-click a cell and select **Create Axiom Form Data Source > KPI Menu**. You can right-click a single empty cell to place the initial tags and then fill out the data, or you can have the data already in the spreadsheet and highlight the applicable data to add the tags. The cells in the row above the data and the column to the left of the data must be blank in order for Axiom to place the tags in sheet.

The resulting menu would display on the KPI as follows:



Example fly-out menu on KPI

If the KPIMenu data source only contains one visible item, then that item displays directly in the top right corner of the KPI box, using the specified icon.

Saving KPIMenu values when using a KPI table

You can use a KPIMenu data source when saving KPI values to a KPI table. To do this, the save-to-database file that you use to save KPI data to the table must be set up as follows:

- The file must contain a KPIMenu data source. This data source is set up as normal, on any sheet of the file.
- When setting up Save Type 1 in the file, the contents of the MenuData column must contain the following special syntax to specify the KPIMenu data source to save: `[Datasource=DataSourceName]`.

For example, imagine that you have a KPIMenu data source named Menu, and you want to associate that data source with a KPI titled Expense. In the data to be saved to the database, the MenuData column for that KPI must contain the text `[Datasource=Menu]`.

	A	B	C	D	E
1					
2		[Save2db;DeptKPI;;;;;False]	Name	Title	MenuData
3					
4		[save]	Basic1	Expense	[datasource=menu]

Example save-to-database using special syntax to save KPI menu data

When the save-to-database is executed, Axiom Financial Planning finds the designated KPIMenu data source, and converts the contents of it into an XML string. That XML string is then saved to the MenuData column in the KPI table. When the KPI table is used with a KPI Panel component, the XML string is used to render the menu on the KPI box.

The MenuData column in KPI tables can only accept the special data source syntax when saving to the database using Save Type 1. If any other contents are present in the MenuData column within the sheet (even the resulting XML syntax), an error occurs when saving. If you want to modify and save the other columns in the table without modifying the MenuData column, then the MenuData column must be omitted from the save.

Displaying charts in KPI Panels

Each KPI in a KPI Panel component can include an optional chart. There are two options to display a chart:

- **Bullet Chart:** To display a bullet chart in the KPI box, complete the **ChartTarget**, **ChartActual**, and **ChartMax** columns in the KPI table.
- **SparklineChart:** To display a sparkline chart in the KPI box, first create an XYChart data source to define the data for the sparkline. Then, complete the **SparklineData** column in the KPI table.

Each KPI can use either a bullet chart or a sparkline chart, but not both. If both ChartMax and SparklineData are completed in a KPI table, the bullet chart takes precedence.

Both kinds of KPIs (Basic and Status) can display charts. In Basic KPIs, the chart displays at the bottom left of the KPI box. In Status KPIs, the chart displays in the middle of the KPI box, next to the status indicator.

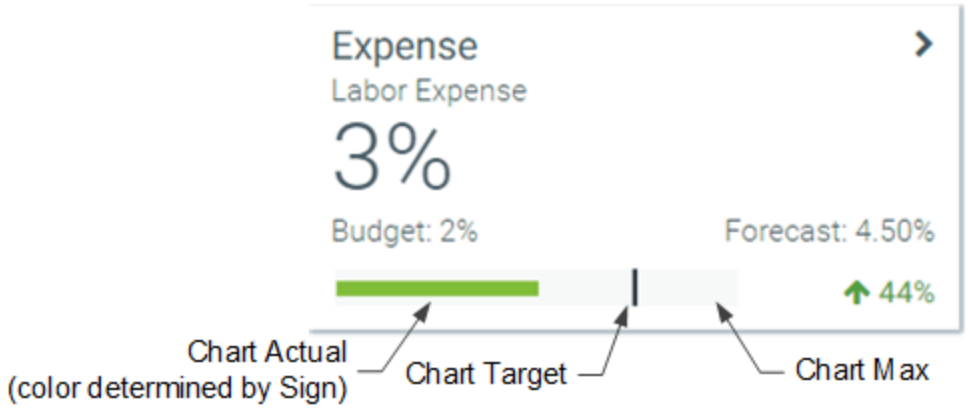
In Basic KPIs, the chart and Value 4 display in the same location, so only one or the other can be used per KPI. If both are defined, the chart takes precedence. This is not an issue for Status KPIs because the chart displays in a different location.

Displaying bullet charts in KPIs

To display a bullet chart in a KPI, complete the following columns in the KPI table.

- **ChartTarget**: A value that defines the target line for the bullet chart.
- **ChartActual**: A value that defines the actual line for the bullet chart.
- **ChartMax**: The maximum value of the bullet chart. The chart target and actual values are represented in relation to this maximum value.

  For example, if the actual value is 100 and the maximum value is 1000, then the actual bar will only take up 1/10 of the bullet chart. But if the maximum value is 150, then the actual bar will take up 2/3 of the bullet chart.



If the Style of the KPI is set to `white`, blank (transparent), or `S1`, then the actual bar of the chart displays in red or green, depending on the value of the Sign column. Otherwise, it displays in white.

NOTE: Tooltips display on bullet chart values within the KPI. However, these values display as unformatted numbers. When using a KPI table, there is no option to define numeric formatting for these values.

Displaying sparkline charts in KPIs

To display a sparkline chart in a KPI when using a KPI table, you must use special syntax to save the contents of a specified series in an XYChart data source to the SparklineData column of the table during a save-to-database.

The save-to-database file that you use to save KPI data to the table must be set up as follows:

- The file must contain an XYChart data source that is configured to display sparkline data. This data source is set up as normal, on any sheet of the file. See Creating an XYChart data source for a Sparkline chart.
- When setting up the Save Type 1 in the file, the contents of the SparklineData column must contain the following special syntax to specify the XYChart data source and series: `[Datasource=`*`DataSourceName`*`;Series=`*`SeriesName`*`]`.

For example, you can create an XYChart data source named Sparkline, with two series. One is a line series named LineSeries and the other is a column series named ColumnSeries.

	AB	AC	AD	AE	AF	AG	AH
5							
6		[XYChart;Sparkline]	[Kind]	[SeriesName]	[XValue]	[XValue]	[XValue]
7		[XValueName]			Jan	Feb	March
8		[Series]	Line	LineSeries	5	10	15
9		[Series]	Column	ColumnSeries	1000	800	700

Example XYChart data source

To save series data to a KPI table, you must place the special syntax in the SparklineData column for the save-to-database, as shown in the following screenshot:

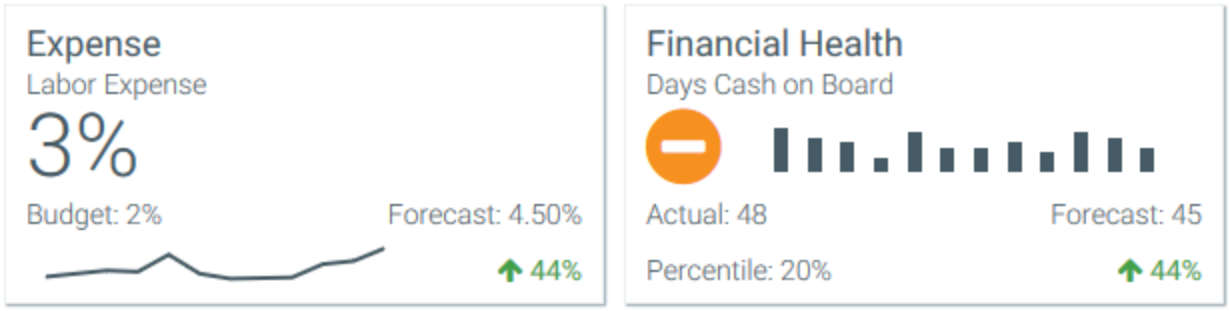
	A	B	C	D	E
1					
2		[Save2db;DeptKPI;;;;;False]	Name	Title	SparklineData
3					
4		[save]	Basic1	Expense	[datasource=sparkline;series=lineseries]
5		[save]	Status1	Financial Health	[datasource=sparkline;series=columnseries]

Example save-to-database using special syntax to save sparkline data

When the save-to-database is executed, Axiom Financial Planning finds the designated XYChart data source, and converts the contents of the specified series into an XML string. That XML string is then saved to the SparklineData column in the KPI table. When the KPI table is used with a KPI Panel component, the XML string is used to render the sparkline chart on the KPI box.

The SparklineData column in KPI tables can only accept the special data source syntax when saving to the database using Save Type 1. If any other contents are present in the SparklineData column within the sheet (even the resulting XML syntax), an error occurs when saving. If you want to modify and save the other columns in the table without modifying the SparklineData column, then the SparklineData column must be omitted from the save.

The following example KPIs show how a line and column sparkline chart appear in the KPI box:



Example KPIs with sparkline charts

NOTES:

- Sparkline charts in KPIs do not display using colors. They are black when the KPI box uses a light color and white when the KPI box uses a dark color.
- Tooltips display on sparkline chart values within the KPI. When using a KPI table, the tooltips display the unformatted numeric value.

Creating an XYChart data source for a Sparkline chart

The tags for the XYChart data source are as follows when using it to define a sparkline chart for a KPI. When using the data source with a KPI table, the data source must be created in the save-to-database file that is being used to populate the table, instead of in the form source file.

Primary tag

[XYChart;*DataSourceName*]

The DataSourceName identifies this data source so that it can be assigned to a KPI. Data source names must be unique within a file and must start with a letter. Names can only contain letters, numbers, and underscores. Names are validated when the file is saved; an invalid name will prevent the save.

The placement of this primary tag defines the control column and the control row for the data source.

- All column tags must be placed in this row, to the right of the tag.
- All row tags must be placed in this column, below the tag.

Row tags

[Series]

Each row flagged with this tag defines a series of data to be displayed in the chart. Each sparkline chart uses a single series in the data source.

Column tags

[SeriesName]

Defines the name of each series in the chart. The name identifies this series so that it can be assigned to a KPI.

[XValue]

Each column of data to be displayed in the chart must be marked with an XValue tag.

[Kind]

Specifies the kind of each series in the chart: `Line` or `Column`. Any other XYChart series kind listed here will render as Line.

NOTES:

- The primary tag must be placed in the first 500 rows of the sheet.
- Formulas can be used to create the tags, as long as the initial bracket and identifying keyword are whole within the formula.
- Negative numbers in a data source must use the minus symbol or parentheses to indicate the negative value. Alternative negative formats such as red number text are not recognized and will display as positive values in the chart.

When using **Create Axiom Form Data Source** on the right-click menu, there is no separate option for Sparkline. Instead, you should select Line Chart or Column Chart to create an XYChart data source. You can modify the Kind column as needed to specify Line or Column for each series.

About KPI tables

KPI tables store key performance indicators (KPIs) for your organization. These KPIs can be referenced in web reports and in Axiom forms using the KPI Panel component.

KPI tables have a predefined structure that maps to the properties used by the KPI Panel component. Once you assign the table to a KPI Panel component, the component automatically formats and positions the KPI data in the table into a series of KPI boxes. You can apply an optional filter to limit the KPIs shown in a particular component.

Creating KPI tables

KPI tables have a special editor in the Web Client Table Manager, designed to make it easy for table administrators to create new KPI tables.

Currently, KPI tables can only be created in the Web Client. Once a table has been created, additional columns can be added as needed using the standard **Edit Table** feature in the Desktop Client.

To populate a KPI table with KPI values, you can use any of the standard features for populating tables, such as Save Type 1 and Open Table in Spreadsheet. In most cases, you would set up a Save Type 1 report that queries data and calculates KPIs, then saves that data back to the KPI table. The report can be scheduled to run periodically to update the table with the latest KPI data as needed.

Column structure for KPI Tables

KPI tables have a predefined column structure that corresponds to the values used by the KPI Panel component. All of the following columns are created by default when the KPI table is created, and cannot be deleted. All string columns are non-Unicode.

Name	Column Properties	Description
Name	String (100) Key Column	Defines a code that uniquely identifies each KPI in the table. The code can be anything you want, as long as it is unique. For example, you might use a meaningful code format like KPI_ExpenseVar or KPI_ExpenseVar_D42000 (where KPIs are stored by department).

Name	Column Properties	Description
Kind	String (32)	The kind of KPI, either `Basic` or `Status`. The kind determines whether the primary KPI value is numeric or a status icon. If this column is blank, or if it contains any value other than Basic or Status, the KPI kind is interpreted as `Legacy`. The Legacy kind is for backward-compatibility only, and it displays KPIs using the format and properties supported by KPIs created in 2018.1.
Title	String (250)	The title of the KPI, displayed at the top of the KPI box.
TitleIcon	String (64)	Optional. The name of an icon to display in the KPI title. Enter any valid icon name, such as `fa-dollar`. The icon names are the same as the symbol names available for use in Axiom form components such as Formatted Grids. If specified, the symbol displays in the far left of the title, before the title text. To look up valid icon names, you can use the symbol chooser available for Formatted Grid components. In a form-enabled file, right-click a cell and then choose **Insert Formatted Grid Tag > Symbol**. Then use the **[...]** button to the right of the **Symbol** box to open the **Choose Symbol** dialog. You can hover your cursor over an icon to see its name.
Subtitle	String (250)	Optional. The subtitle of the KPI, displayed directly beneath the title.
Value1	Numeric	The primary value to highlight for the KPI, when using the Basic kind. This value displays in large, bold font directly underneath the title. This is the value that you want to draw the most attention to. If you are using the Status kind, this value is ignored and instead the primary value is the StatusSign. The number format of this value is determined by the value specified in the NumericType column.

Name	Column Properties	Description
Value2	Numeric	Optional. A supporting value to show for the KPI. A label can be defined for this value, using the Value2Label column. The supporting values can be used to provide additional information about the primary value. For example, if the primary value is a variance, then Value 2 and Value 3 might display the actual and budget numbers used to calculate that variance. Or if the primary value is the actual number, then Value 2 and Value 3 might display the variance and the budget number to provide more context for the actual number. The values displayed are entirely user-definable. The number format of this value is determined by the value specified in the NumericType column.
Value2Label	String (100)	Optional. The label for Value 2. The label precedes the value and displays with a colon, such as "Actuals: *Value 2*". The label should explain what Value 2 represents.
Value3	Numeric	Optional. A supporting value to show for the KPI. A label can be defined for this value, using the Value3Label column. See the description of Value2 for more information. The number format of this value is determined by the value specified in the NumericType column.
Value3Label	String (100)	Optional. The label for Value 3. The label precedes the value and displays with a colon, such as "Budget: *Value 3*". The label should explain what Value 3 represents.

Name	Column Properties	Description
Value4	Numeric	Optional. A supporting value to show for the KPI. A label can be defined for this value, using the Value4Label column. See the description of Value2 for more information. When using the Basic kind, Value 4 and the chart are interchangeable. You can display either Value 4 or a chart, but not both. If both are defined, the chart takes precedence. When using the Status kind, the chart displays in a different place so you can display both if desired. The number format of this value is determined by the value specified in the NumericType column.
Value4Label	String (100)	Optional. The label for Value 4. The label precedes the value and displays with a colon, such as "Forecast: *Value 4*". The label should explain what Value 4 represents.
ChartTarget	Numeric	Optional. A value that defines the target line for the bullet chart. This value can be omitted if it is not needed.
ChartActual	Numeric	Optional. A value that defines the actual line for the bullet chart. This value can be omitted if the KPI does not use a bullet chart.
ChartMax	Numeric	Optional. The maximum value of the bullet chart. The chart target and actual values are represented in relation to this maximum value. For example, if the actual value is 100 and the maximum value is 1000, then the actual bar will only take up 1/10th of the bullet chart. But if the maximum value is 150, then the actual bar will take up 2/3rds of the bullet chart. This value is required if you want to display a bullet chart on the KPI. This value should be omitted if you don't want to display a chart at all, or if you want to display a sparkline chart instead by using the SparklineData column.

Name	Column Properties	Description
Delta	Numeric	Optional. A value that illustrates the positive or negative measure of the KPI. This value can be omitted if not needed. The Delta value displays in either red or green (as determined by the Sign value). The Delta value can be used to show a variance percent or a raw difference value. It can also be used to show the change in value since the last time the primary KPI value was measured. The number format of this value is determined by the value specified in the DeltaNumericType column.
Sign	String (8)	Optional. Specifies whether the primary KPI value is trending up (positive) or down (negative). Enter either `Up` or `Down`. If omitted, Down is assumed. • If Up, then an up-arrow displays in front of the Delta value. The value, arrow, and the actual bar of the bullet chart display in green. • If Down, then a down-arrow displays in front of the Delta value. The value, arrow, and the actual bar of the bullet chart display in red. If the style of the KPI is anything other than `white`, `S1`, or blank (transparent), then these items display in white instead of green or red. If the KPI does not have a defined Delta value, the Sign still determines the color of the bullet chart (if applicable).

Name	Column Properties	Description
StatusSign	String (8)	Specifies the status of the KPI, when using the Status kind. Enter one of the following: `Up`, `Down`, `Neutral`. The status displays as a colored circle with a positive, neutral, or negative indicator: Up  Neutral  Down  The green, orange, and red colors are only used when the style of the KPI is `white`, `S1`, or blank (transparent). If the box has a background color, then the status circle is white and the indicator uses the same color as the background.
Style	String (32)	Optional. Specifies a color style to set the background color of the KPI box. By default, the box is transparent. The following Axiom color styles are supported (specify one per KPI): S1, S6, A11, A51, P5, P6, P7, P9, P10. You can also specify `white`. When using darker background colors, the text in the KPI automatically adjusts to white.
Tooltip	String (250)	Optional. Defines a tooltip to display when a user hovers over the button in the top right corner of the KPI box. This applies as follows: • If you are using the Command column, the tooltip displays for the default three-dots icon. • If you are using the MenuData column and the KPIMenu data source contains multiple commands, the tooltip displays for the carat icon that opens the menu. • If you are using the MenuData column and the KPIMenu data source contains one visible command, the tooltip defined for that command displays on the custom icon (instead of this tooltip).

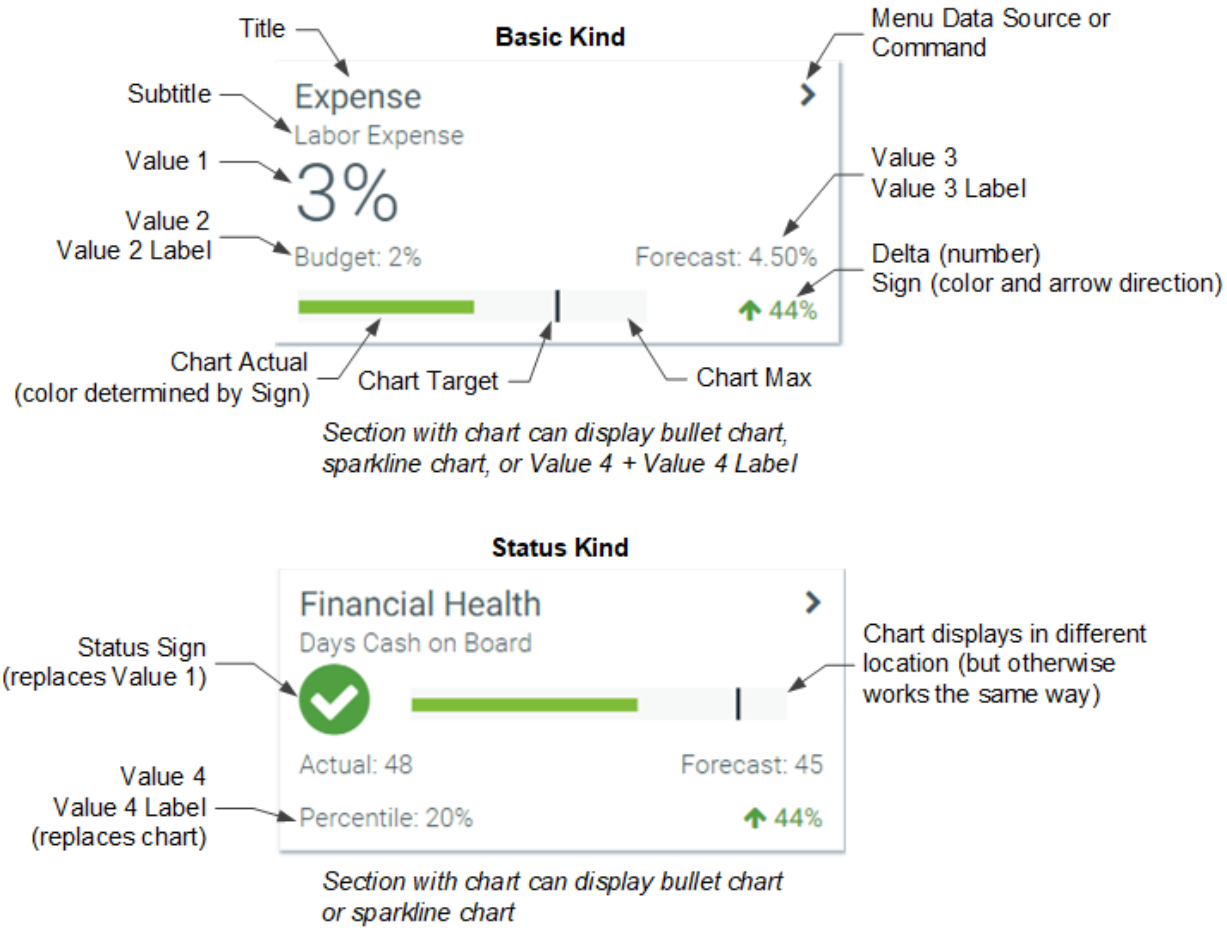
Name	Column Properties	Description
Command	String (1023)	Optional. Specifies a command to execute when the user clicks the icon in the top right corner of the KPI box. If you want users to be able to execute a command from the KPI box, you can use the Command column or you can use the MenuData column. • When using Command, you can define a single command to be triggered by a three-dots icon that displays in the top right corner of the box. This option is intended for cases where you only need to provide access to one command, and you don't need a custom icon. • When using MenuData, you can define one or multiple commands in a separate KPIMenu data source. This option is intended for cases where you need to present multiple command options to the user, or if you need to specify a custom icon for a single command. The valid entries for the Command column are the same that can be defined for the Command column in the KPIMenu data source.
NumericType	String (16)	Specifies the numeric type of the values in the value columns (1-4): • `Number` • `Currency` • `Decimal` This determines the format of these values within the KPI box. If blank, Number is assumed. The **Numeric Type** defined in the column properties for the individual value columns is not used.

Name	Column Properties	Description
DeltaNumericType	String(16)	Specifies the numeric type of the value in the Delta column: • `Number` • `Currency` • `Decimal` This determines the format of the Delta value within the KPI box. If blank, Number is assumed. The **Numeric Type** defined in the Delta column properties is not used.
MenuData	String(Max)	Optional. Stores the contents of a KPIMenu data source as an XML string. The XML string is used to render one or more menu items on the KPI box. In order to generate a valid XML string, the save-to-database file that populates the KPI table must contain a KPIMenu data source, and the MenuData column in the save must contain the syntax `[Datasource=`*`DatasourceName`*`]`. When the save occurs, Axiom Software reads the contents of the designated KPIMenu data source, creates the XML string, and saves it to the MenuData column in the table.
SparklineData	String(Max)	Optional. Stores the contents of a specific series in an XYChart data source as an XML string. The XML string is used to render a sparkline chart in the KPI box. In order to generate a valid XML string, the save-to-database file that populates the KPI table must contain a XYChart data source, and the SparklineData column in the save must contain the syntax `[Datasource=`*`DatasourceName`*`;Series=`*`SeriesName`*`]`. When the save occurs, Axiom Software reads the contents of the designated series in the XYChart data source, creates the XML string, and saves it to the SparklineData column in the table.

Name	Column Properties	Description
Hidden	Boolean	Specifies whether a KPI row is omitted from KPI Panel components (True/False). The default value is False. You can set this to True in order to temporarily hide a KPI, or to archive a KPI without deleting it.
CalculatedDateTime	DateTime	Optional. Specifies the date/time of the KPI calculation. If defined, this value displays on the tooltip for the KPI title. This is not an automatically calculated value, because the applicable date/time of the KPI may be different than the date/time the value was saved to the table. If you want to use this value, it must be explicitly defined and saved to the KPI table along with the other values.

The main column properties of KPI columns cannot be modified, such as column name, data type, key column status, etc. Only minor column properties such as read-only status can be modified.

The following diagram shows how the major KPI properties defined by the columns map to the KPI Panel component:



Using KPI tables

The primary purpose of KPI tables is to provide data for KPI Panel components. You can configure the component to use a KPI table, and then that component is automatically populated with the KPIs in the table.

KPI tables can be used KPI Panel components in Axiom forms and in web reports.

- In web reports, KPI Panel components are required to use a KPI table in order to provide KPI data to the component.
- In Axiom forms, KPI Panel components can use either a KPI table or a data source defined within the spreadsheet.

When configuring a KPI Panel component, you can optionally specify a filter to determine the KPIs that display in the component. For example, if you have added a Dept or Entity column to the KPI table, you can filter the component to only show KPIs relating to a particular department or entity. Any KPI with **Hidden** set to **True** is automatically hidden from all KPI Panel components.

KPI table restrictions and limitations

KPI tables follow the same general rules of reference tables, with some additional restrictions. In addition to the pre-set column structure, the following limitations and restrictions apply to KPI tables:

- KPI tables cannot be plan code tables.
- KPI tables cannot have column hierarchies, column sequences, or calculated fields.

When filtering a list of tables by table classification, KPI tables will display along with the other reference tables, unless they are being omitted from the list as invalid selections.

Generally speaking, whenever a feature says a reference table is valid for use, a KPI table can be used as well. Any exceptions are noted in the specific feature documentation.

KPI table security

By default, non-admin users do not have access to the data in KPI tables. When a new KPI table is created, you must configure read-only or read / write access to the table as needed (unless the KPI table is assigned to a table type to inherit permissions).

Note the following considerations for KPI table security:

- KPI tables can belong to table types, for purposes of easily granting full read or write access to a set of related tables. You can then grant access at the table type level, to be inherited by all tables in the table type. KPI tables can belong to any table type that uses the reference table classification; there is no special table type classification for KPI tables.
- KPI tables can be created by administrators or by users with the **Administer Tables** permission. There is no special permission specifically for administering KPI tables. Once a KPI table is created, standard table and table type permissions apply.

Color styles

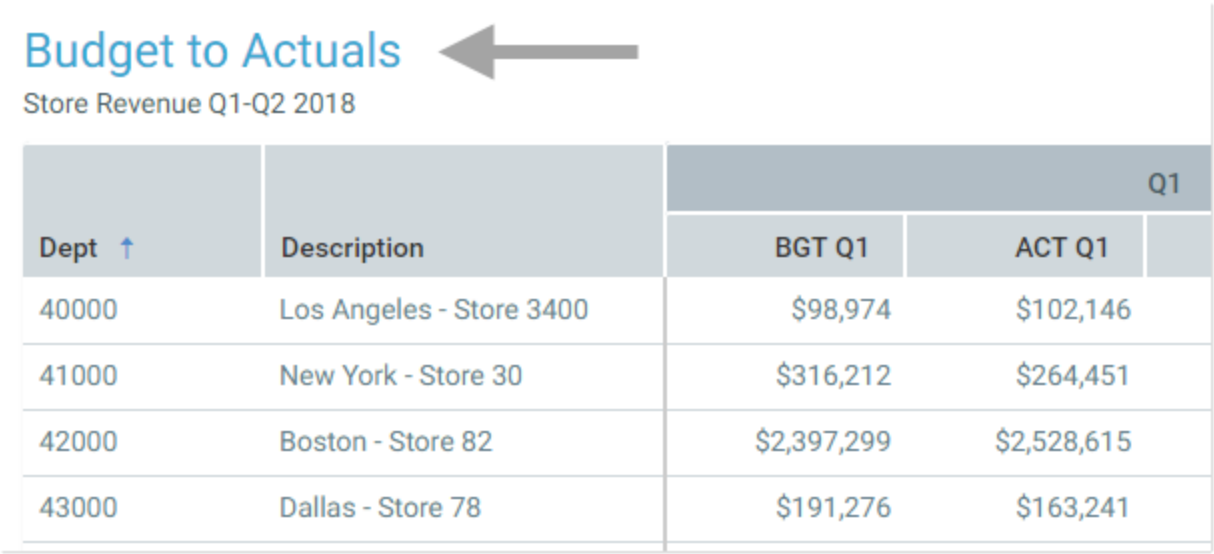
The following color style codes can be used in Axiom forms and web reports, in areas such as:

- Row and column styles for Formatted Grid components (Axiom forms)
- Label component styles (Axiom forms)
- Icon colors for Data Grid components (Axiom forms)
- Background colors for KPI Panel components (Axiom forms and web reports)

When used in an Axiom form, the skin must be set to Axiom2018 in order to recognize the color style.

Label component

The Label component displays text on the web report, such as for a title, subtitle, or brief explanatory text.



Example labels in a web report

Component properties

You can define the following properties for a Label component. To configure component properties in the Report Designer, select the component in the report and then edit the properties as needed using the **Components** panel.

Item	Description
Text	The text to display in the label. The syntax `{rv:VariableName}` can be used in the text, in order to display the currently selected value of a refresh variable in the label. For more information, see Configuring Refresh Variables.
Tooltip	Optional. The tooltip text for the component. When a user hovers the cursor over the component, the text displays in a tooltip.

Configuring Refresh Variables

You can define refresh variables for web reports, to allow users to filter the data in the report on demand. For example, you may want users to be able to dynamically filter the report by entity. You can set up a refresh variable that allows users to select an entity name. When the variable value is applied to the report, the relevant data queries are filtered by the selected entity.

The basic setup process for refresh variables in web reports is as follows:

- You define the refresh variables that you want to make available to users. Refresh variables have different types that control what users can select and how they select it.
- You create "dependencies" between refresh variables and data sources in the web report. The dependency tells the web report that the specified data source should be filtered by the variable value. All components that use the data source will then be updated to show the filtered data. This step is required for all refresh variables except the Year variable type.

To continue the previous example, imagine that your web report contains a Data Grid component that uses the GL2020 data source. In order for that data grid to be filtered by the user's selected entity, you must create a dependency between the Entity refresh variable and the GL2020 data source. When the user selects a value for entity and applies that value to the report, the GL2020 data source is automatically filtered by that entity, which in turn impacts the data shown in the data grid.

If a web report has defined refresh variables, those refresh variables display to web report users in the **Filters** panel. The user can open the Filters panel, define values for the variables, and then apply the selected values to impact the data shown in the report. For more information on how end users interact with the Filters panel, see Filtering data in web reports.

Differences when using refresh variables in web reports

The refresh variables available in web reports are essentially the same as the refresh variables available to spreadsheet Axiom files and Axiom forms. However, only a few variable types are currently supported for use in web reports, and there are some functionality limitations. For example:

- Web reports can only use the following refresh variable types: Combo Box, Grid (multi-select), Hierarchy Filter, and Year. The Year refresh variable is unique to web reports.
- Combo Box variables must use a table column as the data source. Other data options such as the ComboBox data source or an Axiom query are not supported in this context.
- The variables cannot be dependent on other refresh variables.

For these reasons, the web report refresh variables are documented separately, so that it is clear what is supported in web reports and what is not.

When you use refresh variables in spreadsheet Axiom files or Axiom forms, the variable setup is very manual but also very flexible. When a user selects a value for the refresh variable, that value is written back to the `[RefreshVariables]` data source. It is the responsibility of the file designer to configure the file to do something based on that selected value, but the value can be used for almost any purpose. For example, the value could be used to filter an Axiom query, or change the visible columns in a grid, or determine the visibility of a component.

When you use refresh variables in web reports, the variable set up is much simpler, but the variable can only be used to impact data queries in report components. The advantage to this setup is that once a dependency is created between the variable and a data source, there is nothing more that the file designer needs to do to make it work. The data source will automatically be filtered by the variable. The disadvantage to this setup is that refresh variables cannot currently be used for other purposes, such as to hide components or change the visible columns in a grid.

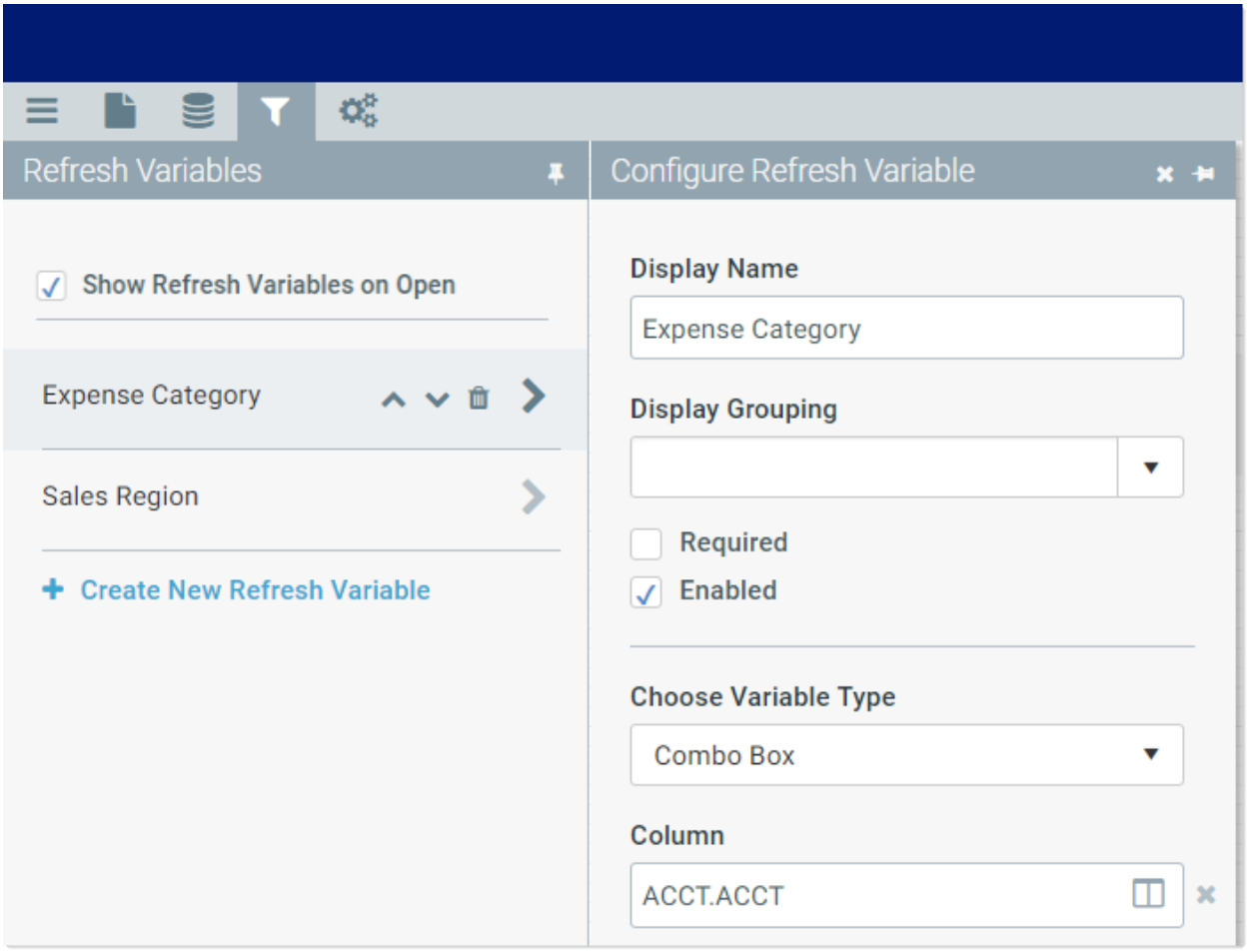
Defining refresh variables for a web report

Refresh variables for web reports are defined on the **Refresh Variables** panel of the Report Designer. If the report already has defined variables, they are listed here.

- To add a new variable, click **Create New Refresh Variable**. A new variable is added to the bottom of the list. You can define the name of the variable and other variable settings using the **Configure Refresh Variable** panel.
- To delete a variable, select the variable to display the action icons to the right of the variable name. Click the Delete icon to delete the variable. (These icons are also visible when you hover your cursor over the variable.)

  NOTE: Variables cannot be deleted if they are used in a refresh variable dependency for a data source. You must delete the dependency first, and then you can delete the variable.

- To edit the properties of an existing variable, select the variable to display the **Configure Refresh Variable** fly-out panel. You can then edit the variable settings as needed.
- To change the variable order, select the variable to display the action icons to the right of the variable name. Click the up arrow or down arrow to move the variable up or down in the list. The variable order determines the order that variables display to users in the Filters panel. (The up / down icons are also visible when you hover your cursor over the variable.)



Example refresh variable configuration for a web report

The behavior and configuration properties of a refresh variable depend on the variable type. For more information on how end users interact with each variable type and how each type is configured, see the following topics:

- Combo Box
- Grid
- Hierarchy Filter
- Year

IMPORTANT: Generally speaking, a refresh variable only impacts a web report if you define a dependency for the variable. If you do not define a dependency, then the variable still displays in the Filters panel, but applying a value for the variable has no effect. The exception to this rule is the Year variable, which automatically impacts all year-based tables in the report and does not require any dependency.

Refresh variable dependencies

Once you define a refresh variable for a web report, you must also define a dependency for the variable. The dependency creates an association between the refresh variable and components in the report, so that the components are automatically filtered by the selected variable value.

IMPORTANT: The exception to this rule is the Year variable, which automatically impacts all year-based tables in the report and does not require any dependency. For more information, see Configuring a web report to dynamically change years of data.

Refresh variable dependencies are based on the value column for the variable. For Combo Box and Grid variables, you specify a column directly, such as `Dept.Dept`. For Hierarchy Filter variables, the value column is determined based on the source table and the columns in the hierarchy. In order to create a dependency between the variable and a data source or component, the primary table of the data source or component must contain the value column, or contain a lookup path to the value column.

For example, imagine that the primary table of a data source is GL2020, and that table contains a column `GL2018.Dept` with a lookup to `Dept.Dept`. This means the data source can be associated with any refresh variable that uses columns from the Dept table. When a user selects a value for the variable and applies it to the report, Axiom Financial Planning automatically applies a filter to the data source such as `Dept.Dept=40000` (where Dept 40000 is the user's selected value for the variable). This impacts all components that use the data source.

Note the following considerations:

- Although you can configure a refresh variable to use `GL2020.Dept` as the value column instead of `Dept.Dept`, the variable is then only valid against the GL2020 table. If the data grid that uses the data source contains columns from other tables, such as BGT2020, then you must use the lookup column of `Dept.Dept` so that the filter can apply to all data tables in the query. Generally speaking, it is a best practice to use a lookup column for refresh variables, to accommodate the broadest range of query configurations.

- If the data source primary table contains multiple paths to the value column for the refresh variable, then you must explicitly specify which path you want to use when you configure the dependency. For example, you may have a primary table with two different columns that validate against the same lookup column—such as where `Encounter.PrimaryPhysician` and `Encounter.SecondaryPhysician` both look up to `Physician.Physician`. If the value column for the variable is `Physician.Physician` (or another column on the Physician table), then you must indicate whether you want the filter to go through PrimaryPhysician or SecondaryPhysician.

Currently, you can create refresh variable dependencies as follows:

- **Data Grids**: To use a refresh variable to filter a data grid, set the dependency on the data source used by the grid. The refresh variable will filter all Data Grid components that use the data source. See Defining refresh variable dependencies for data sources.
- **KPI Panels**: To use a refresh variable to filter KPIs, set the dependency on the KPI Panel component directly. The refresh variable will filter that KPI Panel component. See Defining refresh variable dependencies for KPI Panel components

A refresh variable can be used to filter just one data source or component, or multiple. If you want the refresh variable to filter multiple components, a dependency must be created on each data source or component that you want the refresh variable to filter.

If the primary table contains multiple paths to the variable, then you can create multiple dependencies for the variable on a particular data source or component, using a different path for each dependency. If multiple dependencies for the same variable are defined on a data source or component, then the filters resulting from the variable are combined using AND. For example, if you create two dependencies for the Physician variable on a particular data source—one for the PrimaryPhysician path and one for the SecondaryPhysician path —then when a user selects a physician name for the variable the resulting filter would be constructed as follows: `Encounter.PrimaryPhysician='Doe' and Encounter.SecondaryPhysician='Doe'`. This means that the selected physician would have to be present in both columns in order to meet the filter.

Displaying refresh variables on open

If refresh variable selections are crucial to the report, you may want to configure the report so that it opens with the **Filters** panel active. This is intended as a clear indication to the user that they need to make filter selections and apply them to the report.

To enable this behavior, select **Show Refresh Variables on Open** at the top of the **Refresh Variables** panel. This option is disabled by default. If enabled, the Filters panel is active when the report is opened.

If instead the refresh variables are optional, then you can leave this option disabled. This means that when the report is opened, the Filters panel is not active. The user must click the Filters icon in the Web Client toolbar in order to see and apply the refresh variables.

NOTE: Enabling this setting does not require the user to make variable selections before the report is refreshed. It simply opens the report with the Filters panel active, so that it is clear to the user that filtering options are available.

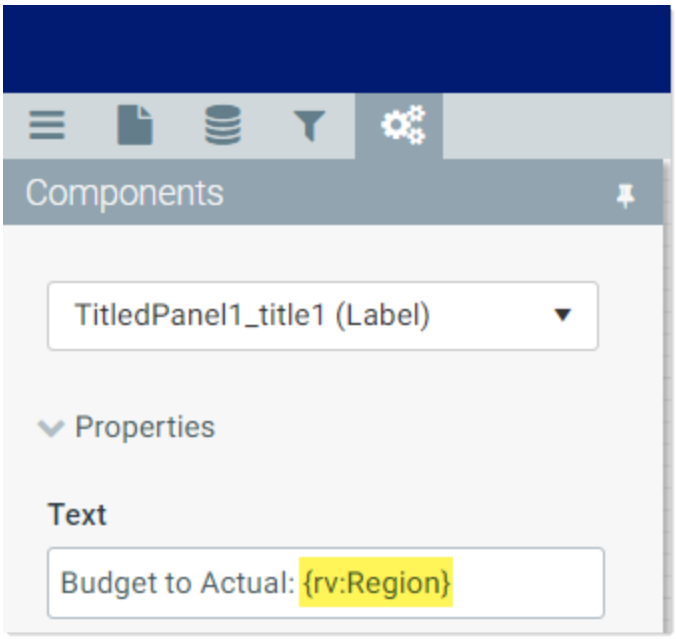
Referencing the current value of a variable

You can reference the current value of a refresh variable in Label components. This can be useful to create title text that updates dynamically based on the currently selected value.

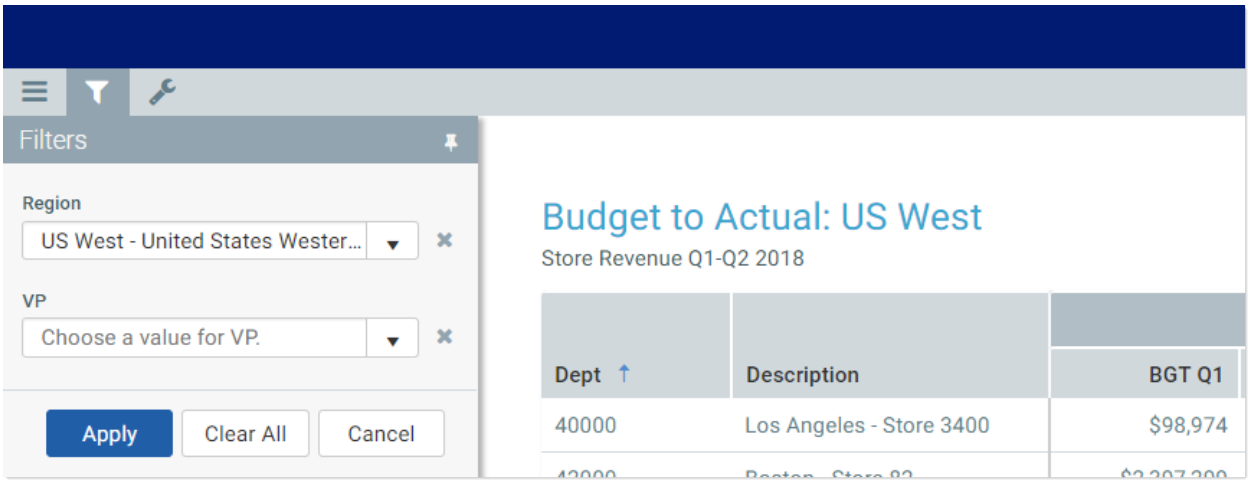
To reference the current value of a refresh variable, use the following syntax:

```
{rv:VariableName}
```

For example, if the variable name is Region, the label could look as follows:



When the label is rendered, the `{rv}` syntax is replaced with the currently selected value for the variable. For example:



When the file is first opened, if the refresh variable has a defined default value, this is used as the currently selected value.

NOTES:

- Currently, it is not possible to dynamically display different text in the label based on whether the variable has a selected value or not. If there is no selected value, the `{rv}` syntax returns blank.
- Once the `{rv}` syntax is saved in a label, the variable reference is stored using an ID instead of the name. This means that you can change the variable name without breaking the reference.

Combo Box refresh variable

ComboBox refresh variables prompt users to select a value from a specified table column. The selected value is used to filter the data sources in the report that are dependent on the variable.

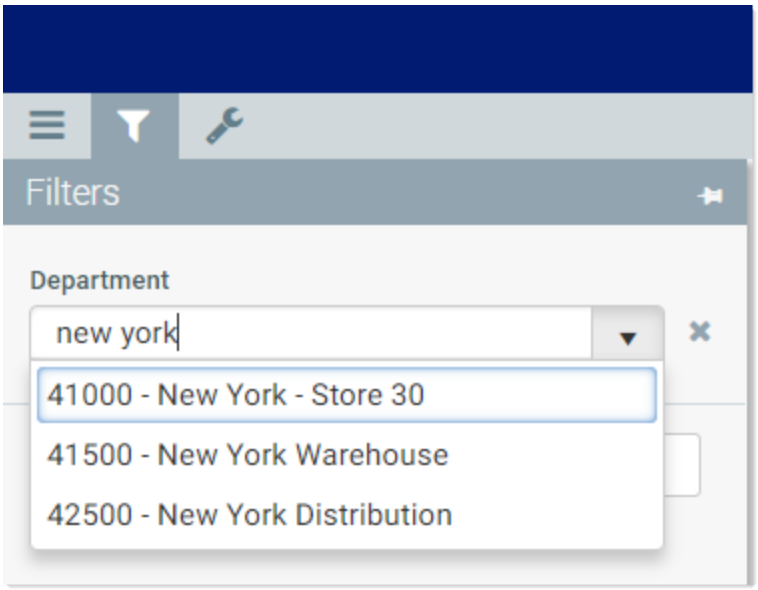
The list of values is displayed in a searchable drop-down list (the combo box). The list can be filtered to only show a subset of the values from the column.

This topic provides information on how Combo Box refresh variables behave in web reports and their configuration settings. For general information on defining refresh variables for web reports and creating dependencies between refresh variables and data sources, see Configuring Refresh Variables.

NOTE: When using a Combo Box refresh variable, the user can only select one value from the list. If you want the user to be able to select multiple values, use a Grid variable instead.

Variable behavior

The variable displays as a drop-down list with a searchable entry box. The user can scroll the list and select the value directly, or type into the box to find a particular value.



Example ComboBox refresh variable

The drop-down list is limited to displaying the first 100 values. However, all values can be found by using the search box. The search matches on the primary value, any description columns, and any additional columns included in the display format.

The values in the drop-down list are sorted based on the display format if defined, otherwise based on the value column.

Variable properties

This section explains how to complete the variable properties for a Combo Box variable in a web report.

General variable properties

All refresh variables use a common set of general properties such as the variable display name, and whether the variable is enabled or required. Any special considerations for Combo Box variables are noted.

Item	Description
Display Name	The display name of the variable. This name determines how the variable displays to end users in the Filters panel.

Item	Description
Display Grouping	Optional. Assigns the variable to a group. If a group is specified, then the variable will be displayed within an expandable / collapsible grouping in the Filters panel. If the group name that you want to use has not yet been created, type the group name into the Group field to create it. If the group name already exists, you can select it from the drop-down list. Groups are useful to organize variables into logical groupings, especially when the report has many variables.
Required	Specifies whether the user must enter a value for this variable: • If enabled, then the user must specify a value for this variable in order to perform the refresh. • If disabled, then the user can leave the variable blank (unset). Required variables that do not yet have a selected value are indicated with a red bar along the side of the variable field.
Enabled	Specifies whether the variable displays to users: • If enabled, then the variable will be included in the Filters panel. • If disabled, then the variable will not be included in the Filters panel. You might disable a variable temporarily while testing the report setup.

Variable-specific properties

The following additional properties apply to ComboBox variable types:

Item	Description
Choose Variable Type	Specifies the variable type. Select **Combo Box** to allow the user to select a single value from a table column.

Item	Description
Column	The column to provide the list of values for the variable. Click the table icon to select the column. You can specify any column from any client-defined table in your system. Multi-level lookups can be used. However, system tables such as Axiom.Aliases are not supported for use with refresh variables and cannot be used. For columns with lookups, the specified table impacts the list of items to be returned. For example, `GL2020.Dept` returns only the departments used in the GL2020 table, whereas `Dept.Dept` returns the full list of departments defined in the Dept table. **NOTE:** If the specified column uses multi-level syntax, then the resulting list will be sourced from the final lookup table, not the original table. For example, if you specify `Encounter.PrimaryPhysician.FirstName`, then the list will contain all first names from `Physician.FirstName`, instead of only the first names for the physicians used in the Encounter table.
Placeholder Text	Optional. Specifies placeholder text to display within the combo box until a value is selected. If blank, then the default text "Choose a value for *ColumnName*" is used.
Default Value	Optional. Specifies a default value for the variable. When the report is initially opened, the default value is used as the selected value for the variable, and the report is filtered by that value. The default value must be a valid value that could be selected by a user for the variable. If the default value is invalid, an error will occur when the file is opened, because Axiom Financial Planning will attempt to filter the report using the value.
Column Filter	Optional. Specifies a filter criteria statement to limit the list of values displayed to the user. Click the filter icon to define a filter.

Item	Description
Display Format	Optional. Defines a display format for the items in the list, and specifies additional columns to display. By default, items in the list are displayed as: *KeyColumn - DescriptionColumn* If you want to specify a different format and/or use additional columns, then you can indicate the display format here. Use fully qualified Table.Column syntax and place column references in curly brackets. For example, you could indicate something like: {Acct.Acct} - {Acct.Description} ({Acct.Category}) This would display account items in the following format: 8000 - Facilities (Overhead) Any columns listed should use fully qualified Table.Column syntax. If the value column uses a lookup, then any additional columns must be resolvable from the primary table, or must use a fully qualified path from the starting table. If a display format is defined, the items in the list are sorted based on the display format instead of the value column.
Tooltip Column	Optional. Specifies a column that defines tooltip text for each value shown in the list. Click the table icon to select the column. The tooltip column can use any column from the same table as the value column for the variable. When a user hovers over a value in the list, the corresponding text from this column is shown in a tooltip.

Grid refresh variable

Grid refresh variables prompt users to select one or more values from a designated table column. The selected values are used to filter the data sources in the report that are dependent on the variable.

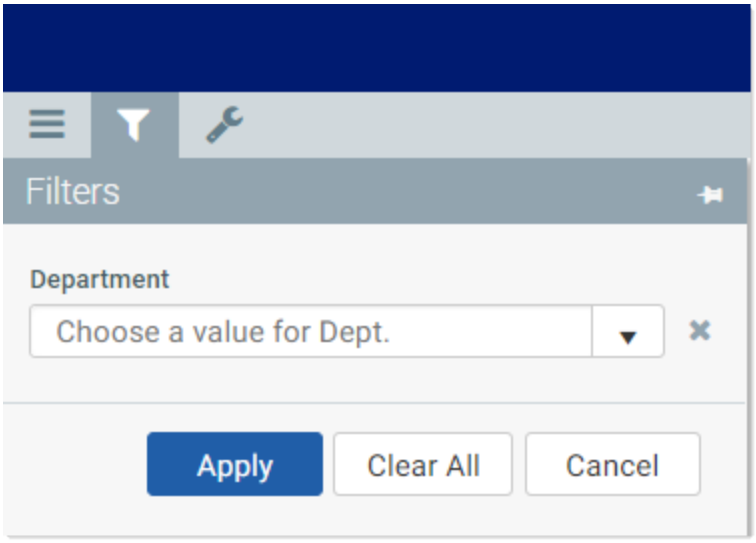
The list of values is displayed in a searchable multi-select dialog. The list can be filtered to only show a subset of values from the specified column.

This topic provides information on how Grid refresh variables behave in web reports and their configuration settings. For general information on defining refresh variables for web reports and creating dependencies between refresh variables and data sources, see Configuring Refresh Variables.

NOTE: In web reports, Grid refresh variables always allow selection of multiple values. You do not have to explicitly enable multi-select for the variable; it is always enabled. If you want to limit the user to only selecting a single value, use a Combo Box variable instead.

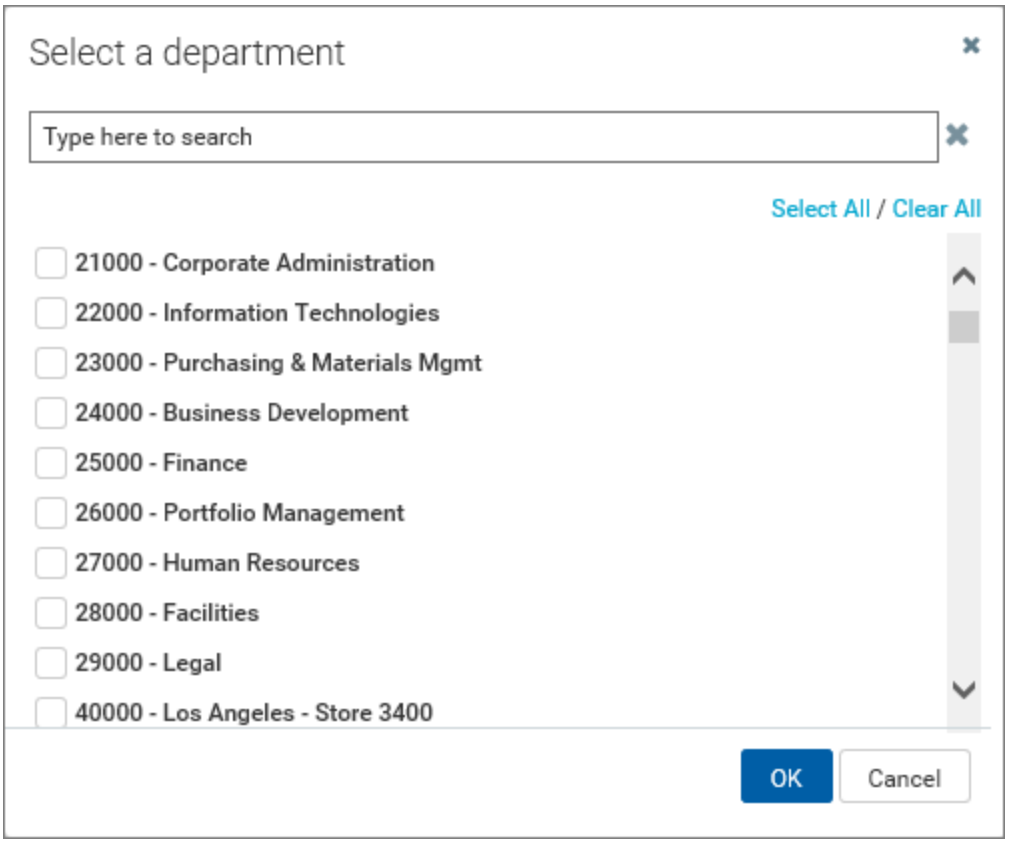
Variable behavior

The Grid variable displays as a read-only text box with a button next to it. The user can click the button to select items from the column.



Example Grid variable

Clicking the button opens the multi-select dialog. In this dialog, the user can select one or more items using check boxes.

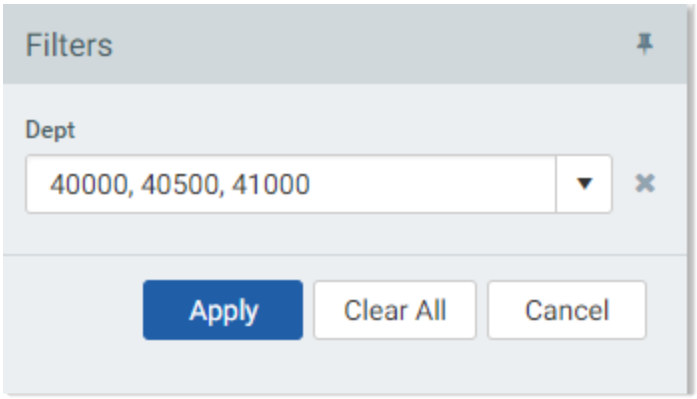


Example multi-select dialog

The dialog is limited to displaying the first 100 values in the list. However, all values can be found by typing into the search box at the top of the dialog. The search matches on the primary value, any description columns, and any additional columns included in the display format.

The values in the list are sorted based on the display format if defined, otherwise based on the value column.

When the user clicks **OK** to select the values, they display in the text box using the value from the value column, separated by commas.



Example selected values

Variable properties

This section explains how to complete the variable properties for a Grid variable in a web report.

General variable properties

All refresh variables use a common set of general properties such as the variable display name, and whether the variable is enabled or required. Any special considerations for Grid variables are noted.

Item	Description
Display Name	The display name of the variable. This name determines how the variable displays to end users in the Filters panel.
Display Grouping	Optional. Assigns the variable to a group. If a group is specified, then the variable will be displayed within an expandable / collapsible grouping in the Filters panel. If the group name that you want to use has not yet been created, type the group name into the Group field to create it. If the group name already exists, you can select it from the drop-down list. Groups are useful to organize variables into logical groupings, especially when the report has many variables.
Required	Specifies whether the user must enter a value for this variable: • If enabled, then the user must specify a value for this variable in order to perform the refresh. • If disabled, then the user can leave the variable blank (unset). Required variables that do not yet have a selected value are indicated with a red bar along the side of the variable field.
Enabled	Specifies whether the variable displays to users: • If enabled, then the variable will be included in the Filters panel. • If disabled, then the variable will not be included in the Filters panel. You might disable a variable temporarily while testing the report setup.

Variable-specific properties

The following additional properties apply to Grid variable types:

Item	Description
Choose Variable Type	Specifies the variable type. Select **Grid** to allow the user to select one or more values from a table column.

Item	Description
Column	The column to provide the list of values for the variable. Click the table icon to select the column. You can specify any column from any client-defined table in your system. Multi-level lookups can be used. However, system tables such as Axiom.Aliases are not supported for use with refresh variables and cannot be used. For columns with lookups, the specified table impacts the list of items to be returned. For example, `GL2020.Dept` returns only the departments used in the GL2020 table, whereas `Dept.Dept` returns the full list of departments defined in the Dept table. **NOTE:** If the specified column uses multi-level syntax, then the resulting list will be sourced from the final lookup table, not the original table. For example, if you specify `Encounter.PrimaryPhysician.FirstName`, then the list will contain all first names from `Physician.FirstName`, instead of only the first names for the physicians used in the Encounter table.
Placeholder Text	Optional. Defines placeholder text to display within the variable box until a value is selected. This text also displays at the top of the multi-select dialog. If blank, then the default text "Choose a value for *ColumnName*" is used.
Default Value	Optional. Specifies a default value for the variable. When the report is initially opened, the default value is used as the selected value for the variable, and the report is filtered by that value. The default value must be a valid value that could be selected by a user for the variable. If the default value is invalid, an error will occur when the file is opened, because Axiom Financial Planning will attempt to filter the report using the value. You can list multiple valid values, separated by commas. In this context, it is not necessary to enclose string values in single quotation marks.
Column Filter	Optional. Specifies a filter criteria statement to limit the list of values displayed to the user. Click the filter icon to define a filter.

Item	Description
Display Format	Optional. Defines a display format for the items in the list, and specifies additional columns to display. By default, items in the list are displayed as: *KeyColumn - DescriptionColumn* If you want to specify a different format and/or use additional columns, then you can indicate the display format here. Use fully qualified Table.Column syntax and place column references in curly brackets. For example, you could indicate something like: {Acct.Acct} - {Acct.Description} ({Acct.Category}) This would display account items in the following format: 8000 - Facilities (Overhead) Any columns listed should use fully qualified Table.Column syntax. If the value column uses a lookup, then any additional columns must be resolvable from the primary table, or must use a fully qualified path from the starting table. If a display format is defined, the items in the list are sorted based on the display format instead of the value column.
Tooltip Column	Optional. Specifies a column that defines tooltip text for each value shown in the list. Click the table icon to select the column. The tooltip column can use any column from the same table as the value column for the variable. When a user hovers over a value in the list, the corresponding text from this column is shown in a tooltip.

Hierarchy Filter refresh variable

Hierarchy Filter refresh variables prompt users to select one or more items from a defined hierarchy. A filter criteria statement is built from the user's selections. The filter criteria statement is used to filter the data sources in the report that are dependent on the variable.

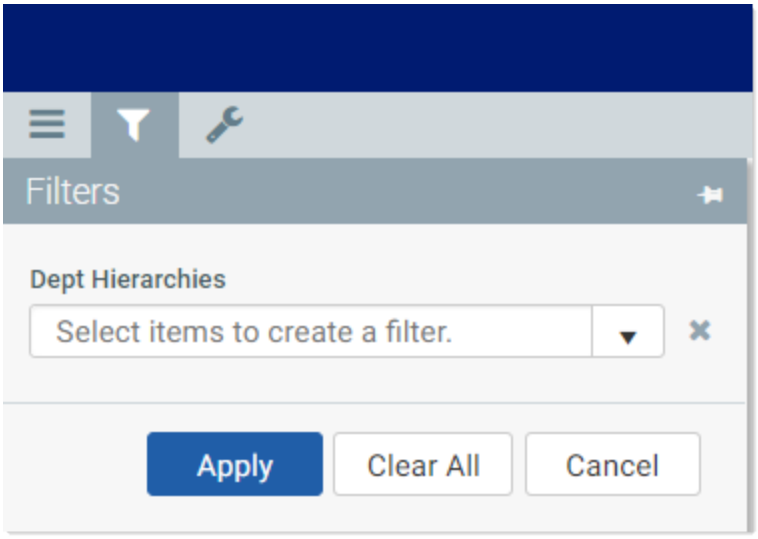
For example, you can prompt users to select a value from the Geography hierarchy defined on the DEPT table. If the user selects WorldRegion Europe in the hierarchy, this results in a filter criteria statement such as: `DEPT.WorldRegion='Europe'`. If the GL2020 data source is dependent on the variable, and a Data Grid component uses the GL2020 data source, then the data grid will be filtered to only show data from the Europe world region.

The variable has various options to control which hierarchies are shown to the user, to ensure that the hierarchies are relevant to the dependent data sources.

This topic provides information on how Hierarchy Filter refresh variables behave in web reports and their configuration settings. For general information on defining refresh variables for web reports and creating dependencies between refresh variables and data sources, see Configuring Refresh Variables.

Variable behavior

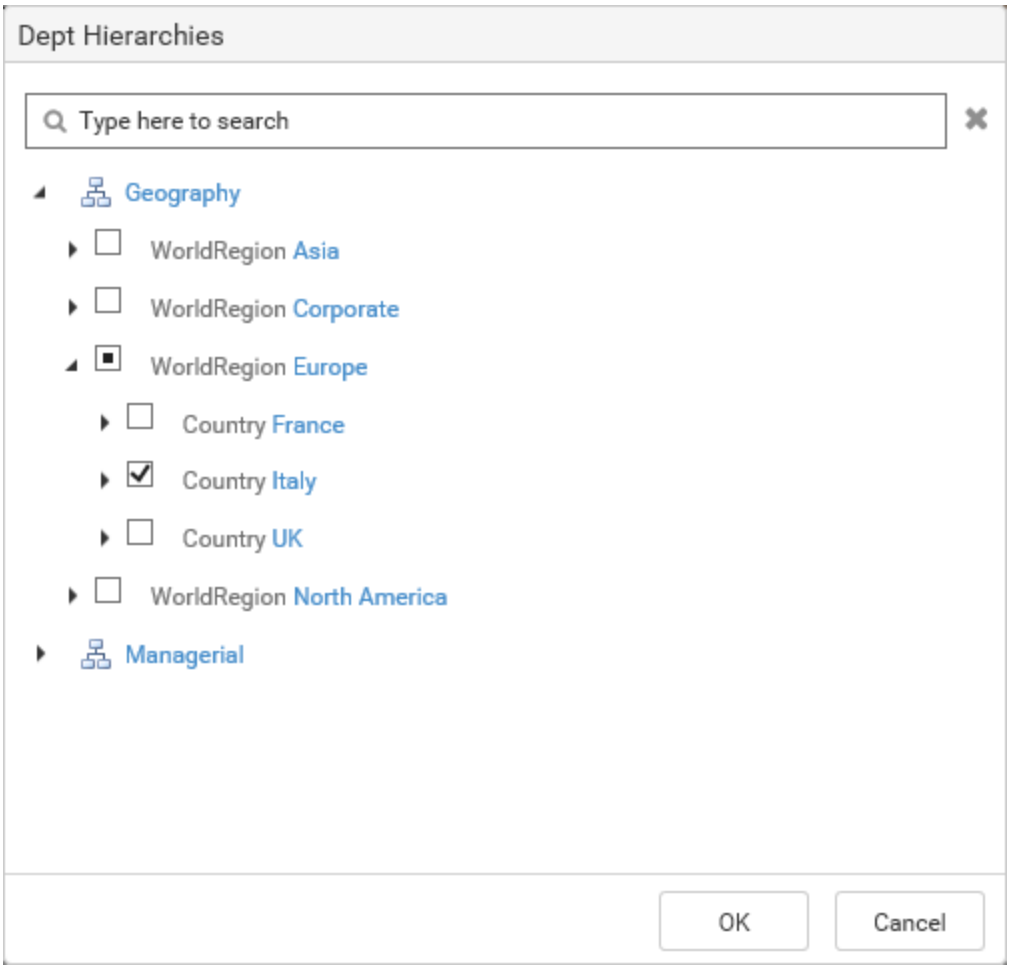
The variable displays as a read-only text box with a button next to it. The user can click the button to select items in the hierarchy.



Example Hierarchy Filter refresh variable

Clicking the button opens the **Hierarchy Filters** dialog. In this dialog, the user can select the desired hierarchy items to create a filter.

The Hierarchy Filters dialog displays the hierarchies allowed by the refresh variable configuration. Users can select one or more hierarchy items to create a filter. Users can manually expand hierarchy groupings to find items, or they can type into the search box at the top of the dialog to filter the items shown.



Example Hierarchy Filters dialog

When the user clicks **OK**, the user's selected hierarchy items display in the read-only text box for the refresh variable. In this example, the variable would display the text "Italy". Selections of up to 3 items are displayed in a comma-separated list. If more than 3 items are selected, the variable displays the text "Filter currently applied". The full list of selected items displays in a tooltip.

NOTE: If the user selects a value and closes the dialog, then opens the dialog again, the currently selected value does not display in the dialog. Each time the user opens the dialog, they must make their selections from scratch. It is not possible to modify an existing selection.

Variable properties

This section explains how to complete the variable properties for a Hierarchy Filter variable in a web report.

General variable properties

All refresh variables use a common set of general properties such as the variable display name, and whether the variable is enabled or required. Any special considerations for HierarchyFilter variables are noted.

Item	Description
Display Name	The display name of the variable. This name determines how the variable displays to end users in the Filters panel.
Display Grouping	Optional. Assigns the variable to a group. If a group is specified, then the variable will be displayed within an expandable / collapsible grouping in the Filters panel. If the group name that you want to use has not yet been created, type the group name into the Group field to create it. If the group name already exists, you can select it from the drop-down list. Groups are useful to organize variables into logical groupings, especially when the report has many variables.
Required	Specifies whether the user must enter a value for this variable: • If enabled, then the user must specify a value for this variable in order to perform the refresh. • If disabled, then the user can leave the variable blank (unset). Required variables that do not yet have a selected value are indicated with a red bar along the side of the variable field.
Enabled	Specifies whether the variable displays to users: • If enabled, then the variable will be included in the Filters panel. • If disabled, then the variable will not be included in the Filters panel. You might disable a variable temporarily while testing the report setup.

Variable-specific properties

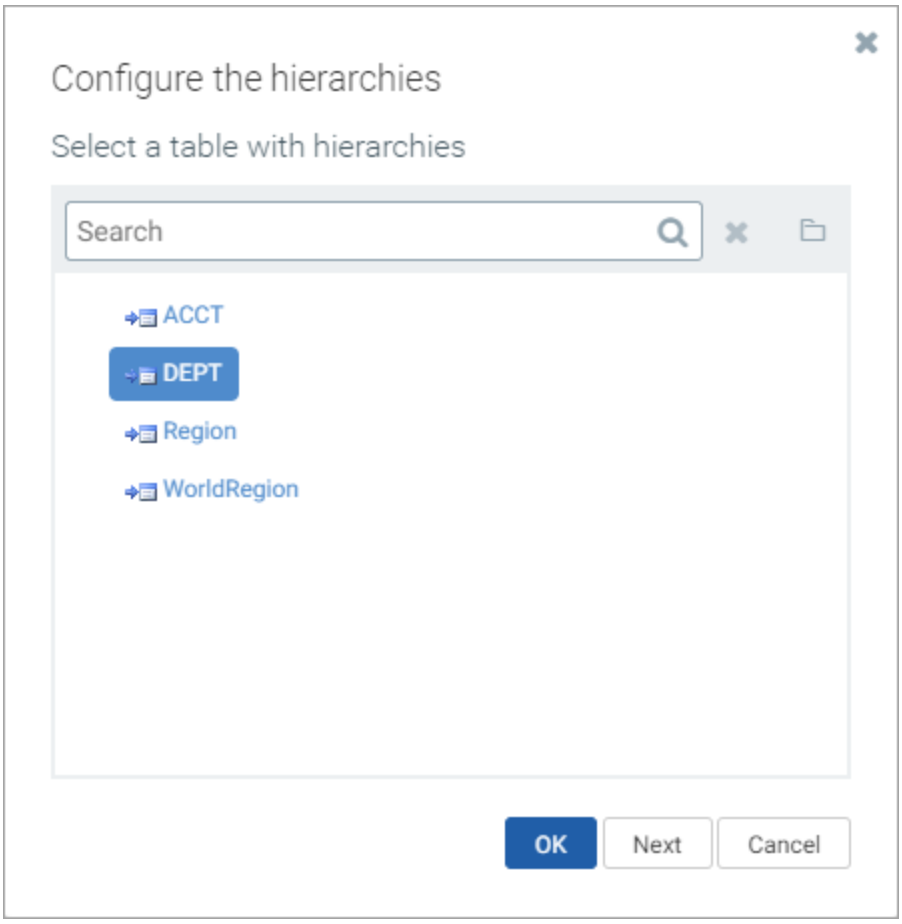
The following additional properties apply to HierarchyFilter variable types:

Item	Description
Choose Variable Type	Specifies the variable type. Select **Hierarchy Filter** to allow the user to select one or more values from defined hierarchies.

Item	Description
Hierarchies	Specifies one or more hierarchies to display to the user. To select hierarchies, click the hierarchies icon in the right side of the Hierarchies box. See the discussion following this table for more information on the hierarchy selection dialog. Once you have made your selections, the Hierarchies box is populated with either the selected table name (if using all hierarchies on a table), or with the names of the selected hierarchies on that table. It is only possible to show hierarchies from a single table, because when you create a dependency for the variable, the dependency creates an association between the primary table and the hierarchy table. If you need to show hierarchies for different tables, you must create separate refresh variables.
PlaceholderText	Optional. Defines placeholder text to display within the variable box until a value is selected. This text also displays as a tooltip for the **Select Filter** button. If blank, then the default text "Select items to create a filter" is used.

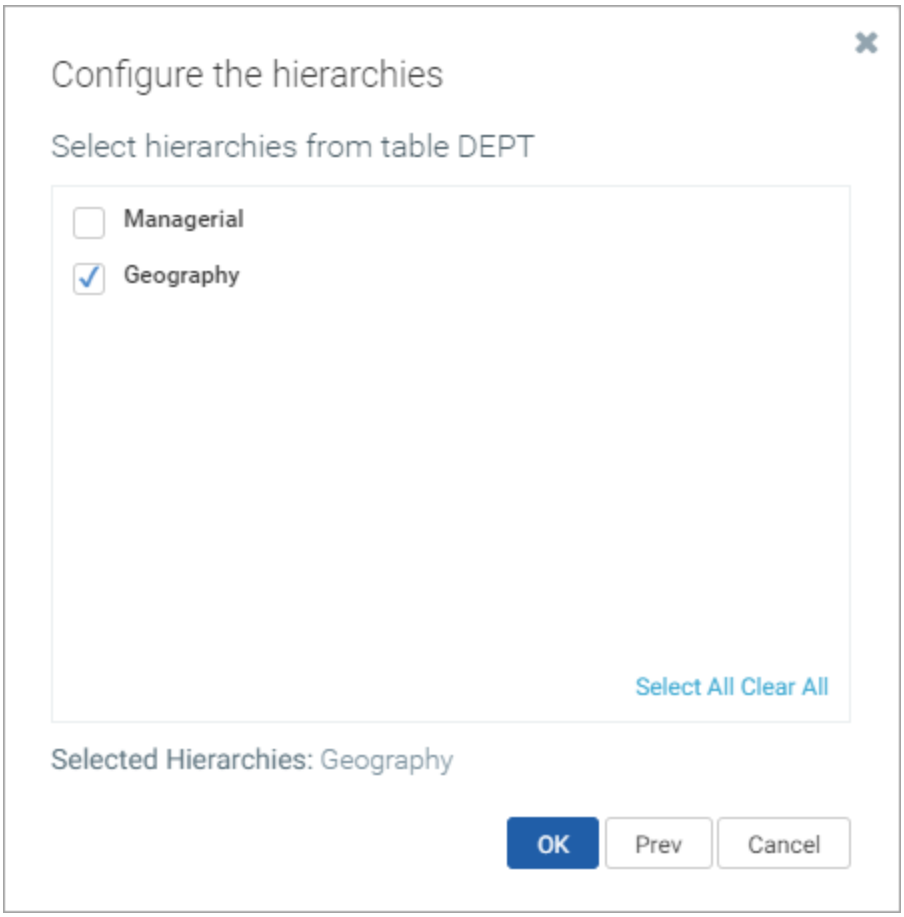
NOTE: It is not supported to specify a default value for a Hierarchy Filter refresh variable.

When selecting hierarchies for the variable, you are first prompted to choose a table. The dialog is limited to showing only reference tables with hierarchies. Once you have selected a table, you can click **OK** to use all hierarchies on that table, or you can click **Next** to select specific hierarchies.



Example table selection for Hierarchy Filter variable

If you click Next, the next screen prompts you to choose one or more hierarchies on that table. Select the hierarchies that you want to use, and then click **OK**.



Example hierarchy selection for Hierarchy Filter variable

Year refresh variable

Year refresh variables prompt users to select a year from a drop-down list. The selected year then becomes the base year of the report, and data is refreshed to reflect that year.

For example, imagine that a report shows 2020 actuals, with a comparison to the prior year (2019). If the user wants to see the same comparison for the previous year, they can use the year variable to change the base year to 2019. Now the report shows 2019 actuals with a comparison to the prior year (2018).

Year refresh variables work in conjunction with year-based tables, such as GL2020 or BGT2021. When you create the variable, you specify the base year for the report, which is the year the report is built for. In the previous example, the base year is 2020. When the user selects 2019 as the new value for the refresh variable, that selected year is one year less than the original base year. All references to year-based tables in the report are then adjusted downward by one year. If a Data Grid component references columns like GL2020.YTD and GL2019.TOT, those references are adjusted to GL2019.YTD and GL2018.TOT respectively.

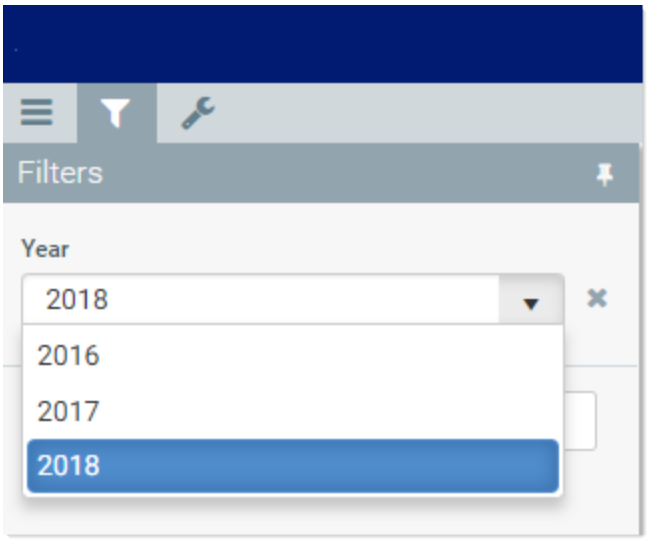
This topic provides information on how Year refresh variables behave in web reports and their configuration settings. For general information on defining refresh variables for web reports, see Configuring Refresh Variables. For more information on how to set up a web report to use a Year refresh variable, see Configuring a web report to dynamically change years of data.

NOTES:

- Year refresh variables do *not* require the creation of dependencies in order to impact the report. As long as the variable is enabled, all year-based tables in the report will adjust based on the variable value.
- Only one Year refresh variable can be present in a web report. Since all the year references are automatically changed by the variable, there is no need to have more than one.

Variable behavior

The variable displays as a drop-down list. The user can select the desired year from the list. The user can also type in the box to match a year in the list.



Example Year refresh variable

The available years in the list are based on the variable properties. Each variable must have a default year, and a number of allowed years before and after the default year. In this example, the default year is 2018, and the variable properties allow 2 years before the default year and 0 years after.

Variable properties

This section explains how to complete the variable properties for a Year variable in a web report.

General variable properties

All refresh variables use a common set of general properties such as the variable display name, and whether the variable is enabled or required. Any special considerations for Year variables are noted.

Item	Description
Display Name	The display name of the variable. This name determines how the variable displays to end users in the Filters panel.
Display Grouping	Optional. Assigns the variable to a group. If a group is specified, then the variable will be displayed within an expandable / collapsible grouping in the Filters panel. If the group name that you want to use has not yet been created, type the group name into the Group field to create it. If the group name already exists, you can select it from the drop-down list. Groups are useful to organize variables into logical groupings, especially when the report has many variables.
Required	Specifies whether the user must enter a value for this variable: • If enabled, then the user must specify a value for this variable in order to perform the refresh. • If disabled, then the user can leave the variable blank (unset). Required variables that do not yet have a selected value are indicated with a red bar along the side of the variable field.
Enabled	Specifies whether the variable displays to users: • If enabled, then the variable will be included in the Filters panel. • If disabled, then the variable will not be included in the Filters panel. You might disable a variable temporarily while testing the report setup.

Variable-specific properties

The following additional properties apply to ComboBox variable types:

Item	Description
Choose Variable Type	Specifies the variable type. Select **Year** to allow the user to dynamically change the data in the report based on the selected year.

Item	Description
Default Value	The default year for the variable. When the report is first opened, it will use this year to refresh the data in the report. Enter any year that makes sense within the report setup. If the report has a designated file group context, then you can leave the default value blank in order to use the file group year. If the file group context uses an alias, then the default value will update when the alias is updated to point to a new file group with a different file group year.
Base report year	Specify the base year for the report. This is the year that the report is built for, based on the tables and columns used in components such as the Data Grid component. When a user selects a year for the variable, the year-based tables in the report are updated based on the difference between the base report year and the selected year. For example, if the base report year is 2020 and the user selects 2019, then all references to year-based tables are adjusted downward by 1 year. This applies to all year-based tables used anywhere in the report. Generally speaking, the base report year should remain the same, while the default year can change over time. For example, when the report is originally built, the base report year and the default year will likely be the same (say, 2020). When the next year starts, you may want to change the default year to 2021, but the base year must remain the same so that year-based table references are adjusted appropriately. The only time the base year needs to change is if you update the report to use table columns from different year-based tables (which should not be necessary as long as your system still has the original tables).
Years allowed prior to default Years allowed after default	Specify the number of years allowed prior to the default year, and the number of years allowed after the default year. These two settings define the list of years available to the user. For example, if the default year is 2020, and you specify 2 years allowed prior to default, then the user can select 2018, 2019, or 2020. These properties should be set according to the available data and the intent of the report. For example, if the report only shows actuals data, and the default year is the current year, then it does not make sense to allow years after the default year because actuals data is not available for future years.

Associating a web report with a file group

You can optionally associate a web report with a file group, in order to leverage file group table variables in the report. When a file group is selected (using an alias or a file group name), it impacts the report as follows:

- When choosing a table or column for critical areas of the report, the chooser dialogs are limited to showing the tables associated with the file group by default. This can help streamline the report setup.
- When you select a table or column for critical areas of the report, it is stored using the table variable name for the file group. This enables the report to update dynamically when the target of the file group alias changes.

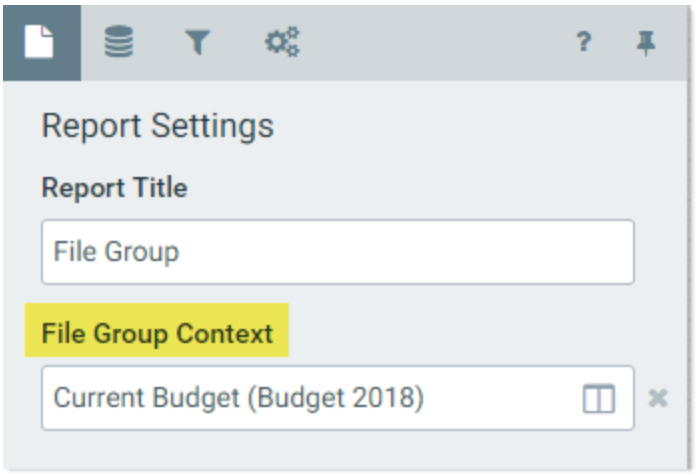
For example, you can select the file group alias Current Budget and set up the web report to reference tables that are associated with the current target of the alias (Budget 2020). Later, you can roll over the file group to create Budget 2021 and update the Current Budget alias to point to the new file group. The web report will automatically update to reference the tables used by the Budget 2021 file group.

IMPORTANT: If you want to associate the report with a file group, this should be one of the first things you configure for the report, before configuring data sources, components, or refresh variables. If you select a file group after configuring these other areas, it will have no effect on the previously selected tables and columns. You would have to clear the existing table and column selections and then reset them in the context of the file group. There is one exception to this rule: if you want to use a Year refresh variable to dynamically change years, then you cannot use file group table variables. In this case, you should either not associate the report with a file group, or wait until the report is fully configured before selecting the file group.

NOTE: Not all areas of the Report Designer support the file group context. In some areas, it may be necessary to directly specify a particular table instead of using a file group table variable. Depending on the relationship of that table to the file group, it may be necessary to manually adjust the table reference after updating the file group alias to point to a new file group.

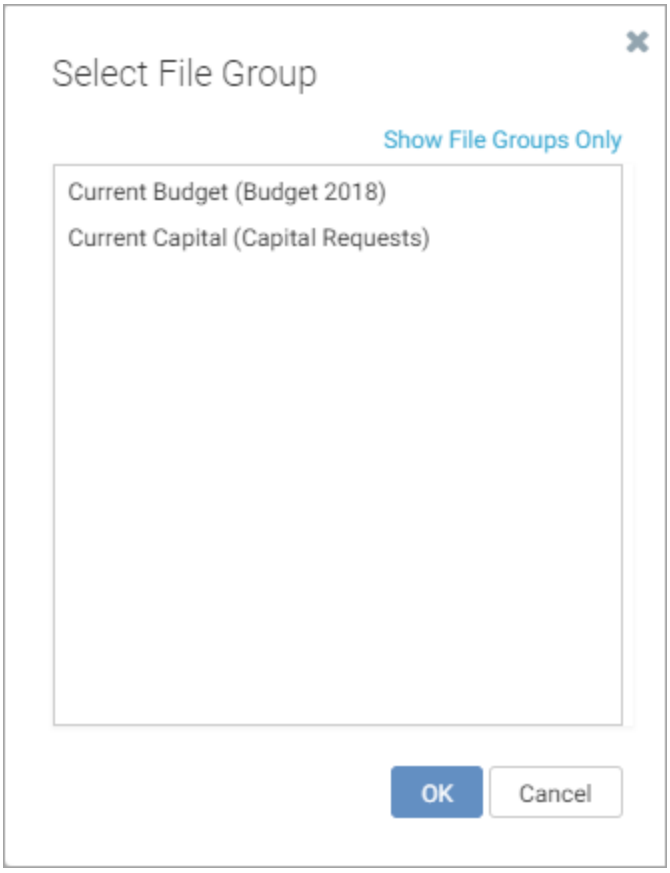
Specifying the file group context

To associate the web report with a file group, use the **File Group Context** field on the **Report Settings** panel of the Report Designer:



Example Report Settings with associated file group

Click the table icon in the right side of the box to select a file group. You can select any file group or alias. If you want the report to dynamically update as part of a file group rollover, then you must use an alias. If you select an alias, the current target of that alias displays in parentheses after the alias name.



Example Select File Group dialog showing aliases

By default, the **Select File Group** dialog shows only file group aliases. If you want to select a file group directly, click **Show File Groups Only** at the top right of the dialog, to toggle the dialog to show all file groups. You can toggle back to showing aliases by clicking **Show Aliases Only**.

Generally speaking, once you have selected a file group or alias and configured other report settings such as the primary table or data grid columns, the file group context should not be deleted or changed.

- If you delete the file group context, any selected tables or columns that use file group table variables are now invalid. You must clear these existing selections and then reset them using the regular table and column names.
- If you change the file group context to a different file group, this will only work if the new file group uses the same table variable names as the original file group. If any selected tables or columns use table variable names that do not exist in the new file group, these selections are now invalid. You must clear these existing selections and then reset them using the new file group context.

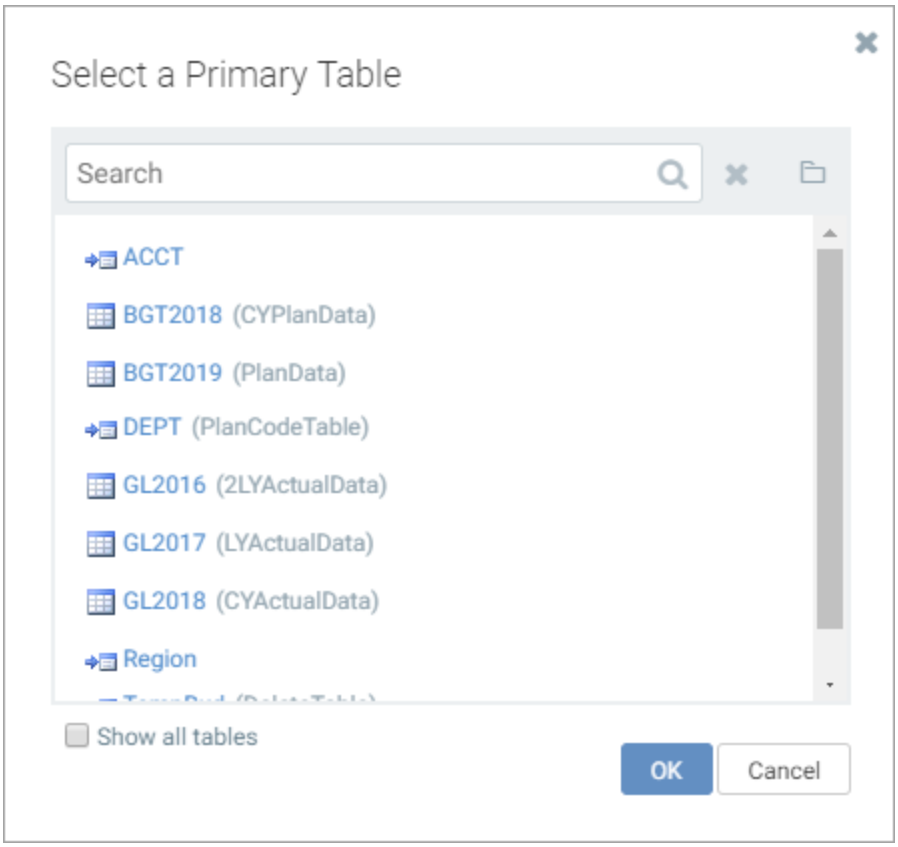
Selecting associated tables and columns for the report

Once you have set the file group context, the table and column chooser dialogs for certain key settings of the report are now limited to showing the tables associated with the file group by default. This applies to:

- **Primary Table** for data sources
- **KPI Table** for KPI Panel components
- **Add Columns** for Data Grid components
- **Column** for Grid and Combo Box refresh variables

When you select a table or column for these affected settings, the list of tables is limited to showing the following:

- All tables referenced by table variables for the file group
- Any reference tables that these tables look up to

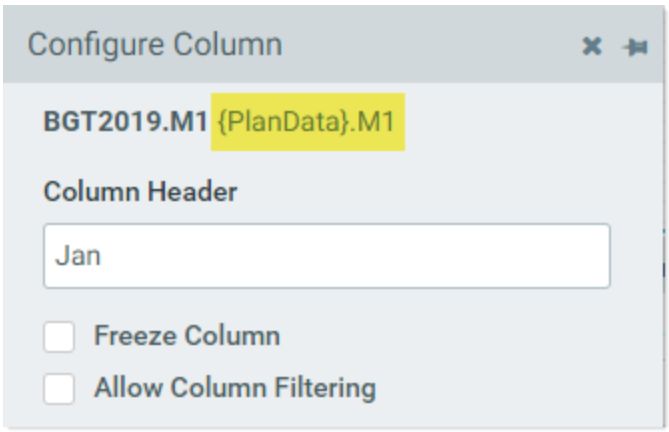


Example table chooser when report has an associated file group

In this example, both Dept and BGT2021 are referenced by table variables in file group Budget 2021, so these tables are both displayed in this dialog by default. You can see the table variable name listed after the table name in parentheses. Additionally, because BGT2021 has a lookup to Acct, this table is also listed, even though it is not referenced by a table variable.

If necessary, you can still select any table in the system by enabling the **Show all tables** option at the bottom of the dialog.

If you select a table or column that is referenced by a file group table variable, the selection is stored using the table variable name. This allows the table reference to update dynamically when the assigned table for the table variable changes (either due to changing the target of the file group alias, or by directly changing the table referenced by the variable).



Example table column using a table variable

For example, imagine that you select `BGT2021.M1` to display in a Data Grid component, where BGT2021 is referenced by table variable `{PlanData}`. Although this column displays in the report setup as `BGT2021.M1` so that you know which column is being queried, the actual column reference is stored as `{PlanData}.M1`. If the file group alias is later changed to point to Budget 2022, and `{PlanData}` resolves to BGT2022 in that file group, then the column reference for the data grid is now automatically updated to point to `BGT2022.M1`.

A few other areas of the Report Designer also support storing selected columns using the table variable name:

- **Sum By Columns** for Data Grid components
- **Sort Order** for Data Grid and KPI Panel components

In all other areas of the web report, the table and column choosers are not limited based on file group table variables (though associated tables still display with their variable name in parentheses), and do not store selections using the table variable name. This includes areas such as:

- Any filter such as the data source filter, column filter for data grid columns, and column filter for refresh variable columns
- Tooltip column on refresh variable columns
- Refresh variable dependencies (if a dependency path is specified)

If you select a table or column that is not stored with a table variable name, then the table or column reference is not dynamic. If you are using a file group alias and the alias is updated to point to a different file group, the table or column reference will remain the same. If the reference needs to be updated, you must manually update it in this case.

Configuring a web report for printing to PDF

If you want users to be able to print a web report, you should configure the report to allow PDF generation. Users can then print the PDF as needed. Although it is possible to print a web report using the native print features of the browser, this is unlikely to provide useful results.

The ability to generate a PDF of a web report is only available if you enable it for the report in the Report Designer. You can also configure the page size and orientation of the PDF.

To enable PDF generation for a web report:

1. In the **Report Settings** panel of the Report Designer, select **Enable Export to PDF**.
2. Click the **(edit settings)** link to the right to open the **PDF Settings** dialog. Complete the following settings and then click **OK**:

Item	Description
PDF Size	The default paper size for the PDF, such as **A4**, **Letter**, or **Legal**. The default size is Letter.
PDF Orientation	The default orientation for the PDF: **Portrait** or **Landscape**. The default orientation is **Portrait**.

PDF design considerations

Note the following design considerations when generating a PDF of a web report for printing.

Data Grid component

- The grid is automatically extended to show all rows in the PDF. It does not matter which rows are currently visible in the report.
- Grid columns are resized to fit the component width in the PDF, regardless of their configured column size. If the columns exceed the page width, the remaining columns are omitted from the PDF. You should set the PDF page size and orientation as needed to fit the columns. For example, a wide grid with many columns should be set to Landscape.
- User changes to the grid are reflected in the PDF. This includes filtered columns, sorting, and reordered columns.
- If the grid is grouped using **Show Hierarchical Data**, only the top-level grouping is shown in the PDF.
- Header groups are all shown in the same shade of gray in the PDF, instead of the varying shades shown in the report.

KPI Panel component

- The KPIs in the panel will flow to fill the PDF page width (assuming the KPI Panel is docked to fill the screen width, which is the configuration in the default template). If the KPIs in the panel exceed the page width, the remaining KPIs are omitted from the PDF. You should set the PDF page size and orientation as needed to fit the KPIs.
- The menu icon in the top right corner of KPI boxes is hidden in the PDF.

Configuring a web report to dynamically change years of data

You can set up a web report so that the data in the report dynamically changes based on a user's selected year. To do this:

- Set up the report using year-based tables, such as GL2018, BGT2019, and so on.
- Create a Year refresh variable and configure it as needed, so that users can select years as appropriate for the report setup and available data.

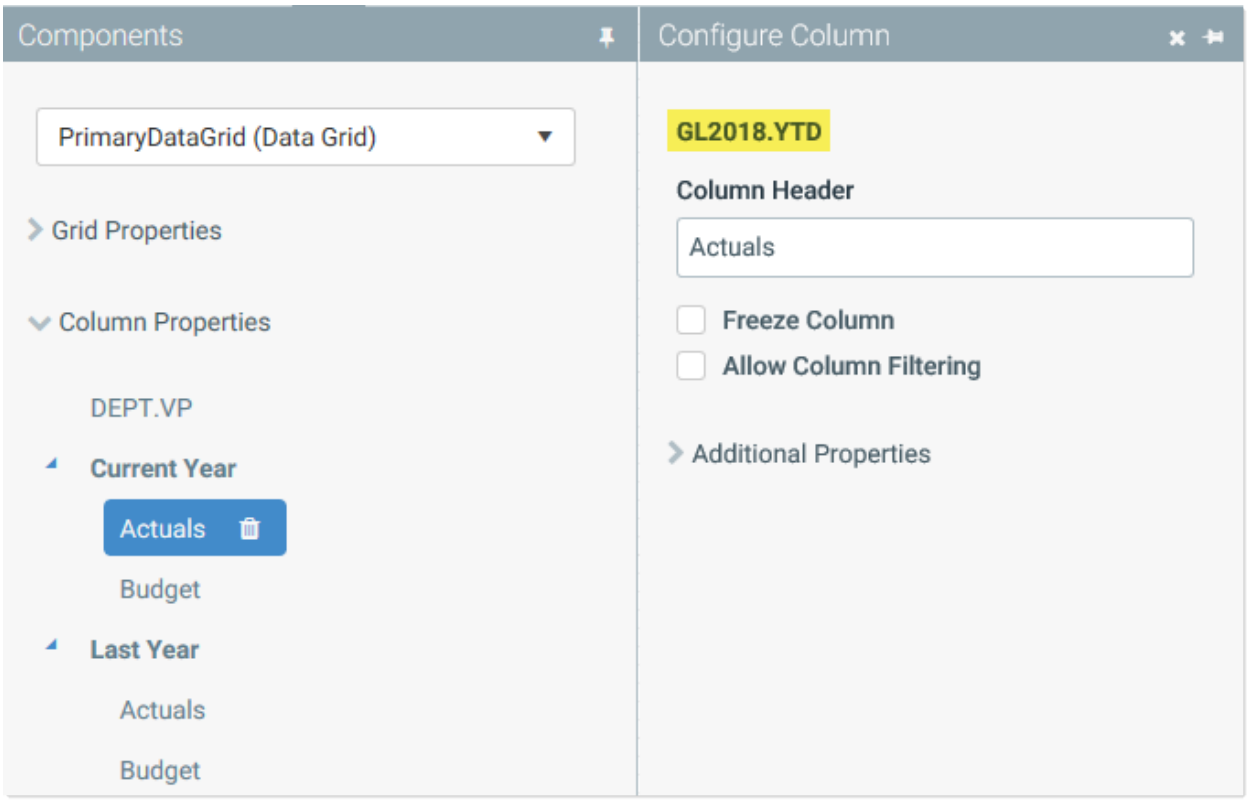
When users view the report, they can select a year for the Year refresh variable in order to adjust the "base year" of the report. The report is then refreshed with data relative to the selected year.

For example, imagine that a report shows 2018 actuals, with a comparison to the prior year (2017). If the user wants to see the same comparison for the previous year, they can use the year variable to change the base year to 2017. Now the report shows 2017 actuals with a comparison to the prior year (2016).

Setting up the report for dynamic years

The basic report setup is as normal, except that data components must use year-based tables if you want the data to change based on the selected year. A year-based table is simply a table with the year in the name, such as GL2018.

For example, you could set up a Data Grid component as shown in the following screenshot. This report shows current year actuals and budget (GL2018.YTD and BGT2018.YTD) as compared to last year's actuals and budget (GL2017.YTD and BGT2017.YTD). The report could also have calculated columns to show the difference and percent difference.



In this example, 2018 is the base year for the report, because the report is built for 2018 and uses columns from 2018 tables (and adjacent year tables). When the Year refresh variable is used to change the year, all table and column references are adjusted based on the difference between the base year and the selected year.

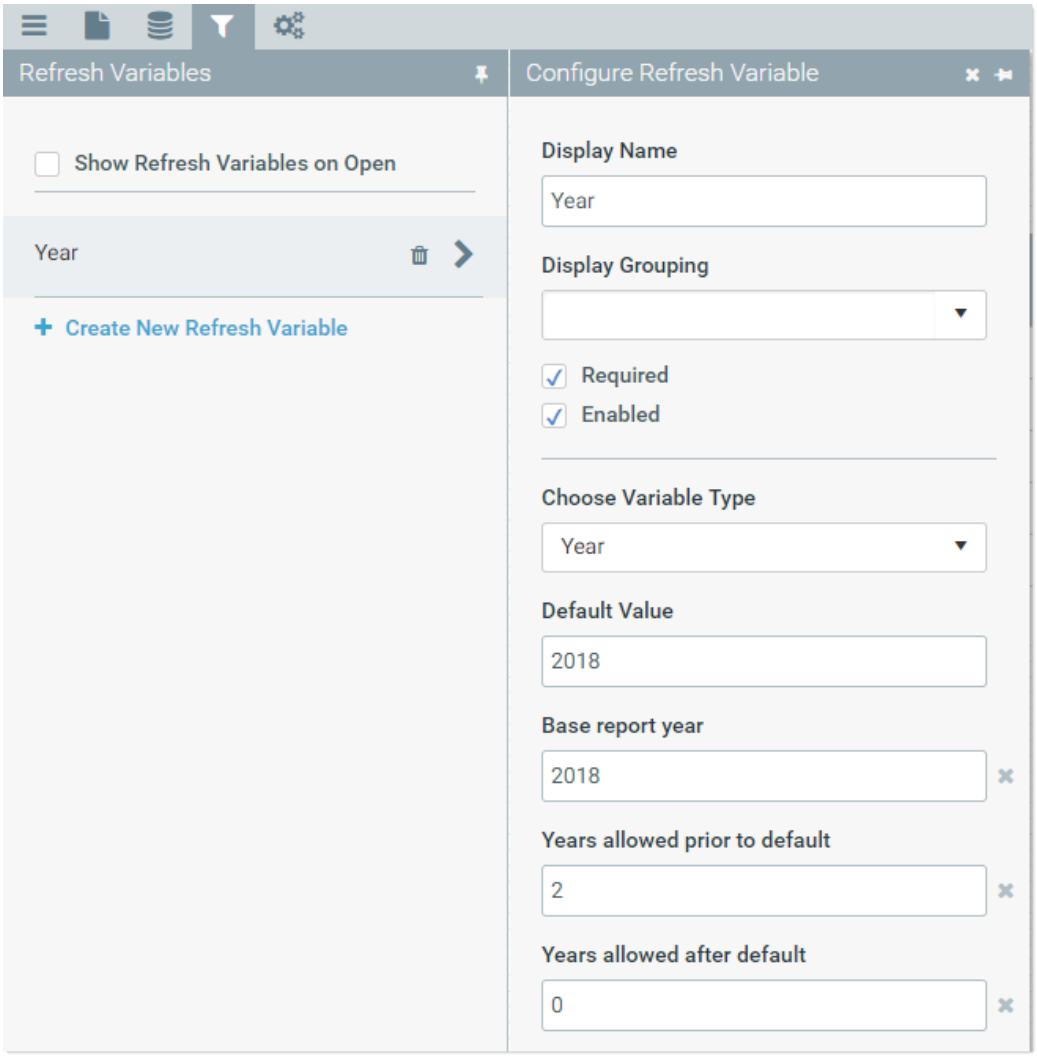
For example, if the user selects 2017 as the new value for the refresh variable, that selected year is one year less than the original base year of 2018. All references to year-based tables in the report are adjusted to be one year less. The reference to `GL2018.YTD` is adjusted to `GL2017.YTD`, and the reference to `GL2017.YTD` is adjusted to `GL2016.YTD`.

References to year-based tables are adjusted this way throughout the report. This includes the primary table for the report, table columns used in data grids, calculated columns used in data grids, and so on.

IMPORTANT: Table column references that use file group table variables *cannot* be used with the Year variable. The report cannot dynamically adjust for both the table variables and the Year refresh variable. This means that you should not associate the report with a file group (using File Group Context) until you have already configured all of your table column references. In this case, the only purpose of using the file group context is to dynamically set the default year for the Year variable to the file group year.

Creating the Year refresh variable

In order to change the year dynamically, create a refresh variable for the report and use the Year variable type.



Example Year variable type

When creating this variable, you define the following:

- **Base Report Year**: The year the report is built for, based on the tables and columns included in the report (as discussed in the previous section). This setting is required in order to set the baseline to adjust the year-based references in the report.

- **Default Value**: The year that you want the report to use by default when it is opened. When the report is first created, the default value and the base report year will likely be the same. In our example, we want the report to use 2018 by default.

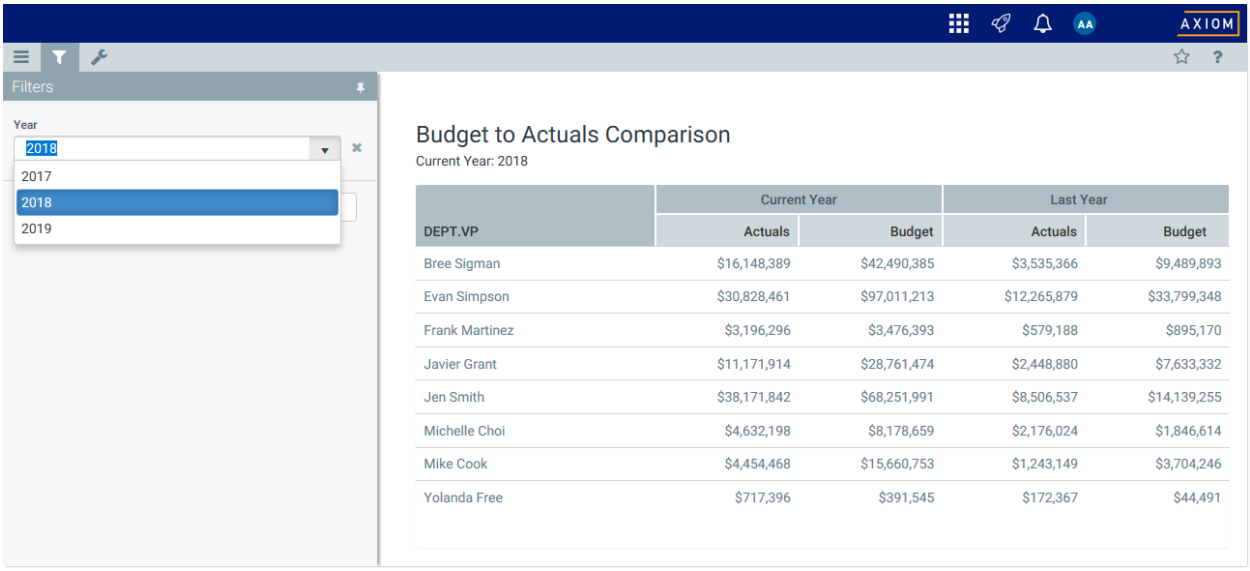
  However, over time, the default value can change while the base report year remains the same. When 2019 starts, we can change the default value of the report to 2019 so that the report is refreshed based on 2019 data (adjusting references 1 year up from the base year of 2018). However, the base year of 2018 must remain the same, because the tables and columns referenced in the report have not changed.

  If the report uses a file group context, you can leave the default value blank to use the file group year by default. Otherwise, the default value is required.

- **Years allowed prior to / after default**: These two settings determine the years available for the user to select. If the prior-allowed years is set to 2 and the default year is 2018, then users can select 2018, 2017, and 2016. If the after-allowed years is set to 1, then users can also select 2019. These settings are optional and are interpreted as 0 if left blank.

  You should set these fields as appropriate depending on the purpose of the report and the available data. If you allow users to select a year which results in invalid tables, an error results. For example, if the report displays actuals data and you allow users to select years in the future, your system may not have actuals tables for those future years yet (and even if it does, those tables likely do not have any data).

When the user views the web report, they can now use the Year refresh variable to change the base year and refresh the file with applicable data.

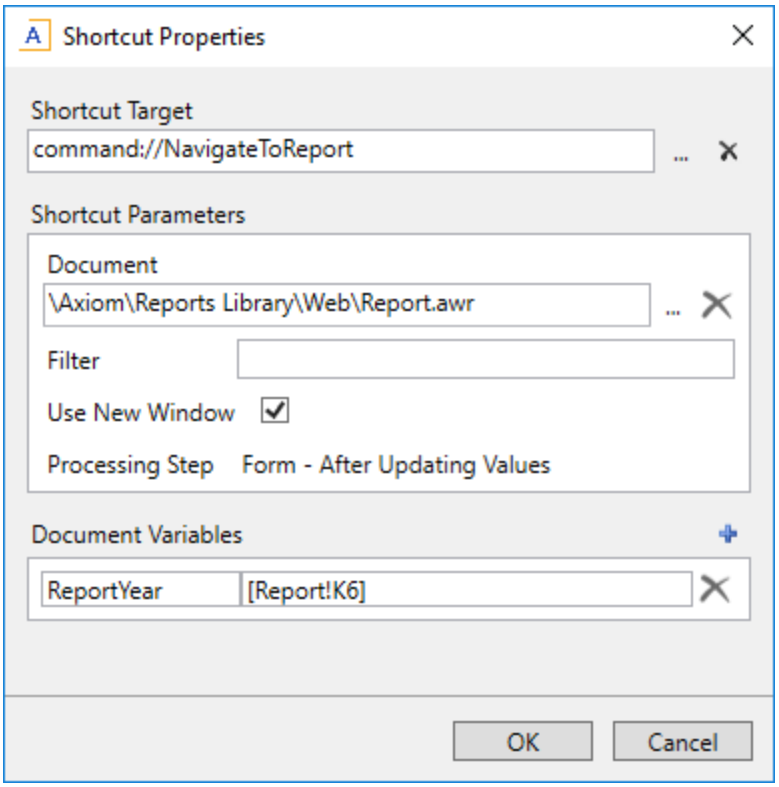


Example Year variable in Filter panel

Passing a year to a web report

You can open a web report from an Axiom form, and pass a default value for the Year refresh variable, so that the report is refreshed for the specified year.

The easiest way to do this is to use the Navigate to Report command with the reserved document variable name **ReportYear**. In the following example, the Navigate to Report command is configured to open a web report and pass a specified value for ReportYear. The value for ReportYear uses a bracketed cell reference to read the value from the form source file, so that the value can dynamically change based on inputs made to the form.



Example Navigate to Report command that passes a value for ReportYear

When this command is executed, the specified web report is opened, and the value for the Year refresh variable is set to the value passed from the form. It does not matter what the name of the Year refresh variable is—since each web report can only have one Year refresh variable, the ReportYear document variable is automatically associated with it.

Alternatively, you can manually append the ReportYear parameter to a generated URL for a web report, using the syntax `&ReportYear=year`. You can use the Axiom function GetWebReportDocumentURL to generate the URL, and then use a formula to append the parameter. For example:

```
=GetWebReportdocumentURL("\Axiom\Reports
Library\Web\Report.awr")&"&ReportYear=2018"
```

This example formula generates a URL such as:

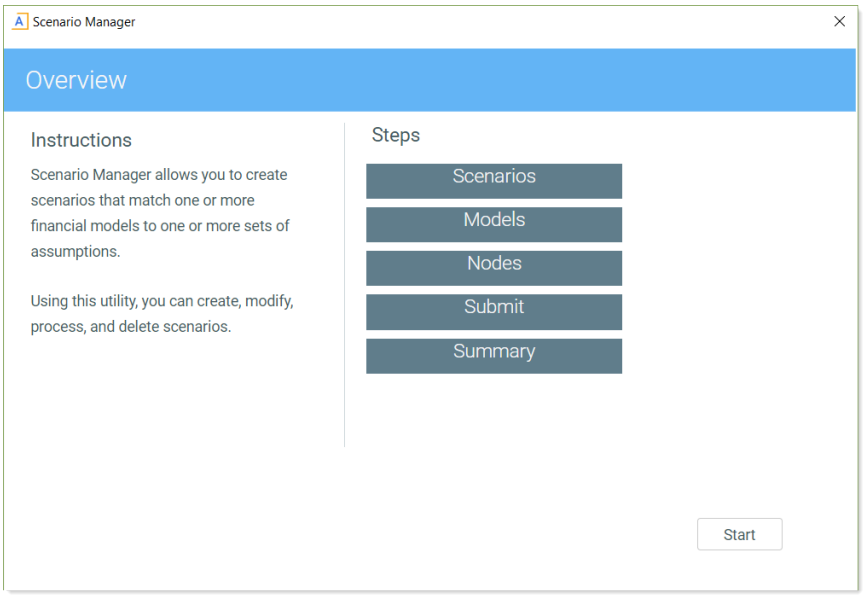
```
https://mycompany.axiomepmcloud.com/reports?docref=9SCqQ5RkUXM7$wDGZcP0g
Hl-OSvgIU6of$t-GAeS4ujBRzGg0LBjXPBtivoiYJ$qa3Xa$EmT39se7o5mSQAm-A_
&reportyear=2018
```

11

Working with Scenarios

One of the most powerful features of Axiom Financial Planning is the ability to generate and compare forecasts based on different sets of assumptions to get a sense of your organization's finances in various possible future scenarios.

Scenario Manager allows you to create scenarios that match one or more financial models to one or more sets of assumptions. After you have defined scenarios, you can run reports on them for analysis and comparison.

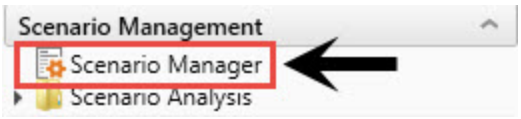


Creating, modifying, or duplicating a scenario

You can create scenarios two ways: from scratch, or by duplicating an existing scenario and editing it

To create, modify, or duplicate a scenario:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, double-click **Scenario Manager**.



2. In the **Scenario Manager** dialog, click **Start**.
3. In the **Scenarios**page, do one of the following:

Option	Description
Create a scenario from scratch	a. Click **Create New Scenario**. b. In the **Type a Name** field, type a name for the scenario. c. Click **Next**.
Create a scenario by duplicating an existing scenario	a. Click **Duplicate Scenario**. b. In the **Duplicate a Scenario** dialog, from the **Select Existing Scenario** drop-down, select the scenario to copy. c. In the **Enter Name for Duplicate** field, type a name for the new scenario. d. Click **OK** or **Apply**. e. In the **Scenario Manager** dialog, click **Next**.
Modify an existing scenario	a. Click **Modify Existing Scenario**. b. From the drop-down, select the scenario. c. Click **Next**.

4. In the **Select Models for Scenario** page, click the check box next to the models to apply to the scenario, and click **Next**.

> **TIP:** To select all of the models, click the check box in the table header to the left of the **Name** column.

5. In the **Apply Node Settings for Scenario** page, do the following, and click **Next**:
   a. From the **Model(s)** drop-down, select one of the following:
      - To apply the selected nodes to all of the models, select **ALL**.
      - To apply the selected nodes to a specific model, select the model name.
   b. Select the nodes to integrate into the scenario by clicking the check box next to one or more nodes.

> **TIP:** You can filter nodes by type in the drop-down under the **Global Set** header by entering the type or selecting from the drop-down.

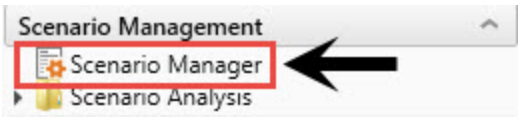
6. Click **Submit**.
7. In the **Summary** page, click **Close**.

Reprocessing a scenario

All values in scenarios represent a snapshot of the data in Axiom Financial Planning at the time the scenario was last processed. When you reprocess a scenario, the selected scenarios are overwritten with the recalculated values. To create a new version of a scenario with updated data while also keeping the original, duplicate the scenario.

To reprocess a scenario:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, double-click **Scenario Manager**.

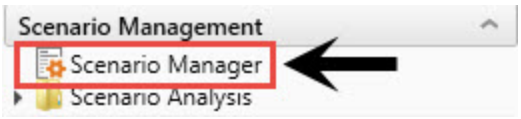


2. In the **Scenario Manager** dialog, click **Reprocess Existing Scenario**.
3. From the drop-down, select the scenario.
4. Click **Next**.
5. Review the warning prompt, and do one of the following:
   - To continue reprocessing, click **OK**.
   - To quit the process, click **Cancel**.
6. In the **Summary** page, click **Close**.

Renaming a scenario

To rename a scenario:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, double-click **Scenario Manager**.



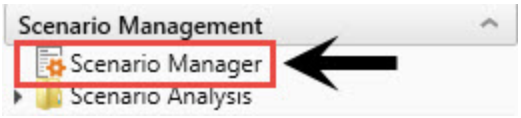
2. In the **Scenario Manager** dialog, click **Start**.
3. In the **Scenarios** page, click **Manage Scenarios**.
4. In the **Scenario Name** column, type a new name for one or more scenarios.

5. Click **OK** or **Apply**.

Deleting a scenario

To delete a scenario:

1. In the Fin Plan Admin or Fin Plan task pane, in the **Scenario Management** section, double-click **Scenario Manager**.



2. In the **Scenario Manager** dialog, click the check box in the Delete column (indicated with the trash can icon) next to the scenario to delete.
3. Click **OK** or **Apply**.
4. Review the warning prompt, and do one of the following:
   - To continue deleting, click **OK**.
   - To quit the process, click **Cancel**.

12

Managing System Administration

This section includes topics related to system administration tasks for Axiom Financial Planning.

Scheduler Overview

Using Scheduler, you can schedule certain Axiom Financial Planning tasks to be processed on a Scheduler server at a specific date and time. For example, you can schedule plan file processing or data imports.

Processing tasks using Scheduler has advantages over manual processing, such as:

- Leverages the server's processing power and frees up your computer's resources.
- Enables recurring scheduling of ongoing tasks.
- Allows tasks to be scheduled during "off hours," during periods of low network and system activity.
- Allows tasks to be performed in batch, including enforcing task dependencies.

Scheduler processes tasks using jobs. Each job is a scheduled unit that can contain one or more tasks. The tasks in a job can be processed sequentially or concurrently as appropriate.

Only system administrators and users with the **Scheduled Jobs User** security permission can access Scheduler.

About Scheduler

This section contains conceptual information about the Scheduler feature in Axiom Financial Planning.

Scheduler jobs and tasks

The primary unit of Scheduler processing is a *job*. Each Scheduler job can contain one or more *tasks* to be performed as part of that job.

Each Scheduler job defines the following basic properties:

- The tasks to perform for the job and the properties of those tasks
- The schedule of the job, including recurrence (if any)
- The priority of the job

- The notification options for the job

The tasks define the actual activities to be performed by the job, such as importing data or processing plan files. Some Scheduler tasks correspond to existing features that can also be processed manually (such as Process Plan Files), while other tasks are Scheduler-specific and can only be processed via Scheduler. Each task has a unique set of options that are specific to that task and to the activity to be performed. For more information on the available task types, see Scheduler Task Reference.

The tasks in a job can be processed sequentially or concurrently as appropriate. Tasks can be dependent on other tasks in the job as needed—for example, you can configure a job so that if a task fails, the job stops and does not process the next task. Tasks can also be processed iteratively, to perform the same task repeatedly over a defined set of values.

The Scheduler jobs in your system fall into the following basic categories:

- **Client-created**: You can create Scheduler jobs as needed to perform tasks in your system.
- **System jobs**: Axiom Financial Planning provides a set of system jobs to perform necessary system tasks.
- **Product-controlled**: When a product is installed, it may include one or more Scheduler jobs to support the use of that product. Generally speaking, these jobs should not be changed unless the product documentation says customization is allowed, or as advised by Axiom Support.

How Scheduler jobs are run

Once a Scheduler job has been created, it can be run using any of the following options:

- The job can be scheduled for execution at a future date and time using a scheduling rule. Scheduling rules can be one-time only, or recurring.
- The job can be run "one time" manually as needed through Scheduler.
- The job can be triggered for execution using an event handler. This allows Scheduler jobs to be triggered in various ways, such as by clicking a button in an Axiom form.

Scheduler jobs are processed by one or more servers running the Scheduler service. For Cloud Service systems, the Scheduler service is part of your cloud system and managed by Axiom Support. For on-premise systems, the Scheduler service is installed on one or more servers in your environment. The Scheduler service polls the Axiom Application Server periodically to check for any jobs that are ready to be run. Eligible jobs are then executed on the server, based on their processing priority.

When a job is executed by Scheduler, it is run using a particular user identity. In order for a job to be executed successfully, the user must be an active user defined in Axiom Financial Planning security, and the user must have the appropriate security permissions to perform the tasks in the job. The user identity for a job is determined as follows:

- If a job is a system job, then it is run as the system-managed identity of **System** instead of a user identity.
- If a job is run by using **Run Now**, then it is run as the user who placed the job on the schedule.

- If a job is run by an active scheduling rule, then it is run as the *job owner*. The job owner is the user who last saved the job.
- If a job is run via an event handler, then the job may be run as either the job owner, or the job requester (the user who raised the event).

System jobs

System jobs are automatically created by Axiom Financial Planning to support necessary system functionality. Some system jobs are created as part of the initial installation and are intended to run on an ongoing basis, while other system jobs are created on-demand in response to system events. Only administrators can edit these system jobs.

System jobs have two defining characteristics:

- System jobs are run using the system-managed identity of **System** instead of a user identity. The System identity has full rights to the system as necessary to perform system tasks.
- System jobs are run by the default System Scheduler service. For on-premise systems, this service is created and started automatically on the Axiom Application Server, and does not require a separate installation. This service is exclusively for running system jobs.

  Cloud Service systems may or may not have a separate System Scheduler service, depending on the system configuration (as determined by Axiom Support). If your cloud system does not have a System Scheduler service, then your system jobs are run using the available Scheduler services for the cloud system.

  In the Scheduler dialog (Desktop Client), the System Scheduler service is listed on the **Servers** tab using the following naming convention: ***<ServerName>*-System**.

If necessary, a product-controlled or client-created job can be flagged as a system job, so that it can be run using the System identity instead of a user identity. To designate a job as a system job, enable **Mark as System Job** in the **General** job properties. The following rules apply to manually-created system jobs:

- Only system administrators can designate a job as a system job.
- The job cannot contain any tasks that are designated as “non-system” tasks. Non-system tasks are any tasks that might involve spreadsheet processing, such as Process Plan Files.

Processing priority for scheduled jobs

Once a job reaches its start time, it is eligible to be processed by Scheduler and joins the processing queue. For scheduled jobs, the start time is based on the scheduling rule that placed it on the schedule. For other jobs, the start time is the time that the job was placed on the schedule using **Run Once** or triggered by an event handler.

Each Scheduler service has a configured number of *threads* that are used to process jobs. As a Scheduler thread becomes available, it takes the next job in the processing queue. The priority of jobs in the processing queue is determined by the combination of the job's priority category, and its **Priority Elevation** setting.

Each job has a priority category, based on how the job execution was initiated. The priority categories are as follows:

1. **Manual**: The job was executed manually.
2. **Event Handler**: The job was executed by a Scheduler event handler.
3. **Scheduled Job**: The scheduled instance of the job results from an active scheduling rule.
4. **Subordinate Job**: The job was generated as a subordinate job, from a currently executing job.

Manual jobs are highest priority and are processed first, and subordinate jobs are lowest priority and are processed last. Within each category, jobs are processed according to their **Priority Elevation** setting.

For example, imagine that Scheduler has 2 available threads and the following jobs are eligible to be processed:

Job	Priority Category	Priority Elevation
A	Manual	Default
B	Event Handler	Default
C	Scheduled	Default
D	Scheduled	Elevated

- Scheduler will execute jobs A and B first, because those are the highest priority jobs based on their priority category.
- When the next thread becomes available, Scheduler will execute job D. Although job C may have entered the queue first, and the two jobs have the same priority category, job D's priority elevation is set to **Elevated** so it takes precedence within the category. If instead both jobs were set to **Default**, then job C would be executed first if it entered the queue before job D.
- When the next thread becomes available, Scheduler will execute job C.

NOTE: If a job's **Priority Elevation** is set to **Interrupt**, then it is run as soon as it is eligible, regardless of its priority category and regardless of whether any Scheduler threads are currently available to process the job. If no Scheduler threads are available, a new one is created to process the job, even if this temporarily exceeds the number of configured threads for the server.

The Scheduler dialog

The **Scheduler** dialog is used to create and manage Scheduler jobs.

To access Scheduler:

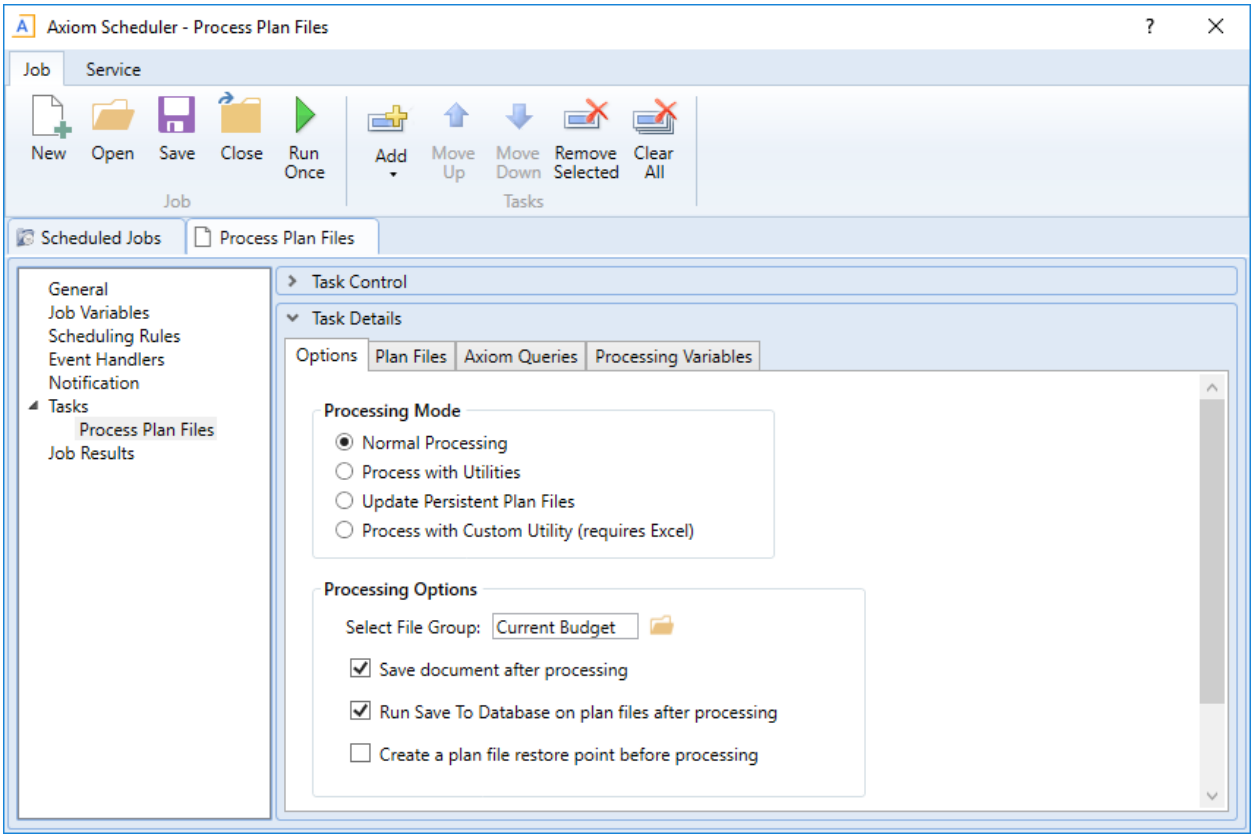
- On the **Axiom** tab, in the **Administration** group, click **Manage > Scheduler**.

NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Scheduler**.

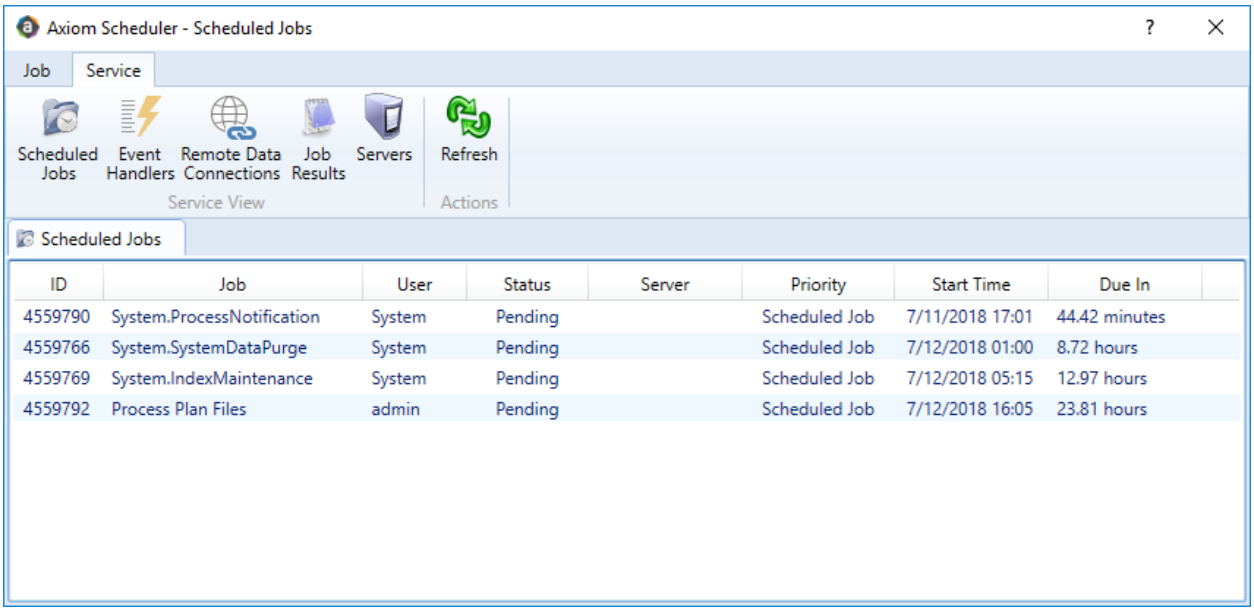
The top section of the **Scheduler** dialog contains a ribbon-style toolbar with two tabs: **Job** and **Service**.

- On the **Job** tab, you can create, run, and edit jobs.
- On the **Service** tab, you can manage scheduled jobs and view job results.

As you perform actions on the **Job** and **Service** tabs, additional tabs are opened in the navigation pane of the dialog. For example, clicking the **Scheduled Jobs** button on the **Service** tab opens the **Scheduled Jobs** tab in the navigation pane. You can move between any open tab in the navigation pane, regardless of which tab is selected in the ribbon. The ribbon updates to show the related commands for the selected item.



Example Job tab



Example Service tab

When you right-click a tab in the dialog's navigation pane, you can close or save items as follows:

- For all items, you can **Close**, **Close All**, or **Close All But This**.
- For jobs, you can **Save** or **Save As**. Selecting **Save As** allows you to save a copy of the job to the **Scheduler Jobs Library** in the Axiom Financial Planning file system.

The **Scheduler Jobs Library** is also accessible via Axiom Explorer.

Scheduler Job Setup

To perform Axiom Financial Planning tasks using Scheduler, you must create jobs. Each job can execute one or more tasks. This section discusses how to set up jobs, including how to schedule jobs for future execution and how to be notified when a job has been completed.

Managing Scheduler jobs and tasks

Using the **Axiom Scheduler** dialog, administrators can create and edit Scheduler jobs. To access this dialog:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Scheduler**.

> **NOTE:** In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Scheduler**.

This section discusses how to create, edit, and delete jobs and tasks, not how to manage the Scheduler queue once jobs have been placed on the schedule. If you need to stop or reschedule a scheduled job, see Managing scheduled jobs.

Scheduler jobs are saved as XML files and are stored in the Axiom Financial Planning file system at `\Axiom\Scheduler Jobs Library`.

Creating a Scheduler job

You can create a new Scheduler job to perform one or more tasks.

To create a new job:

1. In the **Scheduler** dialog, on the **Job** tab, click **New**.

   A new tab appears in the navigation pane, labeled **New Job**. The left-hand side of the job lists sections for which you can define various job settings. When you click a section name, the settings for that section display in the right-hand side of the job.

2. In the **General** section, define general job settings as desired.

   For detailed information on the available settings for a job, see Job properties.

3. In the **Scheduling Rules** section, specify scheduling details for the job.

   You can schedule the job for future execution, for one time or on a recurring basis.

   NOTE: If you are always going to run the job manually, and do not need to schedule it for future execution, then you do not need to define scheduling rules.

   For more information, see Defining scheduling rules for a job.

4. In the **Notification** section, specify email notification options for the job.

   You can send email notifications every time the job completes, or only when the job experiences errors. By default, the job is configured to notify on completion.

   For more information, see Setting up email notification for jobs.

5. In the **Tasks** section, add one or more tasks to the job.

   a. On the **Job** tab of the ribbon, in the **Tasks** group, click **Add**. This brings up a list of available tasks. Select the task that you want to add.

      The task is added to the **Tasks** section, and the settings for the task display in the right-hand side of the job.

   b. Complete the settings for the task as desired.

      The **Task Control** section of the task contains standard task settings, and the **Task Details** section contains settings unique to the task type. For more information, see Task Control properties.

If a required setting is not completed, the setting is highlighted in red and error text appears in the bottom of the dialog. Make sure to complete all required settings for the task before saving.

Repeat this process until you have added all desired tasks to the job. Tasks are processed in the order listed. If you need to change task order, select a task and then click **Move Up** or **Move Down**.

6. In the **Job** tab of the ribbon, click **Save**.
7. At the bottom of the **Save As** dialog, in the **File name** box, type a name for the job, and then click **OK**.

   The job is saved as an XML file in the Scheduler Jobs Library.

If the job was saved with an active scheduling rule, Axiom Financial Planning determines the next scheduled date of execution and schedules the job. You can view the job in the **Scheduled Jobs** list (on the **Service** tab of the ribbon, click **Scheduled Jobs**).

Advanced job settings

This procedure covers the basic steps of creating a job. Jobs also support the following advanced options:

- **Event handlers**: You can create event handlers for the purposes of running the job using the RunEvent function. This allows users to trigger job execution from within an Axiom file.
- **Job variables**: You can create job variables and then use those variables within certain job settings. You can then dynamically pass in values for those variables when using the RunEvent function to execute the job.

For more information, see Advanced options, Using job variables, and Using RunEvent to execute a Scheduler job.

Editing a job

You can edit a job at any time to change job settings, add or remove tasks, change scheduling rules, or change notification options.

This section describes the general process of opening a job for editing. For more details on the impacts of editing scheduling rules, see Defining scheduling rules for a job.

To edit a job:

1. In the **Scheduler** dialog, in the **Job** tab, click **Open**.

   The **Axiom Explorer** dialog opens, showing the Scheduler Jobs Library only.

2. Select the job and then click **Open**.

   The job opens in the **Scheduler** dialog. Make sure the job is the active tab in the navigation pane (the most recently opened tab is the active tab by default).

3. Edit the job and task properties as desired.

   For detailed information on the available settings for a job, see Job properties. For detailed information on task settings, see Task Control properties.

4. In the **Job** tab of the ribbon, click **Save**.

Deleting a job

Deleting a job removes any scheduled executions of the job from the scheduled jobs list.

To delete a job:

1. In the **Scheduler** dialog, in the **Job** tab, click **Open**.

   The **Axiom Explorer** dialog opens, showing the Scheduler Jobs Library only.

2. Navigate to the job that you want to delete, then right-click the job and select **Delete**.

You can also delete Scheduler jobs from Axiom Explorer or the Explorer task pane.

Defining scheduling rules for a job

Once a job has been created, you can run it on demand, or you can schedule it for future execution. Jobs can be scheduled to be run one time, or on a recurring basis. To schedule a job, you define scheduling rules for the job.

You can add, edit, and remove the scheduling rules for a job at any time using the **Scheduling Rules** section of the job properties. You can also flag a rule as active or inactive. If a job has no scheduling rules, or if all of its scheduling rules are inactive, then it will not be run unless it is run manually by a user.

If a job is saved with an active scheduling rule, then Axiom Financial Planning determines the next scheduled instance of the job and places it in the scheduled jobs list. Once that instance has been processed, the next scheduled instance is determined and scheduled, and so on. Each time the job is run using an active scheduling rule, it is run as the current job owner (unless the job is a system job, in which case it is run as the Scheduler Service System identity).

If a job has multiple active scheduling rules, Axiom Financial Planning evaluates all of the rules and schedules a single instance of the job, for the earliest time allowed by the rules. Multiple scheduling rules do not result in multiple scheduled instances of the job.

NOTE: If a time zone is listed on the Scheduling Rules section of the job, then the defined rules will be evaluated in the context of that listed time zone. Otherwise, scheduling rules are evaluated in the context of the local time zone for the Scheduler Server. If necessary, the system configuration setting **SchedulingBehaviorTimezone** can be used to specify a particular time zone for evaluating scheduling rules.

Adding a Scheduling rule

You can add a scheduling rule to a job to schedule it for future execution, either one time or on a recurring basis.

If you only plan to run the job manually on demand, then you do not need to create a scheduling rule.

To add a scheduling rule to a job:

1. In the **Scheduler** dialog, open a job to edit or create a new job.
2. In the left-hand side of the job, select **Scheduling Rules**.

   By default, this area is empty. You must add a rule in order to define scheduling for the job.
3. On the **Job** tab of the Scheduler ribbon, in the **Scheduling Rules** section, click **Add**.

   A new row appears in the right-hand side of the job. By default, the new row is active, but does not have start / end dates or any specific recurrence settings.
4. Complete the following settings within the row as needed:

Item	Description
Active	If you want the job to be placed on the schedule as soon as you save the job with the new scheduling rule, then you should leave this option checked. However, if you just want to save your schedule settings but you are not ready to begin scheduling the job, then you can clear the **Active** check box for the rule. The job will not be scheduled until it is saved with an active scheduling rule.
Starting On Ending On	Optional. These dates specify the time frame for the scheduling rule. The starting date defines the earliest point in time that the job can be scheduled, and the ending date defines the latest point in time that the job can be scheduled. If these dates are not defined (left blank), then the job will be perpetually scheduled according to the rule settings, as long as the rule is active. If you want to schedule a one-time job, then set the starting / ending dates to the same date and time. **NOTE:** Your system locale determines the format of dates.

Item	Description
Day of Week	Specify the day(s) of the week that you want the job to be run: • `*` (Default): The job will be run on all days within the start / end range. • `0-6`: The job will be run on the specified day or days, where 0 is Sunday and 6 is Saturday. Use a comma or a hyphen to separate multiple days (hyphen if the days are contiguous, commas if not). For example, you can enter `1,3,5` for Monday, Wednesday, and Friday, or enter `1-5` for Monday through Friday.
Hours	Specify the time of day (hours) that you want the job to be run, in relation to the specified days: • `*` (Default): The job will be run on all hours. • `0-23`: The job will be run on the specified hour or hours, where 0 is midnight and 23 is 11:00 PM. Use a comma or a hyphen to separate multiple hours (hyphen if the hours are contiguous, commas if not). For example, you can enter `0,12` to run at midnight and noon, or enter `0-12` to run every hour from midnight to noon.
Minutes	Specify the time of day (minutes) that you want the job to be run, in relation to the specified hours: • `*` (Default): The job will be run on all minutes (essentially the job is run continuously, once per minute). • `0-59`: The job will be run on the specified minute or minutes of the hour, where 0 is the first minute of the hour and 59 is the last minute of the hour. Use a comma or a hyphen to separate multiple minutes (hyphen if the hours are contiguous, commas if not). For example, you can enter `0,30` to run at the top of the hour and the half hour, or enter `0-30` to run every minute from the top of the hour to the half hour. **NOTE:** If you specify an hour, then in most cases you should also specify a minute (such as 0 to run the job at the top of the specified hour). If you enter an hour but leave the minutes at the default asterisk, then the job will run every minute in that hour.

If the Active check box for the rule is selected when the job is saved, then Axiom Financial Planning will calculate the date and time of the first scheduled execution and will place the job on the schedule.

Editing a scheduling rule

You can edit a scheduling rule at any time, to toggle between active and inactive, and to change the start / end dates and recurrence settings.

NOTES:

- If a pending instance of this job is currently on the schedule, and you edit the scheduling rule, the pending instance will be updated to match the new schedule.
- If you inactivate a scheduling rule, any currently scheduled instances of the job will be automatically removed from the schedule.

To edit a scheduling rule:

1. In the **Scheduler** dialog, open a job to edit or create a new one.
2. In the left-hand pane of the job, select **Scheduling Rules**.

   The defined rules display in the right-hand pane of the job.
3. Make any desired changes directly within the scheduling rules grid.

Deleting a scheduling rule

You can delete a scheduling rule at any time. If a job has no active scheduling rules, it will not be processed unless it is manually run.

To delete a scheduling rule:

1. In the **Scheduler** dialog, open a job to edit.
2. Select the **Scheduling Rules** section of the job, and then select the rule that you want to delete.
3. On the **Job** tab of the Scheduler ribbon, in the **Scheduling Rules** group, click **Remove Selected**.

   Alternatively, if you want to delete all scheduling rules for the job, click **Clear All**.

Any jobs in the scheduled jobs queue that were related to the deleted rule(s) are also deleted.

Scheduling rule examples

The following are some example schedules and the rules used to achieve them:

Schedule	Start/End	Day of Week	Hours	Minutes
Weekdays at 11:00 PM	<optional>	1,2,3,4,5	23	0
Every 15 minutes	<optional>	*	*	0,15,30,45
Mondays at 11:30 PM	<optional>	1	23	30
One time (6/30/2020) at 1:30 PM (Option 1)	Start: 06/30/2020 00:00 End: 07/01/2020 00:00	*	13	30

Schedule	Start/End	Day of Week	Hours	Minutes
One time (6/30/2020) at 1:30 PM (Option 2)	Start: 06/30/2020 13:30 End: 06/30/2020 13:30	*	*	*
Every Wednesday in July at noon	Start: 07/01/2020 00:00 End: 08/01/2020 00:00	3	12	0
Continuous	<optional>	*	*	*

Setting up email notification for jobs

Scheduler can be configured to send an email notification when a job completes, or when a job has errors. In order for an email to be sent for a particular job, the following must be set up:

- The job must be configured to send a notification on completion or error. The notification settings must include valid To and From email addresses (or use system variables).
- The System.SMTPMessageDelivery system job must be configured with a valid SMTP server for your environment.

When a job creates an email notification, the notification is first saved to the database. When notifications are detected in the database, the System.SMTPMessageDelivery system job is triggered to deliver the notifications.

NOTE: By default, all new Scheduler jobs are configured to send notification on completion, to the user who created the job. You only need to edit these settings if you want to change the default settings.

To configure a job to send email notifications:

1. In the **Scheduler** dialog, open a job to edit or create a new one.
2. In the left-hand side of the job, select **Notification**.
3. In the **Job Notification Level** section, select one of the following:
    - **Send all email notifications**: (Default) An email notification is always sent when the job is executed, regardless of the job status (success, failure, aborted, etc.).
    - **Send email notification only when the job has errors**: An email notification is only sent if the job experiences errors. If the job completes successfully with no errors, no email notification is sent.
    - **None**: No email notifications are sent for this job. The only way to check the status of the job execution is to check the job history.
    - **Send email notification to different email addresses when the job has errors or succeeds**: This option works the same way as **Send all email notifications**, except that a

separate email address can be specified to receive the error notifications.

4. In the **Notification Message Content** section, complete the following for the notification email:

Item	Description
To	The email address(es) to receive the notification email. Separate multiple addresses with a semicolon. By default, this is set to notify the user who executed the job, using the system variable `{CurrentUser.EmailAddress}`. When using **Send email notification to different email addresses when the job has errors or succeeds**, this user will be notified if the job completes successfully (including partial success), but not if the job fails. Job failure notifications are sent to the **To (on error)** recipients.
From	The email address that the message is sent from. This can be something like axiomscheduler@company.com, so that the recipient can easily tell that the message has been generated by Scheduler. By default, this is set to the Scheduler "from" email address as defined in the system configuration settings, using the system variable `{Scheduler.FromEmailAddress}`. **NOTE:** For installations that are using subsystems, the system variable `{Scheduler.FromEmailAddress}` may resolve to a subsystem administrator email address instead of the Scheduler "from" email address. For more information, see Using job variables.
Subject	The subject of the message. By default, this is set to "Axiom Scheduler Notification."
User Message	Optional body text for the email. This text is included in addition to the Scheduler auto-generated text regarding the job status.

If **Send email notification to different email addresses when the job has errors or succeeds** is enabled, the following additional options are available:

Item	Description
To (on error)	The email address(es) to receive the notification email when the job result is **Failed**. Separate multiple addresses with a semicolon. This user only receives a notification if the job fails. If the job result is **Success** or **Partial Success**, this user will not receive a notification (only the To user will).
Subject (on error)	The subject of the job failure message. By default, this is set to "Axiom Scheduler Notification."

Job variables can be used in the notification settings. For more information, see Using job variables.

When this job is executed, it will generate an email notification according to the defined settings, and save that notification to the database to await delivery.

Job properties

This topic is a reference for the settings that can be defined for a Scheduler job.

General

This section defines general settings for the job.

Item	Description
Description	Optional. The description of the job. The job description can also be edited in Axiom Explorer, in the Scheduler Jobs Library.
Job Restart Behavior	Specifies whether and how the job should be restarted if it is interrupted prior to completion. Select one of the following: • **Do not reschedule this job.** In this case, you must manually reschedule the job if it needs to be run before its next scheduled execution. • **Restart the job from the first task.** The entire job is run again, even if some of the tasks were completed successfully before the job was interrupted. • **Resume the job beginning with the first uncompleted task.** (Default) The job resumes and only the uncompleted tasks are run. A job would be interrupted if the Scheduler server processing it was restarted, or if the Scheduler service on the server was stopped or restarted, or if the Scheduler server was disabled from the **Servers** tab (**Service > Servers**) of the **Scheduler** dialog.

Item	Description
Job Results Cleanup	Specifies whether historical job results are purged when the job is run. To purge job results: 1. Select **Purge historical job results whenever this job runs**. 2. In **Number of days to keep results for this job**, specify the number of days to keep when purging results. By default this is set to 0, which means all job results will be purged except the result for the current job execution. A day is counted as 24 hours from the time the cleanup task is executed. So if you specify 1 day, and the task is run at 11:00 PM on Tuesday, then all results prior to 11:00 PM Monday are purged. If this option is not selected, then historical job results remain in the database until the system's **Purge System Data** task is run.
Priority Elevation	Specifies the priority of the job in the scheduled jobs queue, within the job's priority category. Select one of the following: • **Default**: (Default) This job is run on a "first come, first served" basis. The total number of jobs that can be run at one time is determined by the configured number of Scheduler threads for the installation. • **Reduced**: The job is designated as a low priority job, and remains at the bottom of the queue until other jobs with Default and Elevated priority have been run. • **Elevated**: The job is designated as a high priority job, and is moved to the top of the queue to be run before Default and Reduced priority jobs. • **Interrupt**: The job is run immediately, regardless of any jobs currently waiting in the scheduled jobs queue, and regardless of whether any Scheduler threads are currently available to run it. If no Scheduler threads are currently available, a new thread is created, even if this exceeds the configured thread limit for the installation. Job execution order also depends on the priority category of a specific job execution. See Processing priority for scheduled jobs.

Item	Description
Mark as System Job	Specifies whether the job is run as a system job. Only administrators can edit this check box. If this check box is selected, the job is run under the "Scheduler Service" system identity instead of a user identity, and the job is run by the system Scheduler server which operates on the Axiom Application Server. Generally, this check box should only be selected for system "support" tasks that should not depend on individual user rights. This check box is not available if the job contains non-system tasks (generally, spreadsheet-related tasks). For more information, see System jobs.
Put the system in 'admin only' mode during this job	If this option is selected, then the system will be placed into administrator-only mode at the start of the job, and then placed back into full access mode when all tasks are completed (including any sub-jobs). This is the same behavior as going to **Manage > Security > System Access** and selecting **Administrators Only**. **NOTES:** • You should make sure that any jobs using admin-only mode do not overlap. For example, imagine that job A starts and places the system in admin-only mode. While job A is still running, job B starts and finishes. If job B also uses admin-only mode, then when job B finishes the system will be placed back into full access mode, meaning the remainder of job A will be processed in full access mode. • Any job using admin-only mode must be run by an administrator. Generally speaking, any job set to run using admin-only mode should be run at a time when no end users will be logged into the system and no other Scheduler jobs will be running.

Job Variables

This tab has two sections for job variables:

- In the **Job values** section at the top of the tab, you can manage user-defined variables for use in the current job.

  To add or remove variables, use the **Add**, **Remove Selected**, or **Clear All** commands in the **Job Variables** group of the **Job** tab. This group is only available when you have selected the **Job Variables** section in the left-hand side of the job.

  When creating user-defined variables, do not add curly brackets to the variable name. Curly brackets are only required when you use the variable in a job or task setting.

- In the **System defined values** section at the bottom of the tab, you can view the system variables available for use in the job.

You can right-click any variable in this section (user-defined or system-defined) and select **Copy variable name to clipboard**. You can then navigate to the setting where you want to use the variable, and then paste it. The variable will be pasted with the necessary curly brackets.

For more information, see Using job variables.

Scheduling Rules

Each row in this section defines a scheduling rule for the job. Jobs will be automatically scheduled according to the settings in this section.

To add or remove scheduling rules, use the **Add**, **Remove Selected**, or **Clear All** commands in the **Scheduling Rules** group of the **Job** tab. This group is only available when you have selected the **Scheduling Rules** section in the left-hand side of the job.

For more information, see Defining scheduling rules for a job.

Item	Description
Active	Specifies whether the scheduling rule is active. If this check box is not selected, then the rule is ignored for purposes of scheduling the job.
Starting On	Optional. Specifies the earliest date and time for the scheduling rule to take effect. If you want the job to run one time only, set **Starting On** and **Ending On** dates to the same date/time.
Ending On	Optional. Specifies the expiration date and time for the scheduling rule. Once this date is past, no further executions will be scheduled for this rule.
Day of Week	Specifies the day(s) of the week that you want the job to be run: • `*` (Default): The job will be run on all days within the start / end range. • `0-6`: The job will be run on the specified day or days, where 0 is Sunday and 6 is Saturday. Use a comma or a hyphen to separate multiple days (hyphen if the days are contiguous, commas if not).
Hours	Specifies the time of day (hours) that you want the job to be run, in relation to the specified days: • `*` (Default): The job will be run on all hours. • `0-23`: The job will be run on the specified hour or hours, where 0 is midnight and 23 is 11:00 PM. Use a comma or a hyphen to separate multiple hours (hyphen if the hours are contiguous, commas if not).

Item	Description
Minutes	Specifies the time of day (minutes) that you want the job to be run, in relation to the specified hours: • `*` (Default): The job will be run on all minutes (essentially the job is run continuously, once per minute). • `0-59`: The job will be run on the specified minute or minutes of the hour, where 0 is the first minute of the hour and 59 is the last minute of the hour. Use a comma or a hyphen to separate multiple minutes (hyphen if the hours are contiguous, commas if not).

Event Handlers

If an event handler is associated with the job, it is listed here. There are two types of event handlers:

- System event handlers, for completing system-triggered tasks.
- User-defined event handlers, for running jobs via RunEvent. See Advanced options.

To add or remove event handlers, use the **Add**, **Remove Selected**, or **Clear All** commands in the **Event Handlers** group of the **Job** tab. This group is only available when you have selected the **Event Handlers** section in the left-hand side of the job.

Item	Description
Active	Specifies whether the event handler is active or not within the current job. If inactive, then actions that trigger the event handler will ignore this job.
Event Name	The name of the event handler. Multiple jobs can have an event handler with the same name; all those jobs will be affected when the event handler is triggered.
Execute As	The user identity under which the job will be run when the event handler is triggered. • **Owner**: For system-managed event handlers, the owner is the system Scheduler identity. For user-defined event handlers, the owner is the user who last saved the job. • **Requester**: For all event handlers, the requester is the user who caused the event handler to be triggered.

Notification

This section defines email notification settings for the job. For more information, see Setting up email notification for jobs.

Job variables can be used in this section. For more information, see Using job variables.

Item	Description
Job Notification Level	Specifies when email notifications are sent for the job. Select one of the following: • **Send all email notifications** (Default) • **Send email notification only when the job has errors** • **None** • **Send email notification to different email addresses when the job has errors or succeeds** If anything other than **None** is selected, then you must complete the remaining fields.
To	The email address(es) to receive the notification email. Separate multiple addresses with a semicolon.
To (on error)	The email address(es) to receive the notification email when the job fails. Separate multiple addresses with a semicolon. Only applies when **Send email notification to different email addresses when the job has errors or succeeds** is enabled.
From	The email address to use as the "From" address for the notification email.
Subject	The subject text for the notification email.
Subject (on error)	The subject text for the notification email when the job fails. Only applies when **Send email notification to different email addresses when the job has errors or succeeds** is enabled.
User Message	Optional. The body text for the notification email. Text entered here will be appended to the body text generated by Scheduler.

Tasks

This section defines the tasks in the job. In the ribbon, task commands are available on the **Job** tab, in the **Tasks** group.

- To add a task, click **Add**.
- To change the order of tasks, select a task and then click **Move Up** or **Move Down**.
- To delete a task, select the task and then click **Remove Selected**.
- To delete all tasks, click **Clear All**.
- To copy a task, right-click the task and then click **Copy**. You can copy the task within the same job, or to another open job in the Scheduler window. Right-click any task (or the **Tasks** section header) and then select **Paste**. The job is pasted underneath the job you right-clicked (or at the end of the list if you right-clicked the **Tasks** section header).

- To rename a task, double-click the task name to make it editable, and then type the new name. For example, if you have a job with multiple File Processing tasks, then you may want to edit the name of each task so that you know which file each task relates to at a glance. (You can also right-click and select **Rename**.)

Tasks are processed in the order they are listed in the job. By default, when you add a new task to a job, it is placed at the bottom of the list. Make sure to move the new job if it should not be processed last.

Tasks can be processed concurrently instead of sequentially if they are configured to be run as a subordinate job within the parent job.

Each task type has its own unique settings in addition to the standard task settings. For more information, see Scheduler Task Reference.

Job Results

Displays historical results for the job. This section is blank if the job has never been run.

Job results may be purged periodically by using the **Job Results Cleanup** option for the job, or by the system **Purge System Data** task.

NOTE: Users with the **Scheduled Jobs User** security permission only see results for jobs that they executed. Administrators see results for all executions.

For more information on job results, see Viewing job results.

Advanced options

Creating event handlers for a job

You can create user-defined event handlers in a job, for the purposes of automatically triggering the job for execution when the event name is called by another feature. Axiom Financial Planning supports several features that can be used to raise an event:

- The RunEvent function and command
- File Group triggers
- The Raise Event Scheduler task

Event handlers are defined by name. Multiple jobs can have an event handler with the same name. When that event handler is called, it will affect all jobs that contain the event handler with the matching name.

To create an event handler in a job:

1. In the **Scheduler** dialog, open a job to edit or create a new job.
2. In the left-hand side of the job, select **Event Handlers**.
3. On the **Job** tab of the ribbon, in the **Event Handlers** group, click **Add**.

A new event handler is added to the job.

4. Double-click the **Event Name** field so that the field becomes editable, and then type the desired event handler name.

   For example, if the event handler will be used to trigger Process Plan Files jobs, you might name the event handler ProcessPlanFiles.

   This event name is the name that will be used in features such as RunEvent to trigger this job for execution.

5. In the **Execute As** field, select one of the following to determine the user identity that will be used to run the job when it is executed via the event handler:
   - **Owner**: The job will be run under the identity of the job owner.

     The job owner is the user who last saved the job. If you are not sure who the current job owner is, you can check the **Job Variables** tab. The current job owner is listed in the **System defined values** section.

   - **Requester**: The job will be run under the identity of the user who triggered the event handler.

   By default, event handlers are set to run as the **Owner**. You should carefully consider this option as it may affect whether the job can be run and how the job is run.

   For example, if the event handler is set to **Requester**, but the user who triggered the job does not have access to the file group specified for a Process Plan Files task, then the task will fail.

   This may be the desired outcome—you may want the job to be dependent on the user's rights, and therefore you should specify **Requester**. On the other hand, you may want the job to run in the same way every time, regardless of the user that triggers the job. In that case you should specify **Owner**.

By default, the event handler is set to **Active**, which means it will be found by any process that triggers the event handler. If you want to temporarily exclude this job from event handler processing, you can clear the Active check box.

Deleting an event handler

If you no longer need an event handler, you can delete it from the job. Select the event handler and then click **Remove Selected**. You can also **Clear All** to remove all event handlers from the job.

Using job variables

You can use job variables within a Scheduler job, to define the value of the variable when the job is run. Job variables are managed in the **Job Variables** section of the job.

There are two types of variables:

- **User-defined variables:** You can create a variable and then use it within any job or task setting

that supports variables, but only within that particular job. The primary use for user-defined variables is to run a job via RunEvent (either the function or the command), and pass in a variable value at that time.

- **System variables:** Axiom Financial Planning provides a number of system variables that can be used within relevant job and task settings. For example, instead of specifying a "hard-coded" email address for the job notification, you can use a system variable to specify that whoever ran the job should receive the notification.

In all cases, to use a variable within a job or task, enter the variable name into the desired setting, enclosed in curly brackets. For example: {variable}

TIP: If you want to use a variable in a job, you can right-click the variable and then select **Copy variable name to clipboard**. Navigate to the setting where you want to use the variable, and then paste it into the setting (the curly brackets are added automatically).

At the job level, variables can be used in any of the **Notification Message Content** settings in the **Notification** tab. At the task level, in general, variables can be used in any task field that accepts typed user input.

When the job is run, the variable values used for the job display in the job results under **Job Values**, and also in the email notification (if applicable).

User-defined variables

User-defined variables are created in the **Job Variables** tab. You define the name of the variable (without brackets), and if desired, define a default value for the variable.

When the job is run, the user-defined variable will be replaced with a value as follows:

- If the job was scheduled using RunEvent (function or command), and RunEvent sent a name / value pair that matches the name of the job variable, that value is used.
- If the job was scheduled as a result of a file group trigger, and the trigger has a defined variable that matches the name of the job variable, that value is used. Multiple values are returned as a comma-separated list.
- If the job contains a Process Document List task or a Process Plan Files task with a defined post-processing variable that matches the name of a job variable, that value is used after that task has been processed.
- Otherwise, the default value defined in the Job Variables tab is used.

If the value is blank, then the job or task setting using the variable will be evaluated as blank. If the setting cannot be blank, then an error will result when the job is executed.

System variables

The available system variables are listed at the bottom of the **Job Variables** tab. Most of these variables relate to user names and addresses, for use within the job notification settings.

When the job is run, the system variable is replaced with the applicable system value.

The following values are available:

Variable	Description

`{CurrentUser.EmailAddress}`
`{CurrentUser.LoginName}`
`{CurrentUser.FullName}`
	Returns the current user's email address, login name, or full name.
	The current user is the user identity under which the job is currently being run. Generally, this is the user who executed the job. If the job was executed via an event handler and the event handler is set to owner, then the current user will be the job owner.

`{JobOwner.EmailAddress}`
`{JobOwner.LoginName}`
`{JobOwner.FullName}`
	Returns the job owner's email address, login name, or full name.
	The job owner is the user who last saved the job.

`{Scheduler.ConfiguredFromEmailAddress}`	Returns the system's default "from" address, as defined in the system configuration settings.
`{Scheduler.FromEmailAddress}`	This returns a value as follows: • If the current user belongs to a subsystem, this returns the subsystem administrator's email address. • If the current user does not belong to a subsystem, this returns the default configured "from" address.

Variable	Description
{CurrentSubsystem.AdminEmailAddress}	Returns the email address of the subsystem administrator for the subsystem that the current user belongs to. • If the subsystem has multiple administrators, the email is sent to the first administrator. • If the user belongs to multiple subsystems, the first returned subsystem for the user will be used. No specific logic is applied to determine the "correct" subsystem for any particular job. • If the user does not belong to a subsystem, then no email address is returned.
{EventHandler.EventName}	Returns the name of the event handler that caused the job to be scheduled, if applicable. Otherwise the variable returns blank.
{NotificationAddress}	Returns the notification address defined for the plan codes that triggered a Scheduler job. This variable only applies when the job is executed as a result of a file group trigger, and only if the optional notification address settings are defined for the file group. Otherwise, no email address is returned.
{Task.CurrentIterationValue} {Task.IterationNumber}	Returns the current iteration value and the current iteration number. These variables only apply when using the **Iteration** feature for a task. For more information, see Using iterative task processing.

Processing tasks in parallel

Each Scheduler job can have multiple tasks. By default, each task in the job is processed sequentially, in the order that the tasks are listed in the job.

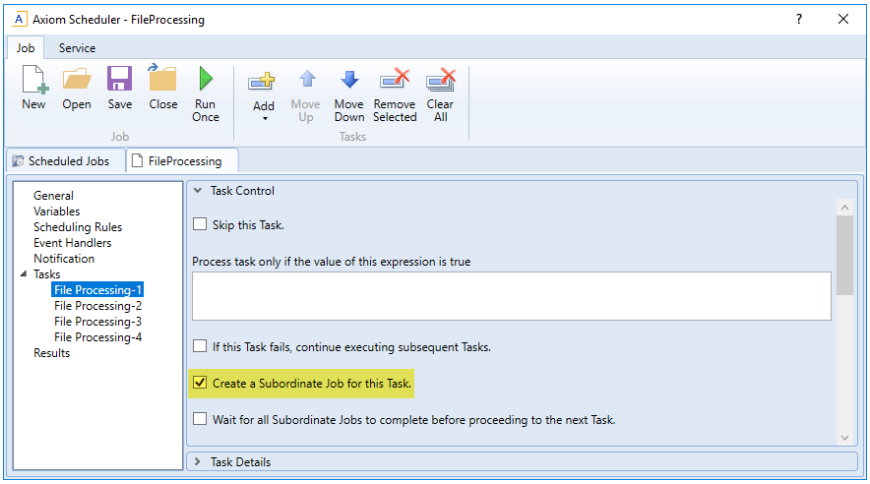
If desired, you can configure tasks so that they are processed concurrently (in parallel) instead of sequentially. If appropriate, this may speed up the processing of the job.

Configuring tasks for parallel processing

In order to process tasks in parallel, the tasks must be configured to run as subordinate jobs (sub-jobs). To do this, edit the following settings in the **Task Control** section for each task:

- Select **Create a Subordinate Job for this Task**.
- Ensure that the following setting is *not* selected: **Wait for all Subordinate Jobs to complete before proceeding to the next Task**.

In the following example, if all four tasks are configured to be run as subordinate jobs, then they can be run in parallel (depending on the available Scheduler threads).



Scheduler task configured to run as a subordinate job to enable parallel processing

How parallel processing works

When a task is configured to execute as a subordinate job, then it is not processed within the "parent" job. Instead, a sub-job is created for the task. The sub-job joins the Scheduler queue and is eligible for processing according to the normal Scheduler processing rules. For more information, see Processing priority for scheduled jobs.

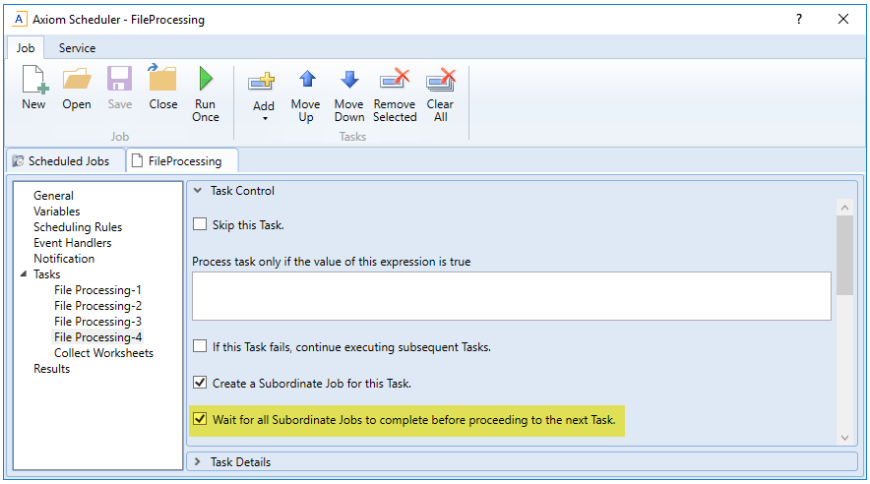
For example, imagine that you have a job with four tasks, and these tasks are not dependent on each other. If you use the default settings, Scheduler takes the first task in the list and starts processing. The second task is not started until the first task is complete, and so on.

If instead you configure each task as a sub-job, then when the "parent" job is processed, it will create four sub-jobs. If two Scheduler threads are available for processing, then two of the sub-jobs are processed at the same time. If four Scheduler threads are available, then all four sub-jobs are processed at the same time. Once all of the sub-jobs are complete, the parent job is completed, and its status reflects the overall status of all of the sub-jobs.

If tasks are dependent on each other, then you should not process them as sub-jobs, or you should use the **Wait** setting as appropriate. For example, imagine that the first four tasks in the job can be run in any order, but the fifth task must be processed last. In that case, you can configure the first four tasks to run

as sub-jobs, but on the fourth task you must enable **Wait for all Subordinate Jobs to complete before proceeding to the next Task**. This will cause Scheduler to wait for all sub-jobs to finish before it proceeds to the fifth, final task.

In the following example, the file processing tasks are configured as sub-jobs so that they can be run in parallel. The last file processing task is configured to wait, so that all of the file processing tasks will be finished before the file collection task begins.



Scheduler task configured to wait for all subordinate jobs to complete

Using iterative task processing

You can configure a Scheduler task to use iterative processing, so that the task is repeated multiple times using a designated list of values. Each iteration of the task uses a different item in the list, until all items have been processed.

When you enable iterative processing for a task, you define the list of values by specifying a table column and an optional filter. The task will then be processed for each unique item in the table column. You can reference the column values within the task properties by using a built-in Scheduler job variable. As each iteration of the task is processed, the variable is replaced with the column value for the current iteration. Using this approach, the task can dynamically change for each iteration.

For example, you may have an import that you want to perform for four different entities in your organization. The import configuration is exactly the same except that the source file or query is different for each entity. If the import uses entity as a variable, then you can set up a single import task and configure it to iterate over the list of entities. Each iteration uses a different entity name or code, which you can pass into the import variables so that the import uses the correct source file or query for the current entity.

Enabling iterative processing

Iterative processing is enabled in the Task Control properties of the task. Select the task within the Scheduler job, then click **Task Control** to expand that section. Any task can use iterative processing, though it is more useful for certain task types such as Import ETL Package.

Complete the following properties in the **Iteration** section of the Task Control properties.

Item	Description
Iterate this Task	Specifies whether iterative processing is enabled for the task. If enabled, then the task will be performed N times, where N is the number of unique items in the specified iteration column. Job variables can be used to apply the current iteration value and iteration number to the task.
Create a Subordinate Job for each iteration	Specifies whether each iteration is processed as a separate subordinate job. By default, this is disabled, which means that all iterations are processed sequentially within the overall subordinate job created to process the iterations. If enabled, then each iteration is processed as a separate subordinate job, enabling concurrent execution of multiple iterations. This option should only be enabled if the order of iteration processing is not important.
Column	The column that contains the values to iterate over. Use Table.Column syntax to specify the column. Multiple-level lookups can be used. For example, if you specify `Dept.Region`, then the task will be processed once for each unique region value in the column (after applying any filter to limit the list of values).
Group By	Optional. By default, the group by column is the same as the iteration column, so that the task is processed once for each unique value in the iteration column. However, if needed, you can specify a different grouping level. You can use any column or columns that would be valid as the "sum by" level for an Axiom query, where the primary table is the table specified for the iteration column.
Order By	Optional. By default, the values are sorted based on the iteration column, in ascending order. You can specify a different sort column, or use the same sort column but change the order to descending. The sort order is ascending unless the keyword `desc` is used to specify descending order. For example: `Dept.Dept desc`
Filter	Optional. A filter criteria statement to limit the list of values for the iterative processing. You can use any filter that is valid against the source table (the table of the iteration column).

When iterative processing is enabled for a task, the iterations are always processed within a subordinate job. Therefore, enabling the Task Control option of **Create a Subordinate Job for this Task** is unnecessary.

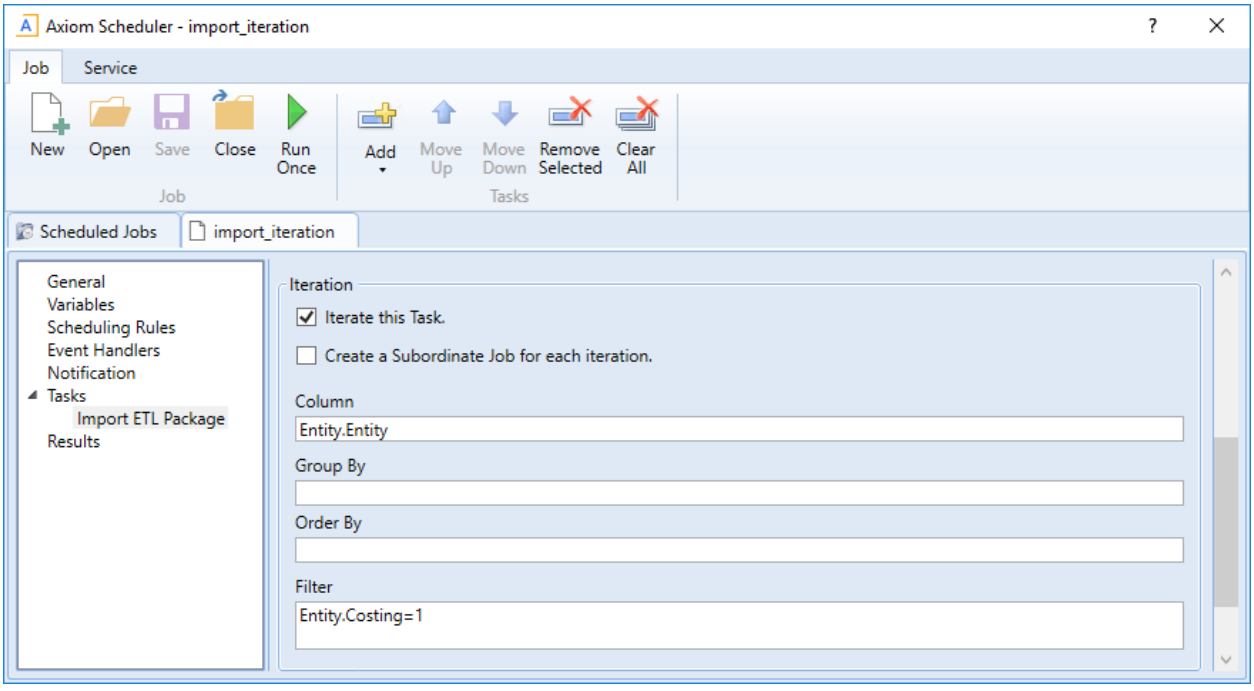
If your job has multiple tasks, and you want the tasks after the iterative task to wait for all iterations to complete before executing, then you must enable the following Task Control option for the iterative task: **Wait for all Subordinate Jobs to complete before proceeding to the next Task**.

Configuring the task to change for each iteration

In order for the Scheduler task to apply the current iteration value to each iteration, you must use the built-in iteration variables within the task. These variables are job variables, and can be used like any other job variable. The following variables are available:

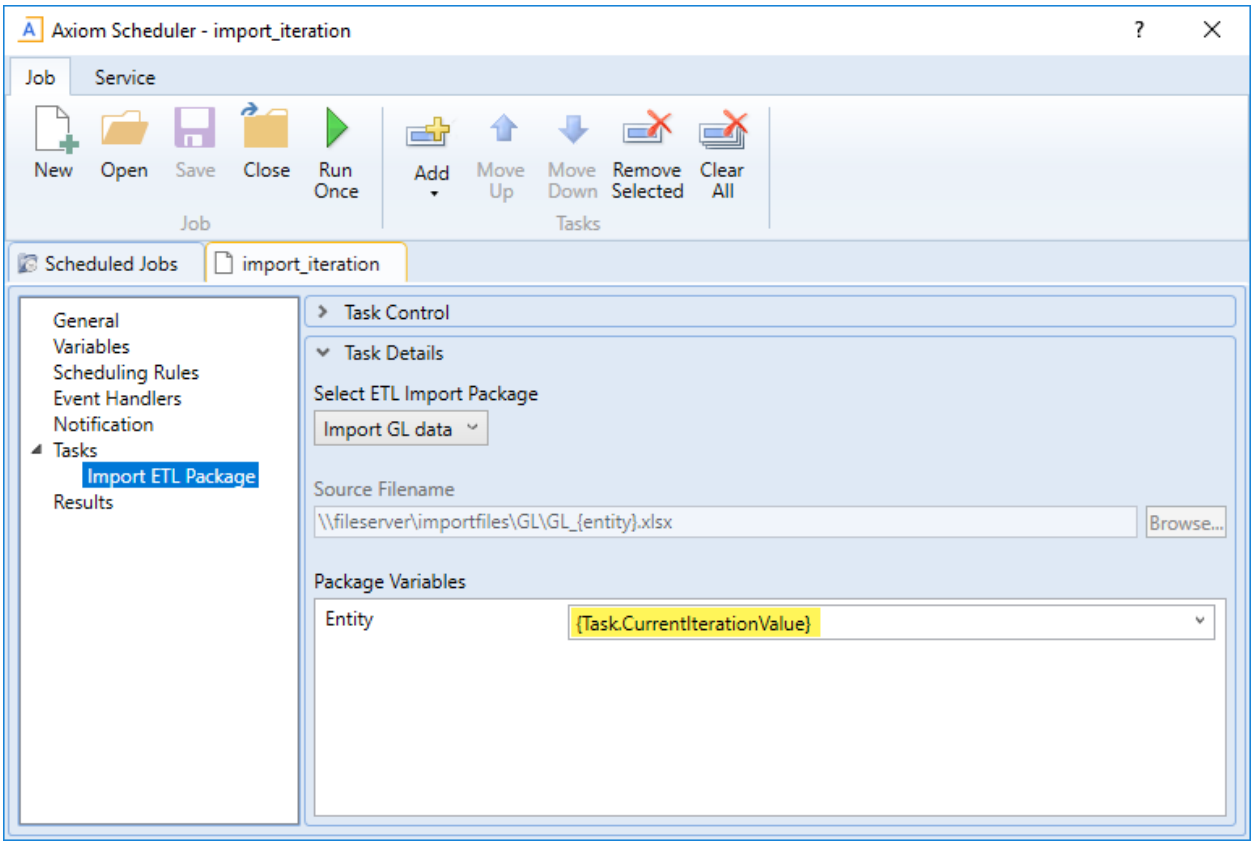
Variable	Description
`{Task.CurrentIterationValue}`	Returns the current value from the iteration list.
`{Task.IterationNumber}`	Returns the number of the current iteration.

To continue the previous example, imagine that you are setting up an import for iterative processing by entity. To define the list of entities, you set up the Iteration settings in the Task Control section like the following:



This example will iterate over the list of entities in the Entities column, limited to only those entities where the Costing column is set to True. If this resolves to 4 entities, then the task will be processed 4 times, once for each entity.

The import is configured with a variable `{Entity}`, which it uses to process the correct entity source file. In order to pass the current task iteration value to the import variable, you can use the job variable `{Task.CurrentIterationValue}` in the import task settings. For example:

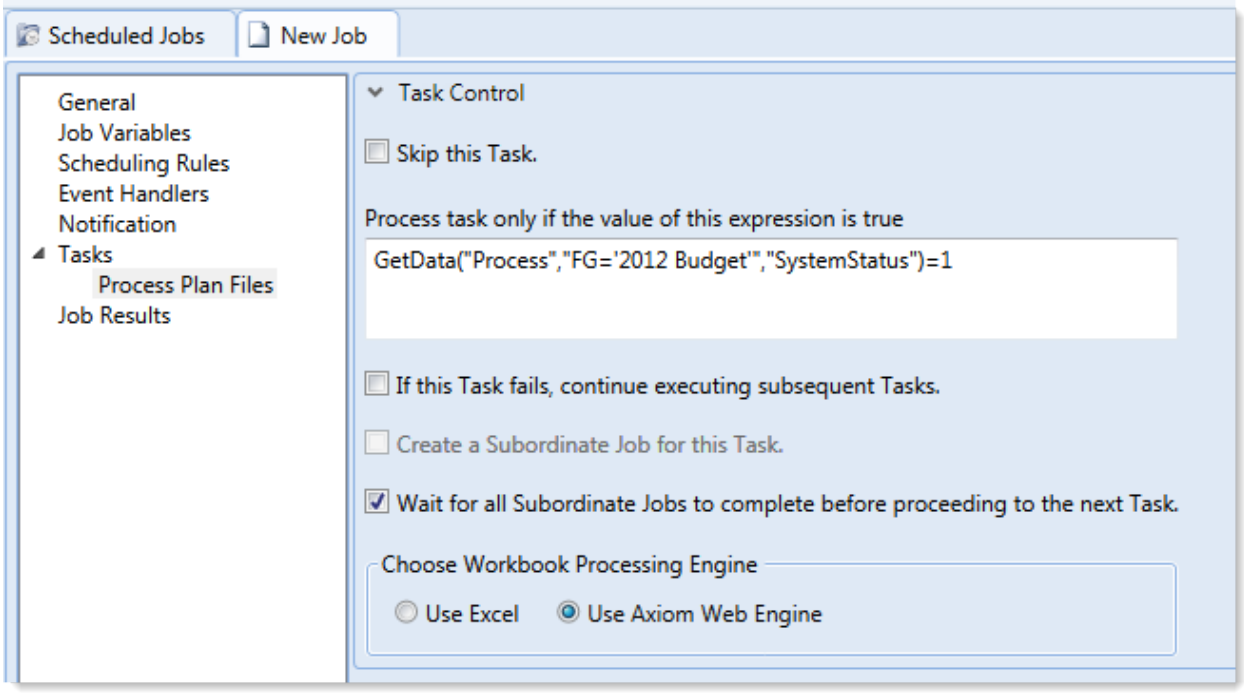


When the first iteration is performed, the `{Task.CurrentIterationValue}` will be resolved as Entity_1, so the import will be processed using Entity_1 as the value for the `{Entity}` import variable. For the second iteration, the value Entity_2 will be used, and so on. Using this approach, the import will be processed for all entities in the iteration column.

Conditionally processing tasks in a job

You can configure a task so that it is only processed if a particular condition is met. This feature is configured in the task settings, in the **Task Control** section, under **Process task only if the value of this expression is true**.

To enable conditional processing, you must specify a logical expression that will resolve to either true or false when the job is executed. If true, then the task is processed as normal. If false, then the task is skipped.



The logical expression is evaluated using an IF function on the Scheduler server as follows:

```
=IF(Expression, 1, 0)
```

You can enter any expression that would be valid in an IF function. You can use Excel functions, Axiom functions, and Scheduler job variables in the expression. If you use a job variable, it must be placed in quotation marks unless you expect the variable value to be resolved and evaluated as a number.

If the task is not processed because the condition resolves to false, this is not considered a failed task. If there are other tasks in the job, they will be processed. If you want an entire job to be conditional, you can do either of the following:

- Repeat the condition in each individual task settings. Keep in mind that the condition will be evaluated for each individual task, which means that if it is possible for the condition to change in between tasks, some tasks might be processed while others aren't.
- Use the condition on a Raise Event task that then triggers another job for processing. For more information, see Raise Event task.

Examples

The following are some example expressions for conditional processing:

```
GetData("Process","FG='2012 Budget'","SystemStatus")=1
```

If this GetData function returns 1, the expression resolves to true and the task is processed. If not, it is false and the task is skipped.

```
AND("{EventHandler.EventName}"="ProcessPlanFiles",{Dept}=1000)
```

If this job was triggered for execution by the ProcessPlanFiles event handler, and if the job variable Dept resolves to 1000, then this expression is true and the task is processed. Note that in the first part of the expression, the event handler variable will return a string value so it must be placed in double quotation marks. In the second part of the expression, the department variable will return a number so it is not placed in quotation marks.

```
AND(Day(Now())<=7,Weekday(Now())=2)
```

This expression will return true if it is the first Monday of the month, otherwise it will return false.

Using RunEvent to execute a Scheduler job

Using RunEvent, you can trigger the execution of a Scheduler job from various contexts, such as within Axiom files, task panes, or Axiom forms. There are two different versions of RunEvent:

- **RunEvent function**: The RunEvent function can be used in Axiom files to trigger the execution of a Scheduler job from a spreadsheet.
- **RunEvent command**: The RunEvent command can be used in task panes or Axiom forms to trigger the execution of a Scheduler job.

Both the function and the command work in the same way and take the same parameters. Some limitations apply depending on the context where RunEvent is being used.

All of the information necessary to run the job is contained within the RunEvent function or command. It is assumed that an administrator (or a power user with the necessary rights) sets up the desired jobs within Scheduler, and then sets up RunEvent in the appropriate context so that end users can trigger it.

The end user who triggers the job using RunEvent does *not* need to have file permission to the job or any access to Scheduler. The job itself can be configured to execute its tasks using the permissions of the job owner or using the permissions of the end user who triggered the job (the requester). If the job is run as the requester, then the end user must have the appropriate permissions to the files impacted by the job (for example to the target file for File Processing, or to the target file group and plan files for Process Plan Files).

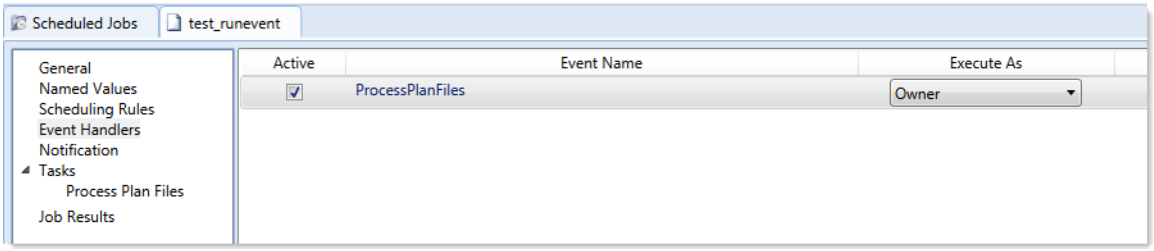
NOTE: You can also use the Raise Event Scheduler task to trigger the execution of a Scheduler job from a different Scheduler job. This works in a similar manner as the RunEvent features.

Setting up a Scheduler job for RunEvent

All uses of RunEvent require the same job setup in Scheduler:

- The job that you want to execute via RunEvent must already be created within Scheduler. When setting up the job, consider items such as the notification settings. Do you want the notifications to go to the user that executed the job, or to the job owner, or both?

- The job must contain an event handler that will be used to trigger the job execution. When creating the event handler, consider whether you want the job to run as the job owner, or as the requester (the user who clicks on the RunEvent function). This may impact email notifications and determines the user rights under which the job will run.



  For more information, see Advanced options.

- Optionally, the job can use variables. Variable values can be defined in the RunEvent function or command and passed to the job. You would do this if aspects of the job need to be dynamic; for example, if you want to use a different filter depending on which user is running the job or based on a user selection in the file. For more information see the *Variable example* section below.

Setting up RunEvent

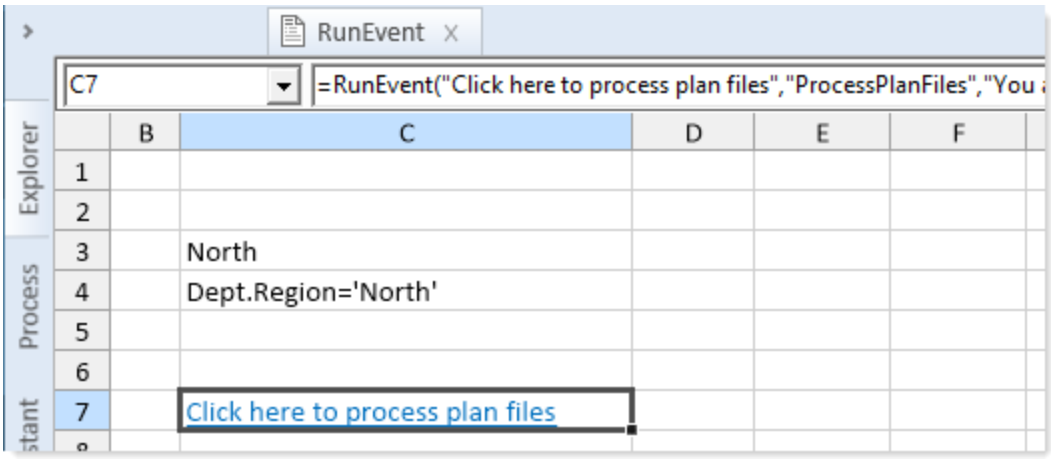
Regardless of the context, RunEvent uses the following properties to trigger Scheduler jobs:

- The event handler name that identifies the Scheduler job(s) to trigger for execution.
- An optional confirmation message to present to the user before proceeding with the event. Not available when using the command within an Axiom form.
- An optional success message to present to the user after the event has been raised.
- If variables are being used, one or more variable names and values to pass to the Scheduler job. This is available in all contexts, however, task panes do not currently support the ability to determine the variable values dynamically.

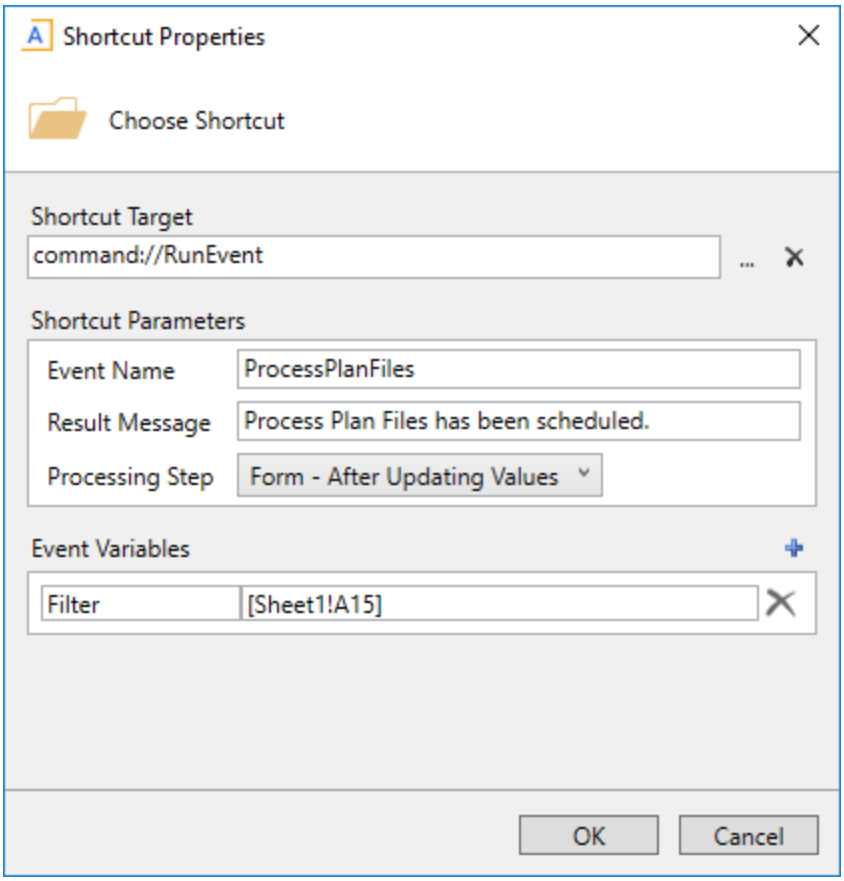
The following shows an example RunEvent function for use in an Axiom file:

```
=RunEvent("Click here to process plan files","ProcessPlanFiles","You are
about to process plan files for the "&C3&" region. Do you want to
continue?",,"filter = "&C4)
```

The first parameter defines the display text for the function, while the second parameter specifies the event handler name. In this example we have also defined a custom confirmation message for the user and a variable value to pass a filter to the job. The following screenshot shows the function in the spreadsheet:



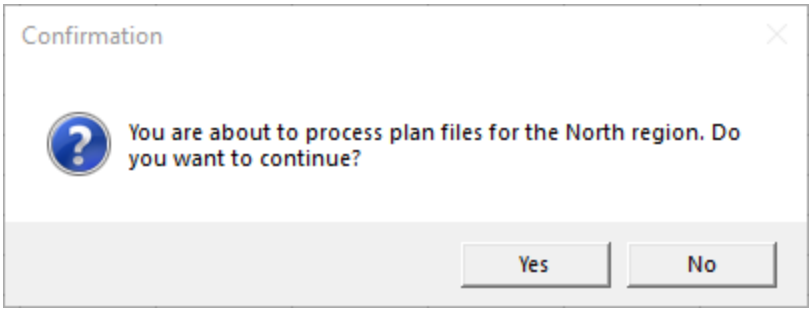
The next screenshot shows a RunEvent command set up on a Button component for an Axiom form. You can see the same event name and the filter variable also being read from a sheet location.



User experience

The user experience for RunEvent depends on the context and whether you are using optional custom messages.

- The user starts the process by doing one of the following:
  - Double-clicking the RunEvent function in the spreadsheet.
  - Clicking the Button component that is configured for RunEvent in the Axiom form.
  - Double-clicking the RunEvent item in the task pane.
- A confirmation prompt displays to the user, asking them to confirm that they want to proceed. The user can click **Yes** to proceed, or **No** to cancel. Default text is used if no custom text is defined in the RunEvent properties.



NOTE: This step does not apply when executing RunEvent from an Axiom form. The Axiom form context does not support a confirmation message. However, you can configure the Button component to display a confirmation message before executing the RunEvent command.

- Axiom Financial Planning checks all Scheduler jobs to see if any contain an active event handler with the same name as specified within the RunEvent properties. If any are found, they are added to the schedule to be processed as soon as possible, depending on Scheduler thread availability and any higher-priority jobs in the queue.

  It is important to note that RunEvent triggers job execution based on the event handler, not based on specific jobs. If multiple jobs contain an event handler with the specified name, then all of those jobs will be scheduled.

  If variable values are defined in the RunEvent properties, those values are passed to the job. If a variable specified in the RunEvent properties is not used in the job, it is ignored.

- A confirmation message displays to the user as follows:
  - If no jobs were found that contained the specified event handler, the user is notified that no jobs were found.
  - If jobs were placed on the schedule, the user is notified that the specified event was scheduled. Default text is used if no custom text is defined in the RunEvent properties.

NOTE: If executing RunEvent from an Axiom form, this message displays in the bottom left corner of the form, not in a separate message dialog.

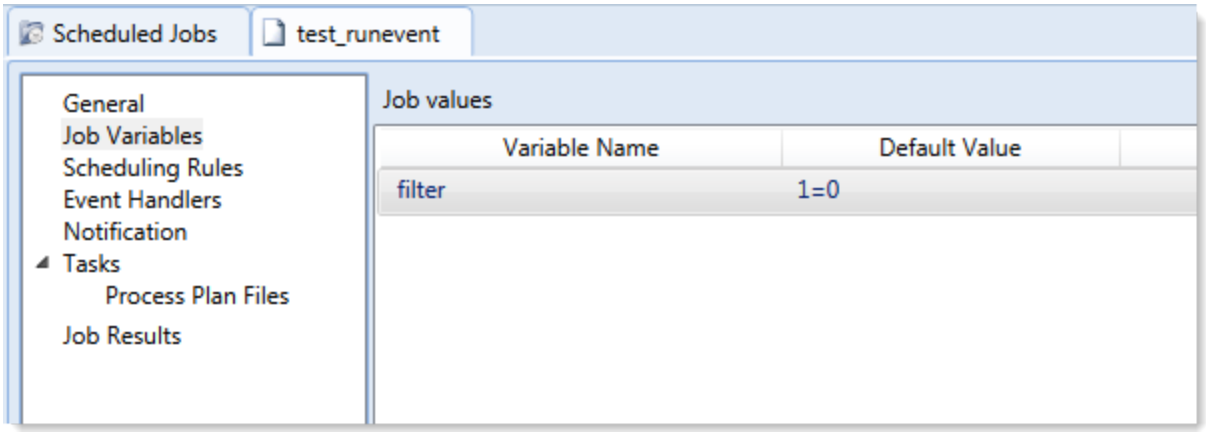
When the job is finished processing, email notifications are sent according to the settings in the job.

Variable example

When using RunEvent to execute a Scheduler job, you can pass a variable value to the job. For example, imagine that you want to execute a Process Plan Files job, and you want to send a filter value to the job.

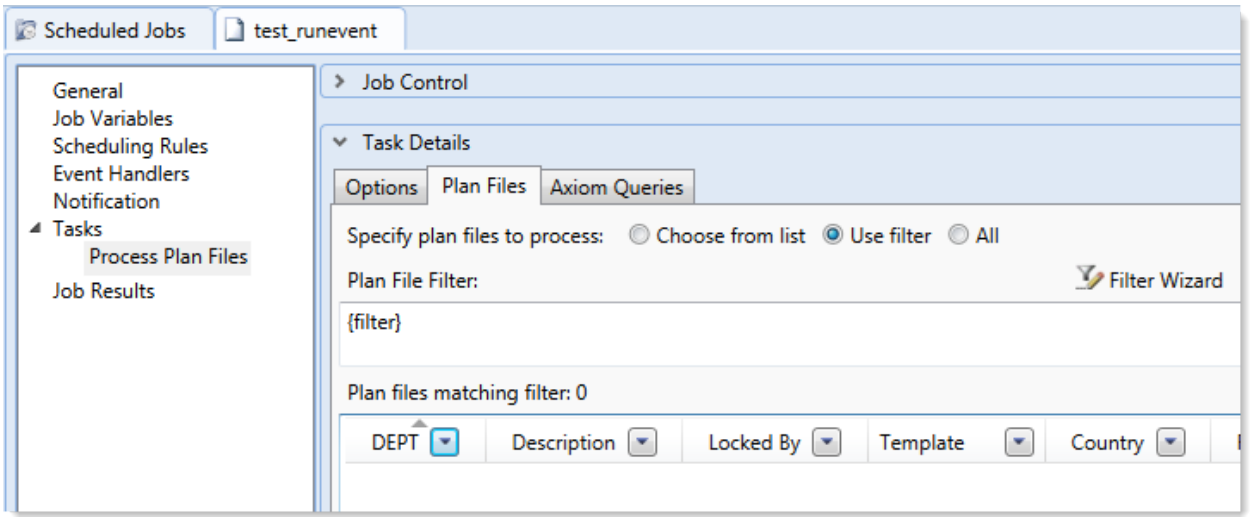
Step 1: Set up the variable in the job

The first step would be to create a job variable in the job, and then use the job variable in the filter setting.



Example job variable

NOTE: In this case, we have defined a default value for the filter variable (1=0) that does not result in any plan files. This is because we do not want to process any plan files unless a filter is provided by RunEvent. If we left the default value blank, that would mean all plan files would be processed if no filter was provided by RunEvent.



Example use of variable in job settings

For more information on Scheduler job variables, see Using job variables.

Step 2: Configure RunEvent to use the Variable

Now that the job is set up to use the filter variable, you must configure RunEvent to pass in a value for that variable. If you are using the RunEvent function in an Axiom file, you use the following syntax within the function parameters:

```
variablename=variablevalue
```

These name / value pairs can be placed in the RunEvent function starting in the fifth parameter of the function. If you have two name / value pairs to pass to the job, you can use the fifth and sixth parameters, and so on.

For example, to pass the filter `DEPT.Region='North'` to the job, the RunEvent function would be constructed as follows:

```
=RunEvent("Double-click to process plan
files","ProcessPlanFiles",,,"filter=dept.region='North'")
```

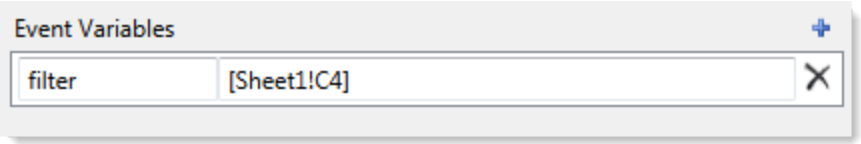
More likely, you would be reading the variable value from another place in the sheet, so the function would look something like:

```
=RunEvent("Double-click to process plan
files","ProcessPlanFiles",,,"filter="&C4)
```

Where the filter value is read from cell C5.

When the job is executed by use of this RunEvent function, the value `DEPT.Region='North'` will be placed in the **Plan File Filter** box of the Process Plan Files task, and the job will be run using that filter.

When using RunEvent in an Axiom form, the variables and their values are defined in the Event Variables section. In this context you place the name of the variable in the left-hand box, and then in the right-hand box you enter the cell reference (in brackets) where the variable value will be read.



The Event Variables section is also present when configuring RunEvent for use in a task pane, however in this context the only option is to "hard-code" the values in the RunEvent properties.

Run another Scheduler job from within a Scheduler job

Scheduler jobs have two ways to run another Scheduler job:

- Raise Event task: This task uses an event handler name to trigger one or more Scheduler jobs for execution. The jobs triggered by the event handler are run independently from the job containing the Raise Event task.
- Run Scheduler Job task: This task runs a specified Scheduler job as a subordinate job within the current "parent" job. Essentially, the tasks in the target job are run within the parent job, which means that other tasks in the parent job can reference the results of those tasks.

The decision of which task to use depends on several factors, but the most important is whether the Scheduler jobs are independent or dependent. If the first job is dependent on the execution of the second job, then you must use the Run Scheduler Job task. When the Raise Event task is used, the triggered jobs are run independently.

The following chart details some comparison points between the two tasks:

Comparison	Raise Event	Run Scheduler Job
Can pass variables to target job	Yes	Yes
Can execute target job as requester or owner	Yes	No
Can wait for target job to complete before continuing	No	Yes
Can use results of target job in subsequent tasks	No	Yes

Using the Raise Event task

The Scheduler Raise Event task is typically used when you need to trigger another job for execution once the current job is complete. The Scheduler job(s) triggered by the event handler are added to the schedule and then executed independently from the current job. For example, you might place the Raise Event task at the end of the task list, so that all tasks in the current job must complete successfully before the Raise Event task is run.

Because the jobs triggered by the event handler are run independently, you cannot perform additional tasks in the current job that depend on the results of the triggered jobs. The current job will not wait for the triggered jobs to be run.

Event handlers can be configured to run a job as either the job owner or as the requester (meaning the user that triggered the event). This allows some additional flexibility in how the triggered jobs are run. For example, you may want to trigger a job that needs to be run using administrator permissions. As long as the event handler is configured to run as job owner (and the owner is an administrator), then that triggered job will always have the necessary permissions, regardless of the user who is running the job with the Raise Event task.

Using the Run Scheduler Job task

The Run Scheduler Job task is typically used when you need to run another job and then perform additional tasks once that job is complete. Because the target job is run as a subordinate job within the "parent" job, the parent job can wait for the "child" job to complete before it continues processing tasks. Later tasks in the parent job can reference the results of the completed child job, such as querying data saved from the child job, processing plan files created by the child job, and so on.

Keep in mind that it is not possible to stop processing tasks in the parent job based on the general success or failure of the child job. Although Scheduler jobs automatically stop processing if a task fails, the task in this case is just the Run Scheduler Job task. As long as the child job can be successfully added to the Scheduler queue for processing, the Run Scheduler Job task will report success. If needed, you can use the option **Process task only if the value of this expression is true** to detect whether a subsequent task in the parent job should be processed. For example, if you know that the child job saves a particular value to the database, you can check for the existence of that value to determine whether to process a task. For more information on using this option, see Conditionally processing tasks in a job.

The child job is run using the same user permissions as the parent job. The user running the parent job must have the appropriate permissions to complete all tasks in both the parent job and the child job.

Chaining multiple Scheduler jobs

You can "chain" multiple Scheduler jobs together using either approach. For example, you may have three Scheduler jobs that you want to run, in a particular order.

You can place multiple Run Scheduler Job tasks in a parent job, where each task triggers a separate job. Because these tasks run as subordinate jobs, and the parent job can wait for each child job to complete, it is easy to run the jobs in order. However, if you want to stop processing the jobs if one fails, there is no built-in way to do that (as discussed in the previous section). You would need to set up the Run Scheduler Job tasks to run or not based on a condition, where the condition tests some result from the previous job.

To chain jobs using Raise Event, the last task in each job can be a Raise Event task. Each job will perform its tasks and then trigger the next job in the chain. When using this approach, the chain automatically stops if failure occurs, because if a task in the job fails then the job stops and will not proceed to the

Raise Event task. The disadvantage of this approach is that the jobs cannot also be run separately, unless you manually disable the Raise Event tasks or configure the Raise Event tasks to not run based on a condition.

Running a job

If a job is saved with an active scheduling rule, then the job is automatically placed on the schedule to be run according to that rule. Each time the job is run according to the rule, it is run as the current job owner (unless it is a system job, in which case it is run as the System identity).

However, you can also choose to run a job manually. If you run a job manually, the job is added to the **Scheduled Jobs** list with a start time of now, to be processed according to its job priority settings. The job will be run using your user identity (again, unless it is a system job).

Running a job manually does not impact any scheduled executions of the job as determined by scheduling rules. For example, if a job is scheduled to be run at 10:00 PM tonight, and you run the job manually at 2:00 PM, the job will still be run as scheduled at 10:00 PM.

To manually run a job:

1. In the Scheduler dialog, in the **Job** tab, click **Open**.

   The **Axiom Explorer** dialog opens, showing the Scheduler Jobs Library only.

2. Select the job and then click **Open**.

   The job opens in the **Scheduler** dialog. Make sure the job is the active tab in the navigation pane (the most recently opened tab is the active tab by default).

3. In the **Job** tab of the ribbon, click **Run Once**.

A confirmation message informs you that the job has been placed on the schedule.

NOTE: When you click **Run Once**, any unsaved changes to the job are automatically saved. This save will designate you as the job owner (if you are not already the job owner).

Managing scheduled jobs

The **Scheduled Jobs** tab of the Scheduler dialog displays all jobs that are scheduled to be processed or are in process. This includes scheduled jobs, jobs executed manually via **Run Now**, and jobs that were triggered for execution via an event handler.

By default, this list displays when you first open Scheduler. If you have changed the view in the dialog, you can return to it by clicking the following:

- On the **Service** tab, in the **Service View** group, click **Scheduled Jobs**.

If a job has a scheduling rule with a recurring schedule, only the first scheduled execution appears in the list. For example, if you have a job that is scheduled to run once a month for a year, you will not see all twelve scheduled executions in the list—you will only see the first scheduled execution. Once that instance has been run, the scheduling rule is re-evaluated and the next scheduled execution appears in the list.

In this tab, you can:

- **Stop a scheduled execution.** If you do not want a scheduled instance to be run, right-click the item and select **Remove from Schedule**. This not only removes the scheduled instance, it also inactivates the associated scheduling rule for the job (if applicable). If you want future scheduled instances of the job to proceed, you must edit the job to re-enable the scheduling rule.
- **Abort an in-process job.** If a job is already running and you want to stop it, right-click the item and select **Abort Working Job**. This will immediately abort the job regardless of what it is currently doing. Keep in mind that depending on the type of job and its stage in the process, this may result in side-effects such as files remaining locked or incomplete processing. No notifications will be sent for the aborted job. Generally, this action should be reserved for situations where a job has gotten "stuck" or was started in error.
- **Reschedule an execution.** To change the scheduled start date/time of a scheduled instance, right-click the item and then select **Reschedule Start Time**. The **Start Time** field in the grid is now editable, and you can type in a new date and/or time.
- **Refresh the list.** On the **Service** tab, in the **Actions** group, click **Refresh**. New scheduled jobs will be added to the list, and **Status** and **Due In** will be updated appropriately.

NOTE: Users with the **Scheduled Jobs User** security permission can only modify jobs that they placed on the schedule. Jobs scheduled by other users are visible, but are grayed out and unavailable for editing. Administrators can view and edit all scheduled jobs.

Scheduled job information

The following information displays for each scheduled job:

Item	Description
ID	The system-generated ID for the job execution. Each scheduled execution of a job has a unique ID. Job results are listed by execution ID.
Job	The name of the job.
User	The user identity that the job will be run as. If the job is a system job, the user is **System**. This is typically the name of the user who placed the job on the schedule, but not always (for example, when using an event handler that is set to run as the job owner instead of as the requester).

Item	Description
Status	Job status is either **Pending** (waiting to be executed) or **Working** (currently being executed).
Server	If a job is currently **Working**, then the server executing the job is listed here. Otherwise, this column is blank.
Priority	The priority category for the job: 1. **Manual**: The job was executed manually. 2. **Event Handler**: The job was executed by a Scheduler event handler. 3. **Scheduled Job**: The scheduled instance of the job results from an active scheduling rule. 4. **Subordinate Job**: The job was generated as a subordinate job, from a currently executing job. The priority category determines how jobs are evaluated for processing order, in conjunction with the job's **Priority Elevation** setting. Manual jobs are highest priority, and subordinate jobs are lowest priority. For more information, see Processing priority for scheduled jobs.
Start Time	The start time of the job. The job is eligible for immediate execution if the start time is now or passed. Jobs may not be executed right at the start time if no Scheduler threads are currently available to execute the job, or if other eligible jobs have higher priority. If the job is on the schedule due to a scheduling rule, the start time is based on the scheduling rule. If the job was manually executed via **Run Now** or triggered by an event handler, the start time is the time the execution was initiated.
Due In	The length of time until the job is due to be processed. For example, if the job is scheduled to run at noon and it is currently 11:50 AM, then the job is due to be run in 10 minutes. This column is intended to make it easy to see when a job will be run, without needing to calculate it based on the start time.

Viewing job results

Once a job has been run, you can view the results in the **Scheduler** dialog. Job results can tell you:

- Whether the job processed successfully or failed
- The process steps performed by the job, if it was successful
- The error message for the job, if it failed
- The date/time when the job started processing and how long it took to process
- The Scheduler server that processed the job

NOTE: Users with the **Scheduled Jobs User** security permission can only see job results for jobs that they executed. Administrators can see job results for all jobs.

To view results for all jobs:

- On the **Service** tab, in the **Service View** group, click **Job Results**.

The **Result History** tab opens, listing a summary of results for all jobs that have started or finished. If you want to see more specific details for a particular job execution, double-click it. This opens the related job to the **Job Results** section, where you can view more details such as the specific error message for a failed execution.

TIP: Alternatively, you can open a job directly, and go to the **Job Results** section to view results for that job only.

System job results

By default, system job results are hidden in the **Result History** tab. System jobs such as the SMTP message delivery job run frequently, and can easily fill up the result history screen, making it difficult to find results for user-initiated jobs.

If you want to view results for system jobs, you can do one of the following:

- At the bottom of the **Result History** tab, clear the **Hide system jobs** check box.
- Open the system job directly, and view its job results within the job. For example, you can go to the **Scheduled Jobs** tab and double-click the **System.SystemDataPurge** job to view all results for that job.

Purging job results

Over time, the job result history can get quite large, so it is recommended to purge the result history periodically. There are two ways to purge result history:

- Each job can be configured to purge its own prior result history when it is run (**Job Results Cleanup**). This setting is located in the **General** section of the job properties. For more information, see Job properties.
- The **System.PurgeSystemData** system job purges result history whenever it is run (by default, once per hour).

When you purge job results, you specify a number of days of history to be kept. For example, you may always want to keep 5 days' worth of job history, and purge any results older than that.

Scheduler Task Reference

Each Scheduler task in a job has two sections of task properties:

- **Task Control**: Common task properties that apply to all task types. For more information, see

Task Control properties.

- **Task Details**: Properties specific to the current task type. For more information, see the topics for each individual task type.

The following task types are available:

Task	Description
Active Directory Import	Import users from Active Directory into Axiom Financial Planning. This task adds new users, and can also disable users that no longer exist in the Active Directory domain.
Collect Worksheets	Collect worksheets from multiple files into a single file.
Copy On Demand Plan Files	Copy plan files from one on-demand file group to another.
Create Plan Files	Create new plan files (same as the **Create Plan Files** utility for file groups).
Echo Task	Test the Scheduler server. This task sends a message to the Scheduler server and asks it to send the message back.
Execute Command Adapter	Execute a command from the Command Library.
Execute SQL Command	Run a SQL statement on an Axiom database.
Export ETL Package	Export data to an external database, using an export utility defined in the Exports Library.
File Processing	Perform file processing actions on a report. You can use the report's native file processing settings, or override the settings.
Import ETL Package	Import data into Axiom Financial Planning, using an import utility defined in the Imports Library.
Process Document List	Process any set of Axiom files—for example, driver files or report utilities. The task calculates and saves the files, and can also refresh Axiom queries and save data to the database.
Process Plan Files	Process plan files (same as the **Process Plan Files** utility for file groups).
Process Template List	Process a template file. The task runs designated Axiom queries, time-stamps the queries, and saves the template.
Purge System Data	Purge old Scheduler results and system temp tables.
Raise Event	Trigger another Scheduler job for execution, using a named event handler.
Run Scheduler Job	Run another Scheduler job as a subordinate job.
SMTP Message Delivery	Deliver email notifications resulting from Scheduler jobs.

Task	Description
Start Process	Start a process definition for Process Management.
Update Indexes and Constraints	Update the indexes and constraints in your Axiom Financial Planning database.

Task Control properties

The following task properties are available for all Scheduler task types. To edit these properties, select the task in the Scheduler job, then expand the **Task Control** section.

Item	Description
Skip this Task	If selected, the task will not be run when the job is processed. By default, this option is not selected, which means this task will be run.
Process task only if the value of this expression is true	Optional. Enter a logical expression to conditionally process this task depending on whether the expression resolves to true or false at the time the job is executed. If true, the task is processed as normal. If false, the task is skipped. The logical expression is evaluated by the Scheduler server using an IF function. The expression can be any statement that would be valid within an IF function. You can use Excel functions, Axiom functions, and Scheduler job variables in the expression. If you use a job variable in the expression, you must place the variable in double quotation marks unless you expect it to be resolved and evaluated as a number. For more information, see Conditionally processing tasks in a job.
If this Task fails, continue executing subsequent Tasks	If selected, the job will continue processing even if this task fails. By default, this option is not selected. If a task in a job fails, the job is canceled and no further tasks are processed.
Create a Subordinate Job for this Task	If selected, this task will be processed as a subordinate job to the current job. Selecting this check box enables concurrent processing of different tasks, if the option to **Wait for all Subordinate Jobs to complete before proceeding to the next Task** is not selected. **NOTE:** This option is not available for **Process Plan File** tasks.

Item	Description
Wait for all Subordinate Jobs to complete before proceeding to the next Task	If selected, the job will wait for any subordinate jobs to complete before moving to the next task. If this check box is not selected, and the option **Create a Subordinate Job for this Task** is selected, then tasks can be processed concurrently instead of sequentially. This check box is selected by default for **Plan File Refresh** and **File Processing** tasks. For other task types, this option is not selected by default.
Override Log Level for this Task	By default, Scheduler jobs perform logging at the same level that is specified for the application. If necessary, you can override the logging level for a particular task, so that it always runs at a specified logging level. You may want to do this if you encounter performance issues for tasks that generate a lot of logged messages. To do this, select the check box for **Override Log Level for this Task**, then select the desired logging level from the drop-down list. **NOTE:** This option is only available for File Processing tasks.

NOTE: Older systems may see a setting named **Workbook processing engine to use**. If this option is present, it should always be set to **Axiom Web Engine**. Use of Excel for processing on the Scheduler server is no longer supported. All Scheduler tasks that involve spreadsheet processing are processed using the same spreadsheet emulation engine as the Windows Client.

Iteration

This section can be used to optionally enable iterative processing for the task. For more information, see Using iterative task processing.

Item	Description
Iterate this Task	Specifies whether iterative processing is enabled for the task. If enabled, then the task will be performed N times, where N is the number of unique items in the specified iteration column. Job variables can be used to apply the current iteration value and iteration number to the task.

Item	Description
Create a Subordinate Job for each iteration	Specifies whether each iteration is processed as a separate subordinate job. By default, this is disabled, which means that all iterations are processed sequentially within the overall subordinate job created to process the iterations. If enabled, then each iteration is processed as a separate subordinate job, enabling concurrent execution of multiple iterations. This option should only be enabled if the order of iteration processing is not important.
Column	The column that contains the values to iterate over. Use Table.Column syntax to specify the column. Multiple-level lookups can be used. For example, if you specify `Dept.Region`, then the task will be processed once for each unique region value in the column (after applying any filter to limit the list of values).
Group By	Optional. By default, the group by column is the same as the iteration column, so that the task is processed once for each unique value in the iteration column. However, if needed, you can specify a different grouping level. You can use any column or columns that would be valid as the "sum by" level for an Axiom query, where the primary table is the table specified for the iteration column.
Order By	Optional. By default, the values are sorted based on the iteration column, in ascending order. You can specify a different sort column, or use the same sort column but change the order to descending. The sort order is ascending unless the keyword `desc` is used to specify descending order. For example: `Dept.Dept desc`
Filter	Optional. A filter criteria statement to limit the list of values for the iterative processing. You can use any filter that is valid against the source table (the table of the iteration column).

Active Directory Import task

This task imports users from Active Directory groups into Axiom Financial Planning security. For more information on using Active Directory integration with Axiom Financial Planning, see the *Security Guide*.

This task has three tabs of settings: **Source Directory**, **Notification**, and **Preview Import**.

NOTE: The user running this task must be an administrator or have the **Administer Security** permission.

For Cloud Service systems, the Active Directory Import task can import users from your local Active Directory by use of the Axiom Cloud Integration Service. If you have a remote data connection that is enabled for user authentication, this task will use that connection when the job is executed by Scheduler.

Source Directory tab

On this tab, you specify the domain to import from and the groups to import.

Item	Description
Domain or Server	Select either **Domain** or **Server** to specify the source domain for the import. • If you select Domain, enter the name of the domain. • If you select Server, enter the name of the domain controller server. The server option is available in case you are not currently logged into the source domain, and your current domain does not have access to the source domain. In this case, you must use domain credentials in order to access the source domain. Only one domain can be selected per import task. If you want to import users from multiple domains into an Axiom Financial Planning system, then you must create multiple import tasks.
Credentials	Specifies the credentials to use when accessing Active Directory for the import. Select one of the following: • **Use process credentials**: (Default) Use the credentials of the network service account for Axiom Scheduler Server (on-premise installations) or Axiom Cloud Integration Service (Cloud Service systems). • **Specify domain credentials**: Enter the credentials of a specified domain **User** and **Password**. This option is required if you identified the source domain using the server name instead of the domain name.
Never Enable Users	Specifies whether the import enables imported users as part of the process: • If unchecked (default), then newly imported users are enabled as part of the import. Additionally, any existing imported users who have been changed to disabled are re-enabled. • If checked, then newly imported users are not enabled as part of the import. A security administrator must modify the security settings after the import is complete to enable the new users. Existing imported users retain their current enabled status.

Item	Description
Groups to import	The Active Directory groups for which members will be imported into Axiom Financial Planning Security. • Click **Add** to select from a list of groups for the specified domain. If the specified domain name is not valid or if Axiom Financial Planning cannot connect to it, then an error will result when attempting to add groups. • If you need to remove a group, select the group and click **Remove**. • Click **Role Mapping** to define mappings for the selected groups. If a mapping exists for a group, then when users are imported for that group they are automatically assigned to the mapped role and subsystem. See the discussion following this table for more information.

Role mapping

In the **Role Mapping** dialog, click **Add mapping** (the plus icon) to add a role mapping for a group. Then complete the following:

- In the **Directory Group** column, select the Active Directory group to be mapped.
- In the **Axiom Role** column, select the role to be assigned to users in that group. If you want to map the group to more than one role, add another mapping row. You can select **None** if you do not want the users in the group to be assigned to any role.
- In the **Subsystem** column, select the subsystem for users in that group. If you want to map the group to more than one subsystem, add another mapping row. This option only displays if subsystems are enabled for your system.
- In the **User Type** column, select the license type for the imported users. The default license type is **Standard**.
- In the **Authentication Type** column, select the authentication type for the imported users, **Windows User** or **SAML**. The default authentication type is Windows User. Note that the selected authentication type will be assigned to users regardless of whether that authentication type is currently enabled for the system.

You can map each group to multiple roles and subsystems. If a group has no defined mappings, then the users will not be assigned to any roles or subsystems. If the import creates new users without mappings, the assigned user type is Standard and the assigned authentication type is Windows User.

To remove a mapping, select the mapping in the grid and then click **Remove mapping** (the X icon). If users have already been imported using this mapping, removing the mapping will not remove the users from the role or subsystem in subsequent imports (unless other group mappings in the import use the same role or subsystem, and the users are not also part of that group).

NOTE: If a user belongs to multiple mappings—either multiple mappings for a single group, or multiple mapped groups—then the user will be assigned to the user type and the authentication type for the last-processed mapping.

Notification tab

On this tab, you specify users to be notified when changes are made in Axiom Financial Planning Security due to the import.

Type in one or more email addresses to be notified. Separate multiple addresses with a semi-colon. For example:

```
jdoe@axiomepm.com;jsmith@axiomepm.com
```

When the import task is run, if any users are created or modified in the Axiom Financial Planning system, an email notification will be sent to the addresses specified here. The email summarizes the changes made. This email notification is independent of any job-level notification settings (which notify based on overall job completion or failure).

We recommend setting up this task-level notification to send emails to the security administrator(s) responsible for maintaining the security settings in Axiom Financial Planning, so that he or she can define security settings for newly added users, validate changes made to existing users, and perform any other follow-up tasks.

Scheduler job variables can be used in this setting.

Preview Import tab

On this tab, you can preview the import results to test that the import is set up as desired.

To preview the results, click **Preview**. Axiom Financial Planning processes the import task but does not actually make the changes to the system. Instead, the tab displays a summary of the changes that would result.

The preview shows a list of users that would be added, changed, or disabled.

NOTE: The preview is always executed locally, even for Cloud Service systems. The remote data connection to the Cloud Integration Service is only used when the task is executed by Scheduler.

Collect Worksheets task

This task collects sheets from multiple source workbooks and combines them into a single target workbook. You can then save the target workbook to a specified file location, and/or email the workbook.

NOTE: This task is primarily intended for backward-compatibility only. The main method of performing a file collect operation is to use the file processing feature with the File Processing Scheduler task. For more information on setting up a file collect report using file processing, see the *Axiom File Setup Guide*.

Typically, this task would be used at the end of a job with multiple File Processing tasks, to take the results of those tasks and collect them into a single workbook.

Item	Description
Save or Email Workbook	Specifies the delivery option for the target workbook. Select one of the following: • **Save Workbook**: The target workbook is saved to the specified output folder. • **Email Workbook**: The target workbook is emailed to the specified recipients. The file is not saved anywhere on the file system. • **Save and Email Workbook**: The target workbook is both saved and emailed.

Target Workbook

Complete the following settings to define the target workbook:

Item	Description
Output Folder	The folder location where the target workbook will be saved (if you are saving the workbook). Click the folder icon to select a folder location, or type a folder location. If the specified folder does not already exist, Axiom Financial Planning attempts to create it. Job variables can be used in this setting.
Output File Name	The name of the target workbook. Job variables can be used in this setting.
File Type	The file type of the target workbook. Select **XLS**, **XLSX**, or **XLSM**. **NOTE:** PDF displays as an option, but it is not supported in this context.

Email Settings

This section only applies if you are emailing the target workbook. The "From" address is always the Scheduler default From address (as defined in the system configuration settings).

Item	Description
To	Enter the email addresses to receive the target workbook via email. Separate multiple addresses with a semicolon.
Subject Line	The subject line for the email.
Body Text	The body text for the email.

Source Workbooks

In this section, you specify one or more source workbooks from which to collect worksheets. Workbooks are identified by folder location. Within a folder location, you can specify one or more workbooks by name, or by using wildcards, or by using *.* to collect all workbooks at the location.

All sheets in each source workbook will be collected. Ideally, you will be collecting from workbooks that only contain relevant sheets (for example, no blank "Sheet2," etc.), and where the sheets have unique names. If multiple workbooks have sheets with the same name, the sheets will be incremented by number in the target workbook.

- To add a workbook, click the Add button. In the **Edit Workbooks Source** dialog, complete the settings as described below, then click **OK** to add the workbook to the list.
- To remove a workbook, select the workbook in the list and then click the Remove button. Only one workbook can be selected at a time.
- To change the order of workbooks, select the workbook in the list and then click the arrow buttons to move the workbook up or down. Source workbooks are processed in the order they are listed in the grid.

Item	Description
Folder Path	The folder location of the source workbook(s). Click the folder icon to select a folder location. **NOTE:** The **Folder Path** location must be accessible by the Scheduler service user account. If you specify a network folder location using the Browse button, the location is automatically entered as a UNC path. If you specify a C: drive location, that will be evaluated as the C: drive of the Scheduler server. Job variables can be used in this setting.

Item	Description
Workbooks	The workbooks from which you want to collect worksheets, within the specified folder path. • Specify *.* if you want to collect all files in the folder path. • Specify individual file names to collect from specific files. Separate multiple file names with semicolons. You can use wildcards (* or ?) to specify groups of files that share naming conventions. For example: `North*.xls` to collect all XLS files where the file name starts with "North". Only files with the following file types are valid to be collected: XLS, XLSX, XLSM. If you are using wildcards, the matches must be valid file types, or else the task will fail with an error. Job variables can be used in this setting.

Once you have saved a source workbook location, you can edit it by double-clicking the row.

Copy On Demand Plan Files task

This task copies on demand plan files from one file group to another. It performs the same actions as the **Copy On Demand Plan Files** command in the Command Library.

This is an advanced feature and should only be used if it is the only way to achieve the desired population of plan files between two related file groups. It is the responsibility of the solution designer to ensure that the copied plan files will behave as expected in the target file group. For example, the plan file must be designed to dynamically save to the appropriate tables and columns within the context of the new file group.

The Copy On Demand Plan Files task uses two tabs to define the properties of the task.

- **Options**: Defines the options to be used for the copy operation
- **Plan Files**: Specifies the plan files to copy

Options tab

The following options are available on the Options tab. Note that all of these options can be changed dynamically by using system variables.

Item	Description
Source File Group	The file group to copy plan files from. Click the folder icon to select a file group. You can select any on-demand file group, or any file group alias that currently points to an on-demand file group.

Item	Description
Destination File Group	The file group to copy plan files to. Click the folder icon to select a file group. You can select any on-demand file group, or any file group alias that currently points to an on-demand file group.
Keep original plan file creator	Specifies whether the plan file creator for the copied plan files is set to the same creator as the original plan files. By default, this option is enabled. If this option is disabled, then the plan file creator for the copied plan files is set to the user identity used by the Scheduler job when it is run.
Use default template	Specifies whether the copied plan files have the option to adopt the default template of the new file group. This is primarily intended to be used when copying plan files to a file group that uses virtual, form-enabled plan files, so that the copied plan files can be converted to virtual files and use the new template. • If disabled (default), then the target file group must contain copies of the original templates that were used to create the plan files from the source file group. If these templates are not present, then the copy process will fail. • If enabled, then the copied plan files will be assigned a template as follows: ◦ If the target file group contains copies of the original templates that were used to create the plan files from the source file group, the copied plan files use those templates. ◦ If the target file group does not contain copies of the original templates, the copied plan files use the default template specified for the target file group in the file group properties. If the target file group does not contain copies of the original templates and does not have a designated default template, then the copy process will fail.
Copy plan file attachments	Specifies whether plan file attachments are copied to the target file group when a plan file is copied. By default, this option is enabled. If this option is disabled, then plan file attachments will not be copied to the target file group.

Item	Description
Save plan files after copy	Specifies whether the new plan files are processed and saved in the target file group after the copy is performed. This is intended to perform a save-to-database within the context of the new file group. By default, this option is disabled. If you enable this option, then after the plan files are copied to the new file group, they are opened, refreshed, and saved (including a save-to-database). The refresh includes all active Axiom queries where **Refresh during document processing** is enabled. Regardless of whether this option is enabled, if it is ever intended to save the copied plan files in the target file group, then they must be designed so that they save data to the appropriate tables after being copied. **NOTES:** • If **Process with Utilities** is enabled for the target file group, then utility processing is performed instead of normal processing. The default data source is used. • If you enable this option but also specify a **Copy data utility**, then the new plan files are not processed and saved. Instead, the designated utility file is processed for each new plan file.
Copy data utility	Optional. Specifies a utility file to process for each copied plan file. You can select any file in the Utilities folder of the target file group, or a file in the Reports Library. The primary purpose of this option is to handle copying virtual plan files between file groups. Because the plan files are virtual, no data exists in the file itself and therefore saving the new plan file will not populate data for the new file group. Instead, you should create a utility file that queries in the necessary data for the original plan file, then saves the necessary data for the new plan file to the appropriate tables for the new file group. Reserved document variables are available to return information in the utility file such as the old plan file code and the new plan file code. For more information, see Copy data utility. **NOTE:** **Save plan files after copy** must be enabled in order to specify a copy data utility. If a utility is specified, then the new plan files are not saved and instead the utility file is processed for each new plan file.
Default Values	Optional. This section can be used to apply default values to any columns in the target plan code table, when the new record is created in the target file group. For more information, see Defining default values.

Plan Files tab

On the **Plan Files** tab, specify the plan files from the source file group that you want to copy to the target file group. There are three different options that you can use to specify the plan files: **Choose from list**, **Use filter**, and **All**.

The most common option when copying plan files using Scheduler is to define a filter. You can dynamically copy a subset of designated plan files using the filter. If the Scheduler task is triggered by using RunEvent, you can pass in the filter from the source of the RunEvent (such as an Axiom form).

Copy a filtered set of plan files

To use a filter to copy a subset of plan files, select **Use Filter**. When the Scheduler task is executed, Axiom Financial Planning will process only the plan files that meet the filter. You can specify the filter directly, or use a job variable.

To specify the filter, click the Filter Wizard button. You can also manually type a filter criteria statement into the filter box. The filter must use the plan code table of the source file group, or a lookup table. For example: `CapReq2019.Transfer=1`, where CapReq is the plan code table.

Once you have entered a filter, you can click **Refresh plan file list** to show the plan files that currently match the filter. The refresh feature is intended to help you determine whether you have defined the filter correctly.

If you want to set the filter dynamically, you can use the Filter system variable to override the filter defined in the task. This is intended for use when running Scheduler jobs via RunEvent. If a variable value is specified when triggering the event, such as the value `CapReq2019.CapReq IN (45,67,98)`, then that filter statement is used to determine the plan files to be copied instead of the filter defined in the task.

Copy all plan files

To copy all plan files, select **All**. When the Scheduler task is executed, Axiom Financial Planning will copy all plan files in the file group (except for those hidden via the Show on List column). This is not a common use case for the copy feature, but can be used if needed.

Copy selected plan files

To copy certain plan files, select **Choose from list**, and then select the check boxes for the plan files that you want to copy. When the Scheduler task is executed, Axiom Financial Planning will copy only the selected plan files. This is not a common use case for the copy feature, but can be used if needed.

NOTE: This option is not available when using a file group alias as the source file group for the task. This is because the alias could change to point to any file group, which could result in a different list of plan files.

Defining default values

When the copy action is performed, the columns for the new record are populated as follows:

- If a value has been defined for a column in the **Default Values** section, that value is used.
- Otherwise, the value from the original record in the source file group is used. This only occurs if the column names match in the source and target tables, and if the column in the target table is a compatible data type to accept the copied value.

If a column exists in the source table but not the target table, that value is ignored and does not cause an error. If a column exists in the target table but not in the source table, then it is only populated during the copy action if a default value has been defined. If the target table contains columns with lookup relationships, those columns must be populated with valid values (either from the original record or by using default values) or else the copy action will fail.

To define default values for the new records:

- Click the plus button + to add a new column/value pair to the **Default Values** section.
- In the left-hand box, type the name of the column in the target plan code table. For example: `SourceID`. Do not use Table.Column syntax.
- In the right-hand box, type the value to be placed in this column. You can enter a "hard-coded" value, or you can enter the name of a column from the source plan code table in brackets to use the value from that column. For example, `[CapID]`. The column reference is only necessary if you want the source column value to be placed in a column that has a different name than the source column. If the columns have the same name, the value will be copied automatically as noted previously in this section.

For both the column name and the value, you can use file group variables via a file group alias. Axiom Financial Planning looks up the current target of the alias, and finds the current value of the designated variable within that file group. Built-in variables and custom variables can both be used. To reference a variable, use the following syntax:

`{`*`FileGroupAliasName`*`.`*`VariableName`*`}`

For example: `{CP_CurrentYear.FileGroupYear}` returns the file group year for the file group that is currently the target of the CP_CurrentYear alias.

Scheduler job variables can also be used in the column name and in the value.

Overriding task settings using system variables

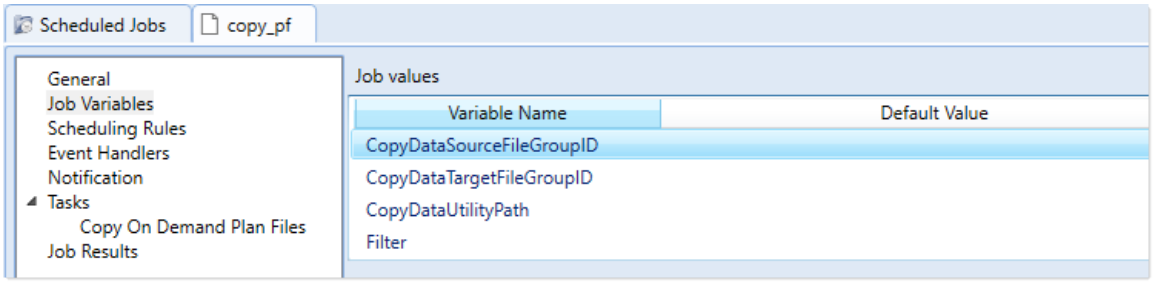
All of the settings for the Copy On Demand Plan Files task can be overridden using system variables. This is intended for use when the task is being triggered by RunEvent (such as from within an Axiom form), and you want to pass in variable values to determine how the task is run.

The variable names for this task are as follows:

Variable	Description
CopyDataSourceFileGroupID	Overrides the **Source File Group**. Must be set to a valid file group ID. File group names or alias names cannot be used.
CopyDataTargetFileGroupID	Overrides the **Destination File Group**. Must be set to a valid file group ID. File group names or alias names cannot be used.
CopyDataUtilityPath	Overrides the **Copy data utility**. Must be set to a valid document path in Axiom Financial Planning.
Filter	Overrides the **Plan File Filter** to specify the plan files to copy. Must be set to a valid filter criteria statement.
KeepOriginalPlanFileCreator	Overrides the option **Keep original plan file creator**. Must be set to a valid Boolean value (True/False).
UseDefaultTemplate	Overrides the option **Use default template**. Must be set to a valid Boolean value (True/False).
CopyPlanFileAttachments	Overrides the option **Copy plan file attachments**. Must be set to a valid Boolean value (True/False).
SavePlanFilesAfterCopy	Overrides the option **Save plan files after copy**. Must be set to a valid Boolean value (True/False).

To override task properties using these variables:

- Add the variables that you want to use to the **Job Variables** tab. For example, if you want to override the source and target file groups, the copy data utility, and the plan file filter, then add those variables to the Job Variables tab. You do not need to add a variable name if you do not plan to override it.

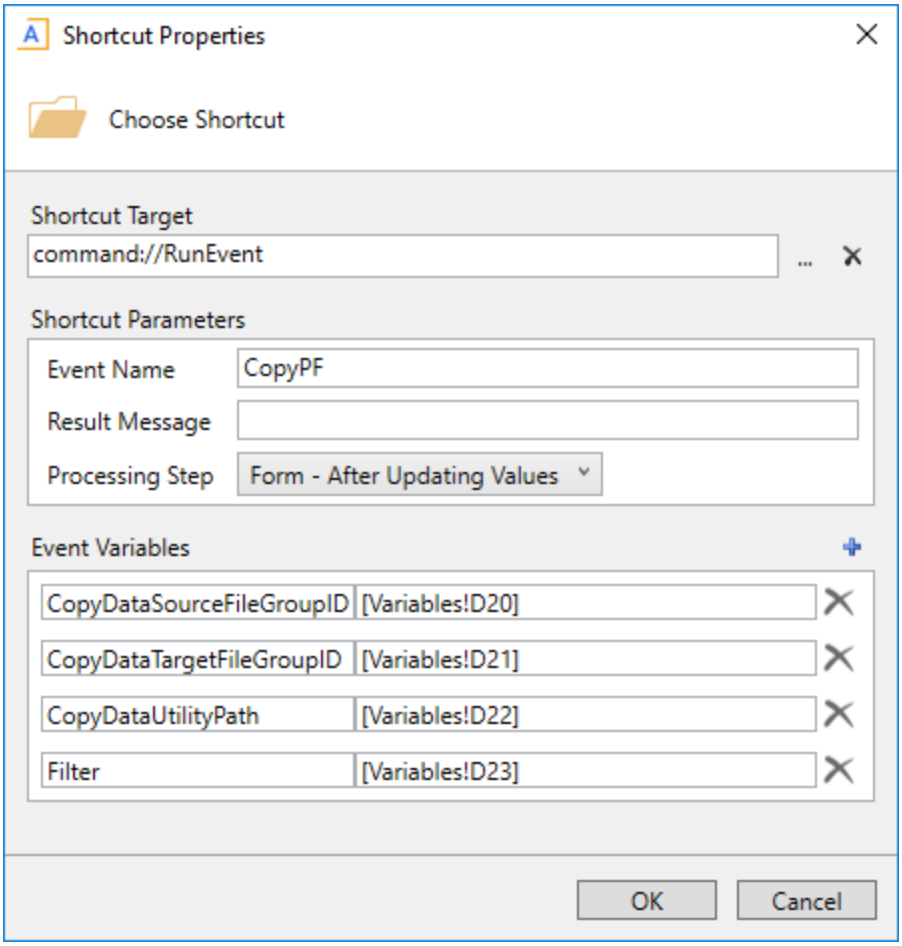


Example Job Variables tab to override certain settings for the copy task

  You do not need to define a default value for the variable. If the value is blank, then the setting defined in the task is used. The corresponding task property will only be overridden if the variable has a defined value.

- You do not need to add the variables to the task properties. The variables automatically overwrite the task properties if they have defined values.

- When configuring RunEvent, define values for the variables as needed. For example, you could have a form where you allow the user to select the source and target file group for the copy action. Based on the user's selected file group names, you can use the GetFileGroupID function to determine the IDs for those file groups. You can then pass those IDs as variable values for the variables CopyDataSourceFileGroupID and CopyDataTargetFileGroupID.



Example RunEvent properties to pass certain variable values to the copy task

Plan file process considerations

If the target file group has an active plan file process, the new plan file is started in that process as part of the plan file creation. The process initiator for the plan file is set as follows:

- If the plan file process has a designated Process Initiator Column, the user listed in that column is the process initiator.
- If the plan file process does not have a Process Initiator Column, or the column value is blank, then:
  - If **Keep original plan file creator** is enabled for the command, then the original plan file creator is the process initiator.
  - Otherwise, the user performing the copy operation is the process initiator.

Copy data utility

If a **Copy data utility** is specified, this processing is performed as follows:

- The selected plan files are first copied to the new file group. If the plan files are virtual, then the placeholder document records are copied instead of physical plan files.
- The utility file is opened once before processing begins. Any data lookups or Axiom queries that are configured to refresh on open are executed at that time.
- The utility file is then iteratively processed for each new plan file as follows:
    - Document variables are set in the utility, and the workbook is calculated.
    - Axiom queries set to **Refresh during document processing** are refreshed.
    - A save-to-database is executed.

The utility file is *not* closed and reopened for each new plan file. All processing occurs within the same file session, similar to when performing multipass file processing.

The following reserved document variables are available to the utility file, to be returned using GetDocumentInfo. These variables return necessary information about the copied plan files and the source and target file groups.

Variable	Description
SourceFileGroupID	The ID of the source file group. You can use this ID in functions such as GetFileGroupVariable—for example, to return the name of the data table to query from the source file group.
SourcePlanCode	The plan code of the original plan file from the source file group. You can use this code to filter Axiom queries to return data for the original plan file.
TargetFileGroupID	The ID of the target file group. You can use this ID in functions such as GetFileGroupVariable—for example, to return the name of the data table to save data to for the target file group.
TargetPlanCode	The plan code of the new plan file in the target file group. You can use this code to save data for the new plan file.

For example, `GetDocumentInfo("Variable","SourceFileGroupID")` returns the ID of the source file group.

Create Plan Files task

This task creates plan files for a file group. It works the same way as the **Create Plan Files** utility that is available from the file group menu.

This task has two tabs of settings in the **Task Details** area: **General** and **Plan Files**.

NOTE: If you are using Create Plan Files to create new on-demand plan files, those plan files will be automatically started in the designated **Plan File Process** for the file group. This only applies when creating a brand new plan file. If an existing plan file is overwritten, its process status will be left as is.

General tab

The following settings are available on the General tab:

Item	Description
Select File Group	The file group for which plan files will be created. You can select any file group or file group alias. **NOTE:** If you select an alias, then you cannot select individual plan files on the **Plan Files** tab. Only the **Use Filter** and **All** options are supported for use with aliases. This is because the alias could change to point to any file group, which could result in a different list of plan files.
Overwrite existing plan files?	By default, this option is not selected, which means that existing plan files will not be overwritten, even if the plan file is selected to be created. If selected, existing plan files will be overwritten.

Plan Files tab

On the Plan Files tab, specify the plan files that you want to create. This tab lists all plan codes that you have the right to access. (If a plan code has been set to **False** in the designated **Show On List Column** for the plan code table, then it is not available in this list.)

You can create plan files in any of the following ways:

- **Create all plan files:** To create all plan files, select **All**. This will cause all plan files to be created, for all existing and future plan codes.

  Alternatively, you can select **Choose from list** and then select the check box in the column header, causing all plan codes to be selected, but then the list of plan codes is fixed and will not adjust for any future changes. For example, if you add a new department in the future, that new department will only be created by this task if you use the **All** option.

- **Create selected plan files:** To create certain plan files, select **Choose from list** and then select the check boxes for the desired plan codes.

  To find the plan files you are looking for, you can sort, filter, and group the list using standard Axiom grid features. You can show additional columns and hide columns by right-clicking in the column header. If you have filtered the list, you can select the check box in the header to select only the plan codes that currently display in the dialog.

  NOTE: This option is not available when using a file group alias as the selected file group for the task. This is because the alias could change to point to any file group, which could result in a different list of plan files.

- **Create a subset of plan files using a filter:** To use a filter to create a subset of plan files, select **Use filter**, and then type a filter into the filter box. You can also use the Filter Wizard to build the filter. The filter must use the plan code table or a reference table that the plan code table links to. For example: `DEPT.Region='West'`.

  Once you have entered a filter, you can click **Refresh plan file list** to show only those plan codes that currently match the filter. This feature is to help you determine whether you have defined the filter as intended. The filter will be applied to the list of plan codes when the Scheduler job is processed, so if changes have been made to the plan code table since then, the actual list of plan files processed will reflect those changes.

  You can also use a job variable for the filter. For example, you can define a job variable named "filter" and then place the text `{filter}` in the filter box. This is intended for use when running Scheduler jobs by using the RunEvent function. If a value is specified in the RunEvent function, such as "Filter=dept.region='west'", then that filter will be used in place of the `{filter}` variable to determine the list of plan files to be created.

  NOTE: If you use a variable, and you leave the default value for that variable blank within the **Job Variables** tab, then all plan codes will be created if no value is passed by the RunEvent function (or if the value is invalid). You may want to define a default filter that results in no values (such as 1=0), so that plan files are only created if a valid filter value is passed.

IMPORTANT: For all of these options, the **Overwrite existing plan files** option on the General tab determines whether all selected plan files are created, or only the plan files that do not already exist.

Echo task

This task is used for testing purposes only, to check whether a Scheduler server is running and operational. The task sends a message to the Scheduler server, and asks it to send the message back (an "echo"). If successful, the message displays in the job results. No other action is performed.

Item	Description
Message to Echo	The message to send to the Scheduler server for testing. Job variables can be used in this setting.
Sleep Time	The time to pause in between message echoes, in seconds. Scheduler will echo the message once, then wait the specified sleep time, then echo the message again.

Execute Command Adapter task

This task executes a selected command from the Command Library.

Task properties

This task has one property named **Command Name** that specifies the command to execute.

To select a command to execute:

1. Click **Edit Command**.
2. In the **Shortcut Properties** dialog, click the browse button **[...]** to the right of the **Shortcut Target** box.
3. In the **Axiom Explorer** dialog, select the desired command from the **Command Library**, then click **Open**.

   This returns you to the Shortcut Properties dialog. The selected command is now listed in the Shortcut Target box, and the Shortcut Parameters section displays the parameters for the command.
4. Complete the **Shortcut Parameters** for the command as needed. The available parameters depend on the selected command.

You can later edit the shortcut parameters or select a different command by clicking **Edit Command**.

Execute SQL Command task

This task runs a SQL statement on an Axiom database. If needed, you can also use this task in a user-defined job to run any valid SQL statement on an Axiom database.

NOTE: The SQL statement in this task will be run as the Axiom database user, regardless of which user executes the job.

This task has the following settings:

Item	Description
Source Axiom Database	Select the database on which to run the SQL statement: • **Current system database**: The database for the current system. • **Current audit database**: The corresponding audit database for the current system.
SQL Command Text	Enter any valid SQL statement to be run against the specified database. To validate the syntax of the SQL statement, click the **Check SQL syntax** button  . Axiom Financial Planning sends the statement to your database server to see if the statement can be parsed, resulting in either a success message or an error message. Job variables can be used in the SQL statement. The Check SQL syntax button is not available if the statement uses variables.

Export ETL Package task

This task exports data from Axiom Financial Planning to an external database (same as executing an export from the **Exports Library**).

This task has one setting, **Select ETL Export Package**. This is the name of the export package to process. You can select any export that is defined in the current system.

File Processing task

This task performs file processing on a specified report file or file group utility. The file must already be enabled for file processing. You can use the file processing settings that are already in the file, or you can override any setting.

The following settings must be completed for the task:

Item	Description
File to Process	The report to process for the task. Click the **Browse** button to open the **Axiom Explorer** dialog, and then select a report to process. Only one report can be selected for each File Processing task. If you want to process multiple reports, you can add multiple File Processing tasks to the Scheduler job. **TIP:** Once the file is selected, only the file name displays in the task. If you want to know the folder location of the selected file, hover your cursor over the field. The folder location is listed in the tooltip.

Item	Description
Process Multipass	Specifies whether the report will be run using multipass processing. • If this option is selected, multipass processing is performed. This is equivalent to selecting **File Output > File Processing > Process File Multipass**. • Otherwise, multipass processing is not performed and multipass settings do not display in the task. This is equivalent to selecting **File Output > File Processing > Process File**. **NOTE:** If you select **Process Multipass**, but the file does not have any defined multipass settings, then you must override the blank multipass settings for the file and define them in the equivalent of "advanced mode." If you want to use "basic mode" settings (specify only a source column and Axiom Financial Planning automatically completes the rest of the settings for you), then you should edit the file to define the basic mode multipass settings so that they can be inherited by the task.
Enable iterative calculation while processing	Specifies whether iterative calculations are enabled for the file during processing. In most cases you will leave this option disabled. If this option is selected, then iterative calculations are enabled for the file during the Axiom query refresh process. The iterative calculation settings are fixed at a maximum of 100 iterations and a maximum change value of .001. For more information on iterative calculations, see the Microsoft Excel Help.

Advanced options

This section only displays if multipass processing is enabled for the task, and the task uses settings that are eligible for parallel processing. Click on the down arrow next to the title to expand the section and view the options.

Parallel processing for file processing tasks is performed based on multipass passes. With certain task settings, multiple passes can be separated into sub-jobs, which can then be processed at the same time (in parallel). This can improve the performance of the task.

For example, imagine that you are multipass processing a file by department. If the task is processed sequentially, then the task would process Dept 100 and finish it, then move to Dept 110 and finish it, etc. When parallel processing is used instead, Depts 100-199 can be separated into one sub-job, Depts 200-299 into another sub-job, etc. Because the sub-jobs are processed in parallel, multiple departments are processed at the same time, so the overall task can complete more quickly.

Item	Description
Maximum Parallel Jobs	The maximum number of subordinate jobs to run in parallel. The default number is 4. This is the total number of sub-jobs that can be run at the same time for this task. Ultimately the number of sub-jobs that are run in parallel depends on the number of Scheduler threads that have been configured for use at your organization, and the number of Scheduler threads that are currently available (threads that are not processing other higher-priority jobs).
Processing Batch Size	The number of multipass passes to include in each sub-job at a time. The default number is 10 for eligible snapshot and export processes, and 7000 for eligible save-to-database processes (save once at end). Passes are determined based on the multipass list of items. For example, if you are processing by department (DEPT.DEPT), then each department is a separate pass. If the batch size is set to 10, then each sub-job would process 10 departments at a time. In most cases, the default settings are sufficient. If you are experiencing lengthy processing times and want to optimize performance, you can adjust this setting as follows: divide the number of passes by the number of available Scheduler threads. For example, if there will be 100 passes and there are 4 Scheduler threads, set the batch size to 25.

NOTES:

- For save processes, only "save once at end" processes are eligible for parallel processing. In this case, the records to be saved to the database are extracted after each pass to a central temporary table. Once all passes are complete, then all records are saved to the database from the temporary table. Save processes where data is saved directly after each pass are not eligible, because these processes may depend on sequential processing.
- There is no way to disable parallel processing if the task is eligible; however, you can adjust the parallel processing settings if desired.

File processing settings

Once you have selected a file to process, the file processing settings from that file display within the task as read-only. You can leave the settings as they are, or you can override any setting.

- To override a setting, select the **Override** check box to the right of the setting. The setting becomes editable, and you can change it. The change only applies to the file processing task—the setting remains unchanged within the file.

- If you override a setting, make sure that any related settings make sense in the context of the change. For example, if **File Generation** is set to **Multiple Output Files**, and you override it to be **Single Output File**, then you should also check the **Sheet Names** setting to make sure that you will end up with unique sheet names within the file.

NOTE: If the target file for the task uses **File Collect** or **Batch** processing, then it is not possible to override the settings on the File Collect Configuration Sheet or the Batch Control Sheet.

For more details on file processing settings, see the *Axiom File Setup Guide*.

Note the following requirements when running file processing using Scheduler:

- The **Output Folder** location must be accessible by the Scheduler service user account. If you specify a network folder location using the Browse button, the location is automatically entered as a UNC path. If you specify a C: drive location, that location will be evaluated as the C: drive of the Scheduler server.
- If the file processing type is **Print**, the Scheduler server(s) must be configured to access the specified printer. This may require the assistance of your IT department.

Job variables can be used in any file processing setting that accepts a typed user input.

Batch variables

If the file has defined batch variables, you can specify variable values to be used for the file processing task. When the task is executed, any specified variable values are temporarily placed within the file, within the designated cell for that variable value. The file can be set up to use the variable value in some way during processing.

Item	Description
Variable Names	The names of the variables, as defined in the File Processing Control Sheet for the source file. If no names are listed, then no variables are defined in the file.
Variable Values	The variable values to be placed within the file when the file processing task is executed.

Job variables can be used in the batch variable settings. For example, a job variable can be used as the value for a batch variable.

Import ETL Package task

This task imports data into Axiom Financial Planning (same as executing an import from the **Imports** menu).

NOTE: If the import package is configured to **Ignore lookup and key errors**, then if errors are found the execution status of the job will be Partial Success. This will trigger an email notification if the job is configured to notify only on error.

Item	Description
Select ETL Import Package	The import package to process. You can select any import that is defined in the current system.
Source Filename	The path and name of the source file. This option only applies in the following situations: • The import is configured to pull data from a source file (instead of a database table). • The import is configured to prompt the user for the source file during execution. If the import is configured to always use the same source file, then that file displays for reference in the **Source Filename** box, but it is grayed out and cannot be changed. Job variables can be used in this setting.
Package Variables	Specifies values for any variables used in the import package. Variables are listed in the right-hand side of the grid. Use the drop-down list next to the variable name to select from the defined set of choices, or type in a value. Job variables can be used in this setting.

Process Plan Files task

This task processes plan files in a file group. It performs the same actions as the **Process Plan Files** utility available from the file group menu.

The Process Plan Files task uses several tabs to define different options. The available tabs and the options on those tabs depend on the selected **Processing Mode** on the **Options** tab.

- **Options**: Defines the overall processing mode and processing options
- **Plan Files**: Specifies the plan files to process
- **Axiom Queries**: Specifies which Axiom queries to run in plan files (only applies to Normal Processing)
- **Utilities**: Specifies which data source to use for utility processing (only applies to Process with Utilities)
- **Processing Variables**: Defines variables to pass into plan files from Scheduler, and to Scheduler from plan files

Options tab

The following options are available on the Options tab:

Item	Description
Processing Mode	Select the type of processing to perform: • **Normal Processing**: Plan files are opened, refreshed, and saved. You can configure which actions occur. • **Process with Utilities**: A list of utilities is iteratively processed per plan file. Utilities are opened, refreshed with data for each plan code, and saved. This is primarily intended for processing form-enabled plan files with embedded forms. • **Update Persistent Plan Files**: Update existing plan files for text, formatting, or formula fixes. This is an advanced feature. • **Process with Custom Utility**: Plan files are processed using a custom utility provided by Axiom Support. This is an advanced feature. The default processing mode is Normal Processing. However, if the file group has been configured so that utility processing is the default processing mode for that file group, then Process with Utilities is selected by default.
Select File Group	The file group for which plan files will be processed. You can select any file group or file group alias. **NOTES:** • If you select a file group alias, then you cannot select individual plan files on the **Plan Files** tab. Only the **Use Filter** and **All** options are supported for use with aliases. This is because the alias could change to point to any file group, which could result in a different list of plan files. • File group scenarios are not available on the list cannot be processed via Scheduler.
Advanced Options: Worker Batch Size	Optional. Specifies the number of plan files to be processed in each batch. The batch size must be a number between 10 and 100. By default this is left blank, which means that the batch size is automatically calculated based on the number of plan files to be processed divided by the total number of threads on all enabled Scheduler servers. Generally speaking, you should not customize this setting unless you are advised to by Axiom Financial Planning Support. **NOTE:** Each batch of plan files is processed by a subordinate job. These subordinate jobs are automatically created for the Process Plan Files task and are processed in parallel, dependent on the number of Scheduler threads that are available at any one time.

Options for Normal Processing mode

If Normal Processing is the selected processing mode, the following additional options are available on the Options tab:

Option	Description
Save document after processing	Specifies whether plan files are saved during processing. This option is selected by default. This option does *not* cause a save-to-database to be performed—that option must be selected separately. **NOTES:** • If this option is not selected, then the utility will open the file as read-only and will not attempt to acquire the document lock before processing. • If the file group uses virtual plan files, this option does not apply because the plan files cannot be saved. However, if the option is enabled, Axiom Financial Planning will attempt to acquire the document lock before processing, which is not necessary. This option should not be enabled when processing virtual plan files.
Run Save To Database on plan files after processing	Specifies whether a save-to-database is performed in plan files during processing. This option is selected by default. This option does *not* cause the file itself to be saved—that option must be selected separately. It is not required to save the file in order to perform a save-to-database.
Create a plan file restore point before processing	If selected, then a plan file restore point will be created before processing begins. This option is not selected by default. Restore points can be used to restore plan files to the state they were in before changes were made. **NOTE:** If the file group uses virtual plan files, this option does not apply. Plan files are not saved and therefore restore points are irrelevant.

Options for Process with Utilities

If **Process with Utilities** is the selected processing mode, there are no additional options on the Options tab.

Plan files are not saved when using Process with Utilities, and plan file restore points are not created. When using this mode, the processing is being performed in the utility files, not in the plan files, so it is not necessary to save the plan files. Additionally, in most cases the plan files used with this mode are virtual form-enabled plan files, so the save and restore options are irrelevant.

Options for Update Persistent Plan Files

If **Update Persistent Plan Files** is the selected processing mode, the following additional option is available on the Options tab:

Option	Description
Report File	Click the Browse button to select the report file that is configured with the PlanFileReconfig_ControlSheet. This file must be saved in the Reports Library. This control sheet contains the settings that will be applied to plan files during processing.

Plan files are always saved when using this processing option, and plan file restore points are always created before processing. A save-to-database is not performed in this mode, so if you need to save data, you should process plan files using Normal Processing after you have verified the results of the plan file update.

Options for Process with Custom Utility

If **Process with Custom Utility** is the selected processing mode, the following additional options are available on the Options tab:

Item	Description
Report File	Click the **Browse** button to select the Microsoft Excel spreadsheet file that contains the VBA custom utility. The file must be saved in the Reports Library.
VBA Module	Select the VBA module to run as part of this utility. The drop-down list shows the VBA modules available in the selected file.
VBA Function	Select the VBA function to run as part of this utility. The drop-down list shows the VBA functions available in the selected module.

Plan files are always saved when using this processing option, and plan file restore points are always created before processing. A save-to-database is not performed in this mode, so if you need to save data, you should process plan files using Normal Processing after you have verified the results of the custom utility processing.

▶ Plan Files tab

On the **Plan Files** tab, specify the plan files that you want to process. There are three different options that you can use to specify the plan files: **Choose from list**, **Use filter**, and **All**. You should use the option that corresponds to how many plan files you want to process—all plan files, or a subset of plan files. If you want to process a subset of plan files, you can select individual files to process or you can use a filter to define the subset.

NOTES:

- If a plan file is locked by another user when the task is executed, then processing for that file will fail. Failures are noted in the result history for the job.
- If a plan file has not yet been created for a particular plan code, then that plan code will not display in this list and will be ignored when processing. Scheduler does not support creating plan files as part of the Process Plan Files task (you must use the separate Create Plan Files task for this purpose).
- If the file group uses a **Show on List** column, then any plan code that is set to **False** will not display in the plan file list and will be ignored when processing.

Process all plan files

To process all plan files, select **All**. The list of all plan files is generated each time the Scheduler task is executed, so that if new plan files have been added then those new plan files will be included in the processing (the reverse is also true if any plan files have been removed).

Alternatively, you can select **Choose from list** and then select the check box in the column header, causing all current plan codes to be selected. However, in this case the list of selected plan codes is fixed and therefore will not automatically adjust for any future changes.

Process selected plan files

To process certain plan files, select **Choose from list**, and then select the check boxes for the plan files that you want to process. When the Scheduler task is executed, Axiom Financial Planning will process only the selected plan files.

To find the plan files you are looking for, you can sort, filter, and group the list using standard Axiom grid features. You can show additional columns and hide columns by right-clicking in the column header. If you have filtered the list, you can select the check box in the header to select only the plan files that currently display in the dialog.

NOTE: This option is not available when using a file group alias as the selected file group for the task. This is because the alias could change to point to any file group, which could result in a different list of plan files.

Process a filtered set of plan files

To use a filter to process a subset of plan files, select **Use Filter**. When the Scheduler task is executed, Axiom Financial Planning will process only the plan files that meet the filter.

You can use the Filter Wizard to create the filter, or you can manually type a filter criteria statement into the filter box. The filter must use the plan code table or a lookup table. For example: `DEPT.Region='US West'` where Dept is the plan code table.

Once you have entered a filter, you can click **Refresh plan file list** to show the plan files that currently match the filter. The refresh feature is intended to help you determine whether you have defined the filter correctly.

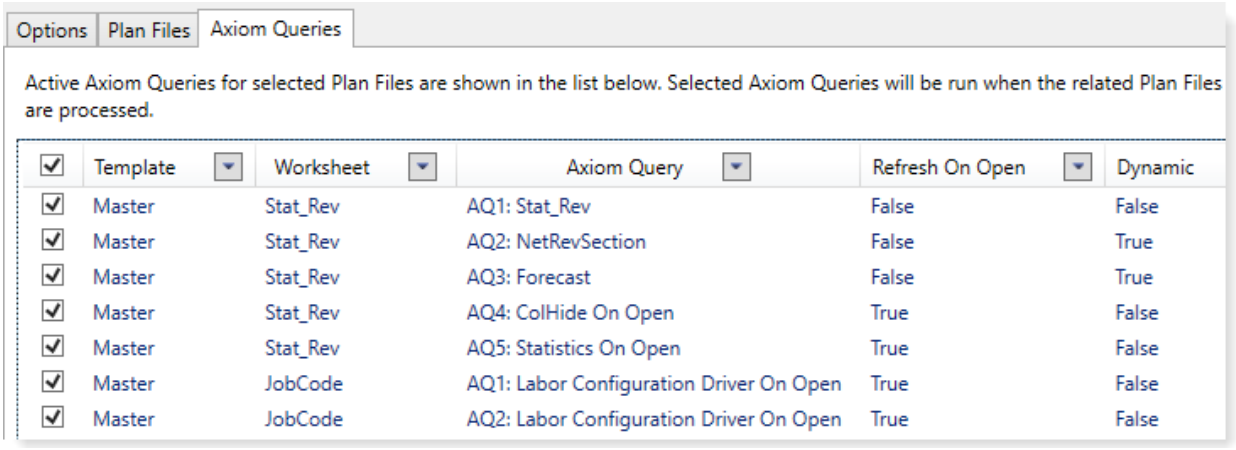
You can also use a job variable for the filter. For example, you can define a job variable named "filter" and then place the text `{filter}` in the filter box. This is intended for use when running Scheduler jobs via RunEvent. If a variable value is specified when the event is triggered, such as the value `dept.region='west'`, then that filter statement will replace the `{filter}` variable and will be used to determine the list of plan files to be processed.

NOTE: If you use a variable, and you leave the default value for that variable blank within the **Job Variables** tab, then all plan codes will be processed if no value is passed by the RunEvent function. You may want to define a default filter that results in no values (such as 1=0), so that plan files are only processed if a valid filter value is passed.

Axiom Queries

On the **Axiom Queries** tab, select the queries that you want to run in the plan files. By default, all listed queries are selected. This tab only applies when using **Normal Processing** mode.

If you do not want to run a particular query, you can clear the check box. You can select or clear individual check boxes, or you can use the check box in the header to select or clear all queries currently displayed in the list. You can sort, filter, and group the list using standard Axiom grid functionality.



Template	Worksheet	Axiom Query	Refresh On Open	Dynamic
Master	Stat_Rev	AQ1: Stat_Rev	False	False
Master	Stat_Rev	AQ2: NetRevSection	False	True
Master	Stat_Rev	AQ3: Forecast	False	True
Master	Stat_Rev	AQ4: ColHide On Open	True	False
Master	Stat_Rev	AQ5: Statistics On Open	True	False
Master	JobCode	AQ1: Labor Configuration Driver On Open	True	False
Master	JobCode	AQ2: Labor Configuration Driver On Open	True	False

Example Axiom Queries tab

The list of Axiom queries is based on the source templates that were used to create the plan files. Only Axiom queries that meet the following criteria are eligible for selection:

- **Active** is set to **On**, or the setting uses a formula.
- **Refresh during document processing** is set to **On**.

If a query uses a formula for the Active setting, this means the query is dynamic and may or may not be run, depending on how the formula resolves in each plan file to be processed. When a particular plan file is processed, each selected query will be evaluated based on the current settings in that plan file. If both **Active** and **Refresh during document processing** are **On** for that plan file, then the query will be run. If either or both settings are **Off** for that plan file, the query will not be run. You can tell whether a query is dynamic or not by looking at the **Dynamic** column in the query list.

If a query is *not* selected on this tab, then that query will not be run in any plan files during processing, regardless of whether **Active** or **Refresh during document processing** are enabled in the plan file.

The plan file selection on the **Plan Files** tab affects the Axiom query list as follows:

- If you have selected individual plan files, then only the eligible queries for the source templates of the selected plan files are shown.
- If you have selected **All** or **Use Filter**, then all eligible queries for all used templates are shown. If the file group has templates that have not been used to create any plan files, then those templates are not included in the list.

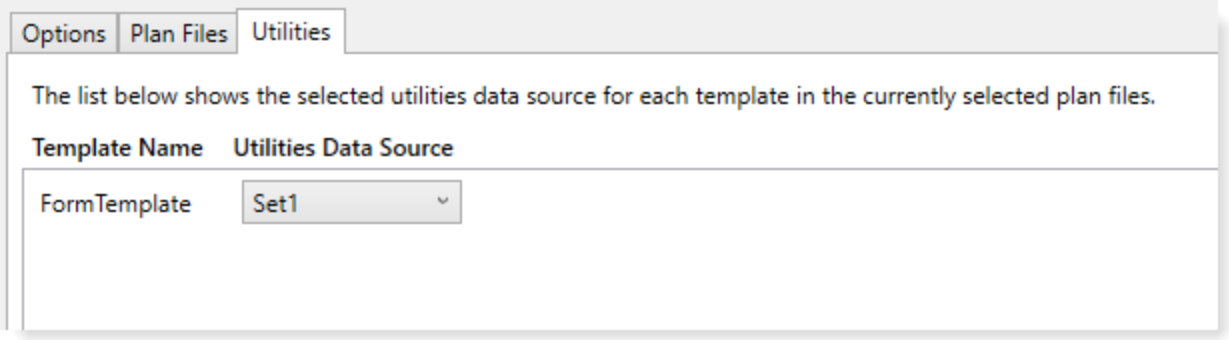
The listed queries are identified by template, worksheet, and query name. The following additional properties are also listed for each query:

- **Refresh On Open**: Indicates whether the Axiom query is configured to refresh automatically when the file is opened. This is for information purposes only, to help you determine whether the query needs to be included in the processing. The Refresh on Open status is ignored by Process Plan Files—if the query is selected it will be run along with the other selected queries, and if it is not selected it will not be run.
- **Dynamic**: Indicates whether the query is dynamically enabled. True means that the query uses a formula for the **Active** setting.

NOTE: If a query is listed on this tab but it is grayed out and unavailable for selection, that means that although the query is active (either directly or dynamically), the query is not eligible to be run using Process Plan Files (because the setting **Refresh during document processing** is set to **Off**). This query is listed for your information only, so that you understand the query cannot be run as part of the process.

Utilities tab

On the **Utilities** tab, select the ProcessPlanFileUtilities data source to use during processing. This data source determines which utility files are processed and the processing order. This tab only applies when using **Process with Utilities** mode.



Example Utilities tab

For each template listed, use the **Utilities Data Source** field to select the data source to use for plan files created from that template.

- If the template only has one data source, that data source is selected.
- If the template has multiple data sources, then the data source marked as the default data source is selected by default. If desired, you can use the drop-down list to select a different data source.

When plan files are processed, Axiom Financial Planning reads the specified data source in each plan file to determine the utilities to be processed for that plan file.

The plan file selection on the **Plan Files** tab affects the Utilities list as follows:

- If you have selected individual plan files, then only the templates used to create the selected plan files are shown.
- If you have selected **All** or **Use Filter**, then all used templates are shown. If the file group has templates that have not been used to create any plan files, then those templates are not included in the list.

Processing Variables

This tab can be used to define variables to pass into plan files before processing begins, and to pass variables back to the Scheduler job after processing has been performed. This tab is optional and is only used in special situations.

Pre-Processing Document Variables

This section can be used to pass document variables into plan files before processing. This can impact the processing of plan files if the files are configured to use the variable values in some way.

For each pre-processing document variable, you can specify a variable name and a variable value. The plan files must be set up with GetDocumentInfo functions that return the values for the specified variables.

- To add a variable, click the Add button to add a row to the list. Complete the settings for the variable as described below.
- To remove a variable, select the variable in the list and then click the Remove button. Only one variable can be selected at a time.

To edit the variable settings, double-click the applicable cell to make the cell contents editable. When you are finished editing, you can press the Enter key or Tab key to exit the cell, or click outside of the cell.

Item	Description
Variable Name	The name of the variable. Do not enclose the variable name in curly brackets (you are not *using* the variable here, you are defining its value).
Variable Value	The value of the variable. The value can be a "hard-coded" value, or it can be a job variable that will be resolved at time of processing. If you use a job variable to define the value, the job variable must be enclosed in curly brackets.

Pre-Processing Workbook Variables

This section can be used to pass values into plan files before processing. This can impact the processing of plan files if the files are configured to use the values in some way.

For each pre-processing variable, you can specify a workbook location to place the value, and the value to be placed.

Item	Description
Workbook Location	The location in the workbook for the value to be placed. Any existing value in this location will be overwritten for the duration of the processing. If the file is saved as part of the processing, then the value will be saved in the file. The location can be specified using `SheetName!CellRef` syntax (for example: `Report!A13`), or by using a named location in the file.
Formula	The value to be placed in the specified workbook location. The value can be a "hard-coded" value, or a formula, or a job variable that will be resolved at time of processing. If the value is a formula, the formula is placed into the target cell and calculated in the plan file. The formula can be any formula that would be valid within a spreadsheet in the Axiom client. This includes using Excel functions and Axiom functions. The formula can also use job variables, which will be resolved before placing the formula in the target cell.

The specified location and value will apply to all plan files being processed by the task. If you are going to use pre-processing variables, the location should be predefined in the template and therefore available to all plan files built using that template. If the plan files will be built using multiple templates, then all templates should be set up with the same designated location, or you should set up separate processing tasks based on template type.

Post-Processing Workbook Variables

This section can be used to pass a value from plan files back to the Scheduler job after processing has been performed. This can impact the processing of subsequent tasks in the job if those tasks are configured to use the value in some way.

For each post-processing variable, you can specify the location in the workbook to find the value, and the job variable to use that value.

NOTE: If this task processes multiple plan files, the resulting variable value will be from the last file that was processed.

Item	Description
Workbook Location	The location in the workbook to find the value to be passed to Scheduler. This value will become the value for the assigned job variable for the duration of executing the current job (unless a later process within the same job overwrites the value for the same job variable). The location can be specified using `SheetName!CellRef` syntax (for example: `Report!A13`), or by using a named location in the file.
Job Variable	The job variable that you want to use the value in the specified workbook location. Do not enclose the variable name in curly brackets (you are not *using* the variable here, you are simply referencing the variable name). If the job variable does not already exist in the job (on the **Job Variables** tab), then it will be created. However, in most cases you will want the variable to be already set up with a default value, so that the job does not have validation errors that prevent saving.

The specified location and job variable will apply to all plan files being processed by the task. If you are going to use post-processing variables, the location should be predefined in the template and therefore available to all plan files built using that template. If the plan files will be built using multiple templates, then all templates should be set up with the same designated location, or you should set up separate processing tasks based on template type.

Even though the task may process many plan files, only the job variable value from the last-processed plan file will be used. The plan files must be set up so that all plan files result in the same value after processing, or else your results will vary depending on which plan file was the last file to be processed.

Process Document List task

This task processes a user-defined set of documents. The process operation always calculates the files. In addition, you can opt to run Axiom queries in the files, process alerts in the files, and then perform a save-to-database and/or save the files.

You can process any Axiom-managed Excel files by using this task. The primary intent of the task is to process files such as driver files or report utilities. For example, you may be using Axiom queries and GetData functions in your driver files that need to be updated regularly. Rather than opening, refreshing, and saving each driver file, you can use this task to define the set of files and schedule processing.

NOTES:

- Generally speaking, plan files should not be processed using this task. Instead, the Process Plan Files task should be used.
- This task does not perform *file processing* actions on the file. File processing can be set up for report files and driver files, and can be used to perform actions such as file delivery, using standard or multipass processing. If you want to perform file processing using Scheduler, use the File Processing task.

Documents to process

Specify the documents to be processed when the task is run. Documents are processed sequentially in the order listed.

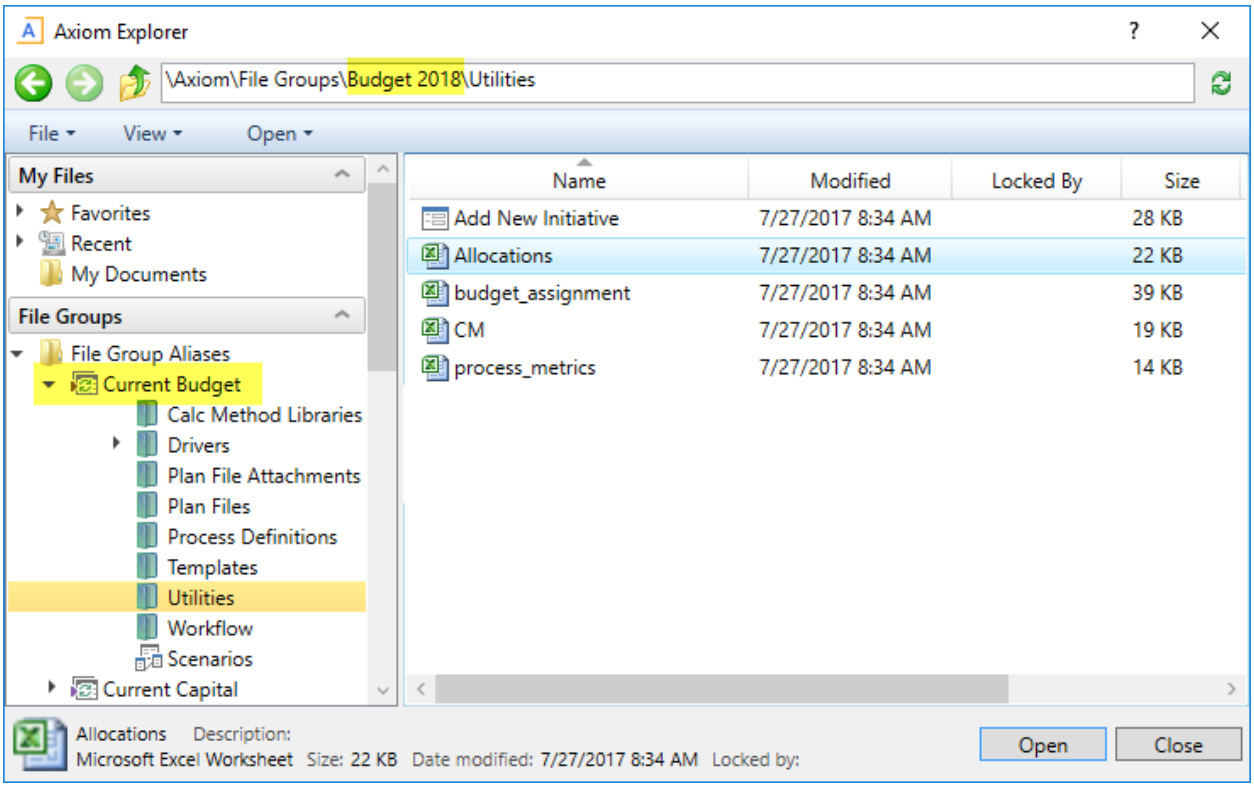
- To add a document, click the Add button. In the **Axiom Explorer** dialog, select the file or files that you want to add, and then click **Open**.
- To remove a document, select the document in the list and then click the Remove button. Only one document can be selected at a time.
- To change the order of documents, select the file in the list and then click the arrow buttons to move the file up or down.

Only Axiom-managed Excel files are valid to be processed in the task.

Selecting a document using a file group alias

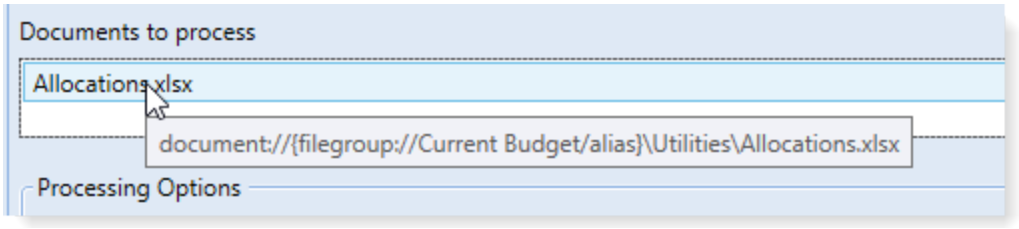
You may want to specify the document to process using a file group alias, so that the task does not have to be manually updated after rolling over to a new file group for a new year of planning. When you are selecting a document in the Axiom Explorer dialog, you can expand the file group alias to see all of the files in the current target of the alias.

For example, in the following screenshot, the file group alias Current Budget is expanded. Because the alias currently points to the file group Budget 2018, the folders and files under the alias are from Budget 2018. When you select a file or folder, you can see the real file path in the top of Axiom Explorer.



Selecting a document to process using a file group alias

When you select a document underneath an alias, the file path is written using alias syntax, so that the Scheduler task will look for the document within the current target of the alias. This path is visible in the tooltip that displays when you hover your cursor over a selected document.



File path using file group alias syntax

When the file group alias is updated to point to a new file group, the Scheduler task will use the file in the new file group automatically. If the file does not exist in the new file group, the task will fail with an error.

Processing Options

By default, both options are selected. Axiom queries are refreshed before the save-to-database occurs.

If neither option is selected, then the files are calculated and then saved.

Item	Description
Perform all enabled Axiom Queries in selected workbooks	If this option is selected, then all eligible Axiom queries in all selected files will be refreshed when the task is run. This option is selected by default. Axiom queries are eligible for processing if they are active and use either of the following refresh behaviors: **Refresh on File Open** and **Refresh During Document Processing**.
Enable iterative calculation while processing	Specifies whether iterative calculations are enabled for the file during processing. In most cases you will leave this option disabled. If this option is selected, then iterative calculations are enabled for the file during the Axiom query refresh process. The iterative calculation settings are fixed at a maximum of 100 iterations and a maximum change value of .001. For more information on iterative calculations, see the Microsoft Excel Help.
Save document after processing	If selected, then files will be saved after processing. This option is selected by default. The user executing the task must have Read/Write access to the files. This option does *not* cause a save-to-database to be performed—that option must be selected separately. **NOTE:** If this option is not selected, then the utility will open the file as read-only and will not attempt to acquire the document lock before processing.
Run Save To Database on plan files after processing	If selected, then a save-to-database will be performed after processing. This option is selected by default. The user executing the task must have the Allow Save Data permission to the files. This option does *not* cause the file itself to be saved—that option must be selected separately. It is not required to save the file in order to perform a save-to-database.
Process alerts in selected workbooks	If selected, then alerts in the file will be processed. The file must contain an Alert Control Sheet and one or more alerts must be defined in the file. If Axiom queries are enabled for processing as well, the queries will be run before alerts are processed.

Pre-Processing Document Variables

This section can be used to pass document variables into the target files before processing. This can impact processing if the files are configured to use the variable values in some way, such as to filter an Axiom query.

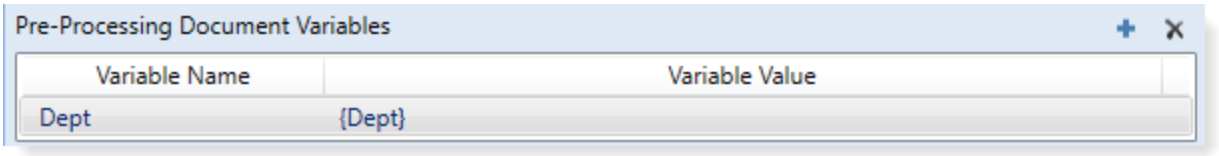
For each pre-processing document variable, you can specify a variable name and a variable value. The target file must be set up with GetDocumentInfo functions that return the values for the specified variables.

- To add a variable, click the Add button to add a row to the list. Complete the settings for the variable as described below.
- To remove a variable, select the variable in the list and then click the Remove button. Only one variable can be selected at a time.

To edit the variable settings, double-click the applicable cell to make the cell contents editable. When you are finished editing, you can press the Enter key or Tab key to exit the cell, or click outside of the cell.

Item	Description
Variable Name	The name of the variable. Do not enclose the variable name in curly brackets (you are not *using* the variable here, you are defining its value).
Variable Value	The value of the variable. The value can be a "hard-coded" value, or it can be a job variable that will be resolved at time of processing. If you use a job variable to define the value, the job variable must be enclosed in curly brackets.

The following example screenshot defines the value for the document variable Dept. The value is defined using the value of a Scheduler job variable `{Dept}`. A value for Dept can be passed into the Scheduler job when the job is started, and then passed into the target file using the document variable.



Pre-Processing Workbook Variables

This section can be used to pass values into the file before processing. This can impact processing if the files are configured to use the values in some way. For each pre-processing variable, you can specify a workbook location to place the value, and the value to be placed.

NOTE: The specified value will be placed in all files listed to process. Therefore, unless all files are set up to use the same location and the same way of deriving the value, you will need to create a separate Process Document List task for each file. If you are not using pre-processing variables, then this does not matter.

- To add a variable, click the Add button to add a row to the list. Complete the settings for the variable as described below.
- To remove a variable, select the variable in the list and then click the Remove button. Only one variable can be selected at a time.
- To change the order of variables, select the variable in the list and then click the arrow buttons to move the variable up or down.

To edit the variable settings, double-click the applicable cell to make the cell contents editable. When you are finished editing, you can press the Enter key or Tab key to exit the cell, or click outside of the cell.

Item	Description
Workbook Location	The location in the workbook for the value to be placed. Any existing value in this location will be overwritten for the duration of the processing. If the file is saved as part of the processing, the value will be saved in the file. The location can be specified using *SheetName*!*CellRef* syntax (for example: Report!A13), or by using a named location in the file.
Formula	The value to be placed in the specified workbook location. The value can be a "hard-coded" value, or a formula, or a job variable that will be resolved at time of processing. If the value is a formula, the formula is placed into the target cell and calculated in the target file. The formula can be any formula that would be valid within a spreadsheet in the Axiom client. This includes using Excel functions and Axiom functions. The formula can also use job variables, which will be resolved before placing the formula in the target cell.

Post-Processing Workbook Variables

This section can be used to pass a value from the file back to Scheduler after processing has been performed. This can impact the processing of subsequent tasks in the job if those tasks are configured to use the value in some way. For each post-processing variable, you can specify the location in the workbook to find the value, and the job variable to use that value.

NOTES:

- If this task processes multiple documents, the resulting variable value will be from the last document processed.
- If the task is run as a sub-job, then the post-processing variable is not passed back to the "parent" job. The task must be executed as a regular task within the job in order to pass the variable value back to the job.

- To add a variable, click the Add button to add a row to the list. Complete the settings for the variable as described below.
- To remove a variable, select the variable in the list and then click the Remove button. Only one variable can be selected at a time.
- To change the order of variables, select the variable in the list and then click the arrow buttons to move the variable up or down.

To edit the variable settings, double-click the applicable cell to make the cell contents editable. When you are finished editing, you can press the Enter key or Tab key to exit the cell, or click outside of the cell.

Item	Description
Workbook Location	The location in the workbook to find the value to be passed to Scheduler. This value will become the value for the assigned job variable for the duration of executing the current job (unless a later process within the same job overwrites the value for the same job variable). The location can be specified using `SheetName!CellRef` syntax (for example: `Report!A13`), or by using a named location in the file.
Job Variable	The job variable that you want to use the value in the specified workbook location. Do not enclose the variable name in curly brackets (you are not *using* the variable here, you are simply referencing the variable name). If the job variable does not already exist in the job (on the **Job Variables** tab), then it will be created when the job is executed. However, in most cases you will want the variable to be already set up with a default value, so that the job does not have validation errors that prevent saving.

Process Template List task

This task processes a user-defined list of file group templates. During processing, any Axiom queries with **Refresh during template processing** enabled are executed and time-stamped, and then the template files are saved.

The primary purpose of this task is to enable use of *time-stamped Axiom queries* with virtual plan files. Because virtual plan files are re-created from template each time they are accessed, Axiom queries cannot be time-stamped within the plan files. Virtual plan files can use the time stamp from the template, but under normal circumstances, Axiom queries are not time-stamped when they are run in templates. However, when Axiom queries are run during template processing, the **Last refresh time** for the query is updated, which means that the queries can be configured to only run if the primary table has changed.

To use this task to enable time-stamped Axiom queries for virtual plan files, do the following:

- In the template, enable **Refresh only if primary table changed since last refresh** and **Refresh during template processing** for the Axiom queries that you want to be time-stamped.

- In Scheduler, create a job with a **Process Template List** task and add the template to the task. Define a scheduling rule for the job as appropriate. For example, you might want the template to be processed nightly.

When the template is processed, the designated Axiom queries will be run if the primary table has changed, and the time stamps are updated. When a virtual plan file that uses this template is opened, the queries will not be run again if the primary table has not changed.

This task should only be used to process Axiom queries that meet the requirements of time-stamped queries.

Templates to process

Specify the templates to be processed when the task is run. Templates are processed sequentially in the order listed. If you have multiple templates to process (in the same or different file groups), you can run them all in the same task.

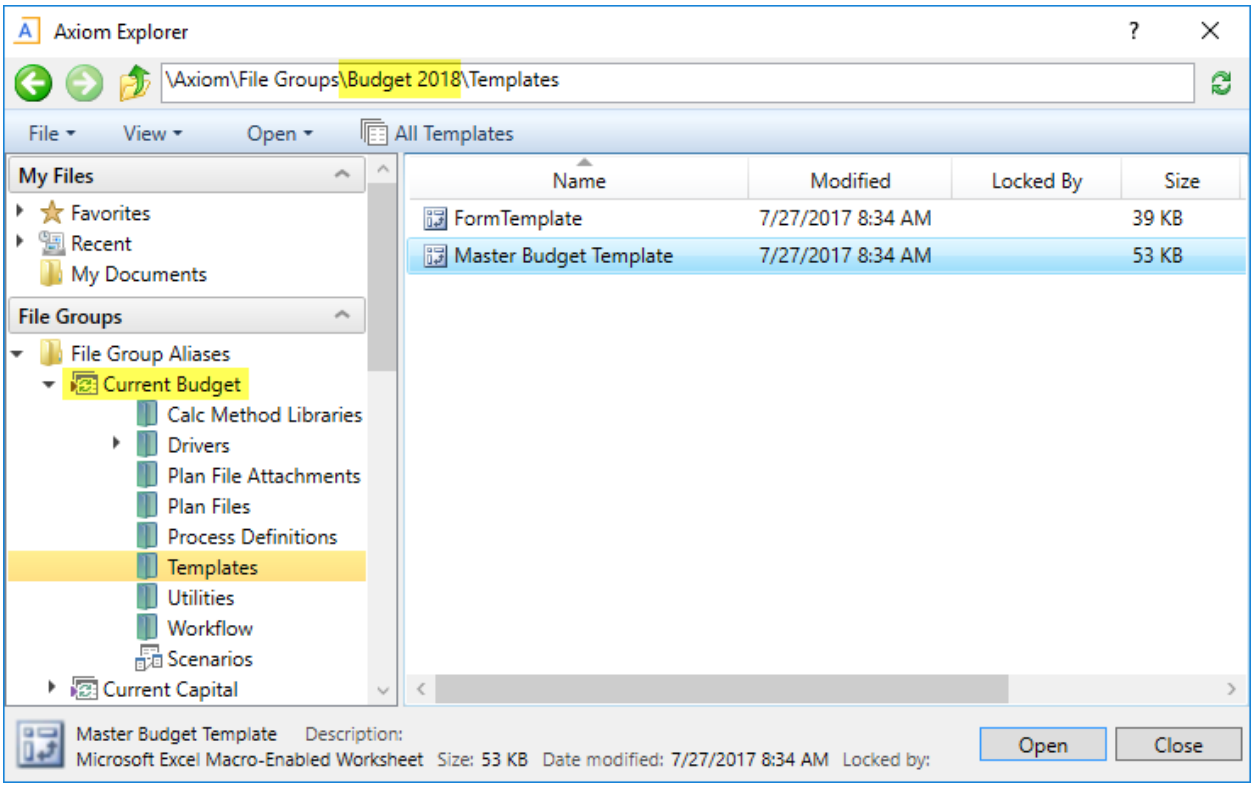
- To add a template, click the Add button. In the **Axiom Explorer** dialog, select the file or files that you want to add, and then click **Open**.
- To remove a template, select the file in the list and then click the Remove button. Only one file can be selected at a time.
- To change the order of templates, select the file in the list and then click the arrow buttons to move the file up or down.

Normal template behavior rules apply during processing. For example, save-to-database and action codes are not run in templates. The only exception to normal template behavior during this task is that any executed Axiom queries will be time stamped.

Selecting a template using a file group alias

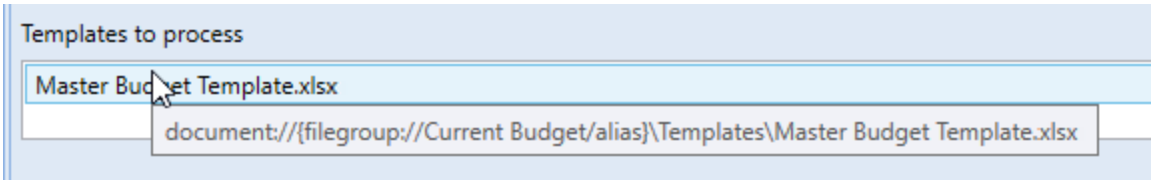
You may want to specify the template to process using a file group alias, so that the task does not have to be manually updated after rolling over to a new file group for a new year of planning. When you are selecting a template in the Axiom Explorer dialog, you can expand the file group alias node to see all of the files in the current target of the alias.

For example, in the following screenshot, the file group alias Current Budget is expanded. Because the alias currently points to the file group Budget 2018, the folders and files under the alias are from Budget 2018. When you select a file or folder, you can see the real file path in the top of Axiom Explorer.



Selecting a template to process using a file group alias

When you select a template underneath an alias, the file path is written using alias syntax, so that the Scheduler task will look for the template within the current target of the alias. This path is visible in the tooltip that displays when you hover your cursor over a selected template.



File path using file group alias syntax

When the file group alias is updated to point to a new file group, the Scheduler task will use the file in the new file group automatically. If the file does not exist in the new file group, the task will fail with an error.

Purge System Data task

The Purge System Data task is intended to clean up old data in your system, to help keep your system running efficiently.

NOTE: Scheduler automatically creates a system job for this task (System.SystemDataPurge), which administrators can edit as needed.

This task purges the following data when it is run:

- Scheduler job result history
- Scheduler and system email notifications
- System temp table data
- Audit history
- Alerts

For each category of data, you can specify a number of days of data to keep when the task is run. All results older than the specified number of days will be deleted. Note that 0 days means that no data is purged for that category.

Section	Item	Description
Scheduler Results	Number of days to keep result history	The number of days of job result history to keep when the task is run. By default, this is set to 15 days.
SMTP Messages	Number of days to keep delivered messages and attachment data	The number of days of delivered message data to keep when the task is run. By default, this is set to 15 days.
Temporary Tables	Number of days to keep temp table data	The number of days of temp table data to keep when the task is run. By default, this is set to 15 days.
Audit History	Number of days to keep system history	The number of days of system audit history to keep when the task is run. By default, this is set to 15 days. "System history" encompasses all audit data—including prior document versions and deleted documents—except table audit data.
Table History	Number of days to keep table history	The number of days of table audit history to keep when the task is run. By default, this is set to 15 days. Table audit data is tracked for tables where **Audited** is set to **True**.
Alerts	Number of days to keep alerts	The number of days of alerts to keep when the task is run. By default, this is set to 60 days.

Job variables can be used in all of these settings.

Each purge routine in the task is limited to purging a specific number of rows at a time (50000). If the number of rows to be purged exceeds this limit, then the excess data is retained until the next time the task is run. If you notice data in the database that you expected to be purged, most likely the amount of data to be purged exceeded the limit, and the data will be purged next time the task is run.

Other purged data

This task also cleans up the following items in your system:

- Deleted columns. When a column is deleted from a table in Axiom Financial Planning, the column is immediately deleted from the associated view (which prevents it from being accessed in the system), but it remains in the base table. This task finishes the process of removing obsolete columns from the base tables.
- Orphaned user folders. If the system contains any user folders that do not match up with existing users, these folders are deleted. Although user folders are deleted when a user is deleted from security, orphaned user folders can result from other processes, such as migrating a system between different management databases.

These items are not associated with any specific task settings; the delete process is performed whenever the task is executed.

Raise Event task

The Raise Event task can be used to trigger other Scheduler jobs for execution, using a named event handler. This task has one required setting:

Item	Description
Event Name	Enter the name of the event that you want to raise for execution. This name must match a defined event handler name in one or more other Scheduler jobs. When this task is run, it looks for any jobs that contain the specified event handler name. These jobs are added to the schedule and are eligible to be processed immediately, depending on Scheduler thread availability and any other higher-priority jobs already in the queue.

Event Variables

This section can be used to pass variables into the jobs triggered by the event handler. If the jobs are configured to use the variables, these values can impact how the jobs are processed.

- To add a variable, click the Add button to add a row to the list. Complete the settings for the variable as described below.
- To remove a variable, select the variable in the list and then click the Remove button. Only one variable can be selected at a time.

For each variable, you can specify a variable name and a variable value. To edit the variable settings, double-click the applicable cell to make the cell contents editable. When you are finished editing, you can press the Enter key or Tab key to exit the cell, or click outside of the cell.

Item	Description
Variable Name	The name of the variable. Do not enclose the variable name in curly brackets (you are not *using* the variable here, you are defining its value).
Variable Value	The value of the variable. The value can be a "hard-coded" value, or it can be a job variable that will be resolved at time of processing. If you use a job variable to define the value, the job variable must be enclosed in curly brackets.

Run Excel Macro task

This task runs an Excel macro on an Axiom file.

NOTE: This task is no longer supported because it requires Excel processing on the Scheduler server. It is still available on the task list, but cannot be executed.

Please contact Axiom Financial Planning support if you need assistance with this task.

Item	Description
Workbook Path	The path and name of the file to run the macro on. You can click the **Browse** button to navigate to the file.
Macro Name	The name of the macro to run.
Macro Arguments	If the macro takes arguments, you can enter the argument values here. Click **Add** to add an argument, **Remove** to delete the selected argument, or **Clear** to clear all arguments.

Job variables can be used in all of these settings.

Run Scheduler Job task

This task runs a specified Scheduler job as a subordinate job within the current job. The job containing the Run Scheduler job task is the parent job, and the target job for the task is the child job.

By default, the parent job waits until the child job is complete before continuing to the next task in the parent job. This means that tasks after the Run Scheduler Job task can be reference the results of the child job. For example, the child job may perform a save-to-database. The subsequent tasks in the parent job can access the data saved by the child job.

Task Control options

When you create the Run Scheduler Job task, the options in the **Task Control** section are pre-set as follows:

- The option **Create a Subordinate Job for this Task** is grayed out. This is because the target job is always run as a subordinate job.
- The option **Wait for all Subordinate Jobs to complete before proceeding to the next Task** is enabled by default. This means that tasks after the Run Scheduler Job task can be dependent on the target job and reference the results of that job. If you disable this option, then the parent job will continue to the next task in the job immediately after creating the subordinate job—it will not wait for the subordinate job to complete.

Keep in mind that it is not possible to stop processing tasks in the parent job based on the success or failure of the child job. Although Scheduler jobs automatically stop processing if a task fails, the task in this case is just the Run Scheduler Job task. As long as the child job can be successfully added to the Scheduler queue for processing, the Run Scheduler Job task will report success. The ultimate success or failure of that child job is not reported back to the parent job—the parent job only knows when the child job is started and then stopped.

If needed, you can use the option **Process task only if the value of this expression is true** to detect whether a subsequent task in the parent job should be processed. For example, if you know that the child job saves a particular value to the database, you can check for the existence of that value to determine whether to process the task. For more information on using this option, see Conditionally processing tasks in a job.

Target Scheduler job

In the **Task Details** section, use the Browse button to select the target **Scheduler Job**. You can select any job that you have access to in the Scheduled Jobs Library.

When the Run Scheduler Job task is executed, it creates one or more subordinate jobs as needed to execute the tasks in the target Scheduler job. As long as **Wait for all Subordinate Jobs to complete before proceeding to the next Task** remains enabled in the Task Control options, the parent job waits for all subordinate jobs to be completed before moving on to the next task in the parent job.

NOTE: The user executing the job does not need to have security access to the target Scheduler job for Run Scheduler Job. It is assumed that if the user can execute the parent job, the user should be able to execute the target job.

Child Job Values

If the target job for the Run Scheduler Job task has defined job variables, those variables and their default values are listed in this section. The default values are determined as follows:

- If the parent job and the child job have a variable with the same name, the default value is the

value defined in the parent job. This value will be passed to the child job and used when the child job is run.

- Otherwise, the default value is the value defined in the child job.

To override a variable value, select the **Override** check box and then click inside the **Override Value** field to enter a value. You can enter a hard-coded value or use a job variable from the parent job. Enter the variable name in curly brackets to use that variable's value as the override value.

For example, imagine that both the parent job and the child job have a variable of `{Dept}`. In the parent job, the value of `{Dept}` is set to 20000, and in the child job the value is set to 40000. The Run Scheduler Job task will display the parent value of 20000 as the default value, and that value will be used when the child job is executed.

Now imagine that the parent job has a variable of `{StartDept}` set to 20000, and the child job has a variable of `{Dept}` set to 40000. In this case, the Run Scheduler Job task will display the value of `{Dept}` as defined in the child job (40000). If you want to use the parent job value for `{StartDept}` instead, then you must select the Override check box and enter `{StartDept}` as the Override Value. Now the value of `{Dept}` in the child job will be overridden and set to 20000.

SMTP Message Delivery task

This task delivers email notifications for Scheduler jobs.

NOTE: Scheduler automatically creates a system job for this task (System.SMTPMessageDelivery), which administrators can edit as needed.

Item	Description
Server name	The server name of the SMTP email server.
Port number	The port number for the SMTP email server. By default, the port is 587, but you can specify a different port number if needed.
Server requires authentication	Select this check box if the SMTP email server requires authentication. If selected, type a **Username** and **Password**.
Test Mode	Specifies whether the task is run in test mode. If this check box is selected, the task verifies that it can successfully connect to the SMTP server to send email notifications, but no emails are actually sent. For the System.SMTPMessageDelivery job, new systems are automatically set to test mode. If you restore a database, the restore process also sets the system job to test mode. You must disable test mode before any emails will be sent.

Start Process task

This task starts a process for Process Management. You can use this task to automatically start a process at a specific point in time, including recurring schedules (such as to automatically start a monthly process).

This task can be used to start a generic process definition or a plan file process definition.

Item	Description
Process to start	The process definition to start. Click the **Browse** button to select the process definition file. You can select any process definition in the Process Definition Library or in a file group Process Definitions folder.
Restart process if it is already running	Specifies whether the Scheduler task will restart the process if it is already running, or if the process will be left as is. • Select this option if you want to start the target process regardless of whether it is already running. The current process instance will be aborted and a new process instance will start over at step 1. This option is selected by default. • Clear this option if you want to leave the existing process instance running. In this case, the Scheduler task will take no action if the target process is already running.

Scheduler tasks for database maintenance

Scheduler provides several built-in tasks that are intended for database maintenance. By default, these tasks are included in the System.IndexMaintenance job, which runs regularly to maintain your database. However, these tasks can also be added manually to jobs as needed to perform additional database maintenance.

The following database maintenance tasks are available:

- **Rebuild Database Indexes** task
- **Update Database Statistics** task
- **Update Indexes and Constraints** task

All of these tasks are predefined versions of the **Execute SQL Command** task. You can use the **Source Axiom Database** field to specify whether the task is executed against the system database or the audit database.

For the **SQL Command Text**, the actual SQL code used by each task is generated automatically by Axiom Financial Planning when the task is executed. This ensures that the tasks always use the most current SQL code for each task as defined by Axiom Financial Planning.

Security

All users of Axiom Financial Planning must be defined within Security. Within Security, you can:

- Manage users and roles
- Control user access by file group
- Control user access to data in the database
- Control user access to specific features
- Control user access to data imports
- Control user access to files and folders
- Specify files to open on system startup

Security Overview

Using Axiom Financial Planning Security, you can create users and roles, and assign access rights. This section explains how security is applied in Axiom Financial Planning.

Users can be created manually within Axiom Financial Planning, or you can import them from Active Directory. Once a user account is created, you must define the permissions for that user, at the user level or at the role level (or both). The security permissions determine which files, features, and data that the user can access within the Axiom Financial Planning system.

The following users can access and manage security:

- Users designated as a system **Administrator**. Administrator users have full rights to all areas of the system, including security.
- Users who are granted the **Administer Security** permission. Administer Security users have full rights to security, except for a few features which are limited to administrators-only.
- Users who are assigned as a **Subsystem Admin** for a subsystem. Subsystem administrators can manage users and roles within the subsystem.

Users and roles

To streamline security settings, you can define a number of roles, and then assign users to those roles. Users inherit the security settings defined for their assigned roles. Additionally, Axiom Financial Planning provides a built-in Everyone role, for security settings that apply to all users.

Systems with installed products may also have roles that are designed for use with the product. These roles are product-controlled and delivered with the product. For example, a system with the Capital Planning product may have roles for Capital Planning Admin and Capital Planning User. You can assign users to these roles based on the level of permissions they need to the product.

The specific way that security settings are inherited depends on the type of setting. Generally, roles grant permissions, they do not deny permissions. For more information, see How role settings are applied to users.

Authentication behavior

There are several options to authenticate users into Axiom Financial Planning. The basic authentication type is Axiom Prompt authentication, which means that users will be prompted for an Axiom user name and password each time they want to access Axiom Financial Planning.

If desired you can use an integrated authentication option instead, which means that users are authenticated based on certain supported external credentials—such as the user's Windows domain credentials or LDAP credentials. These options are typically enabled and configured during the installation of Axiom Financial Planning. For more information, see Axiom Financial Planning can integrate with your organization's existing network security. You can:.

Security subsystems

If desired, you can create security subsystems and assign users to subsystems. Subsystems allow you to:

- Define a maximum level of permissions for a subset of users. Any user that is assigned to the subsystem cannot be granted rights that exceed the subsystem rights.
- Assign a user as a subsystem administrator, so that the user can manage security permissions for the users and roles that belong to the subsystem.

In systems with installed products, subsystems are used to control access to specific products. These subsystems are product-controlled and delivered with the product. For example, you may have subsystems for Capital Planning and Budget Planning. You can assign users to subsystems based on the specific products they should be able to access.

For more information, see Security Subsystems.

The Security Management dialog

All security settings for Axiom Financial Planning are controlled in the **Security Management** dialog. To access this dialog:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Security Manager**.

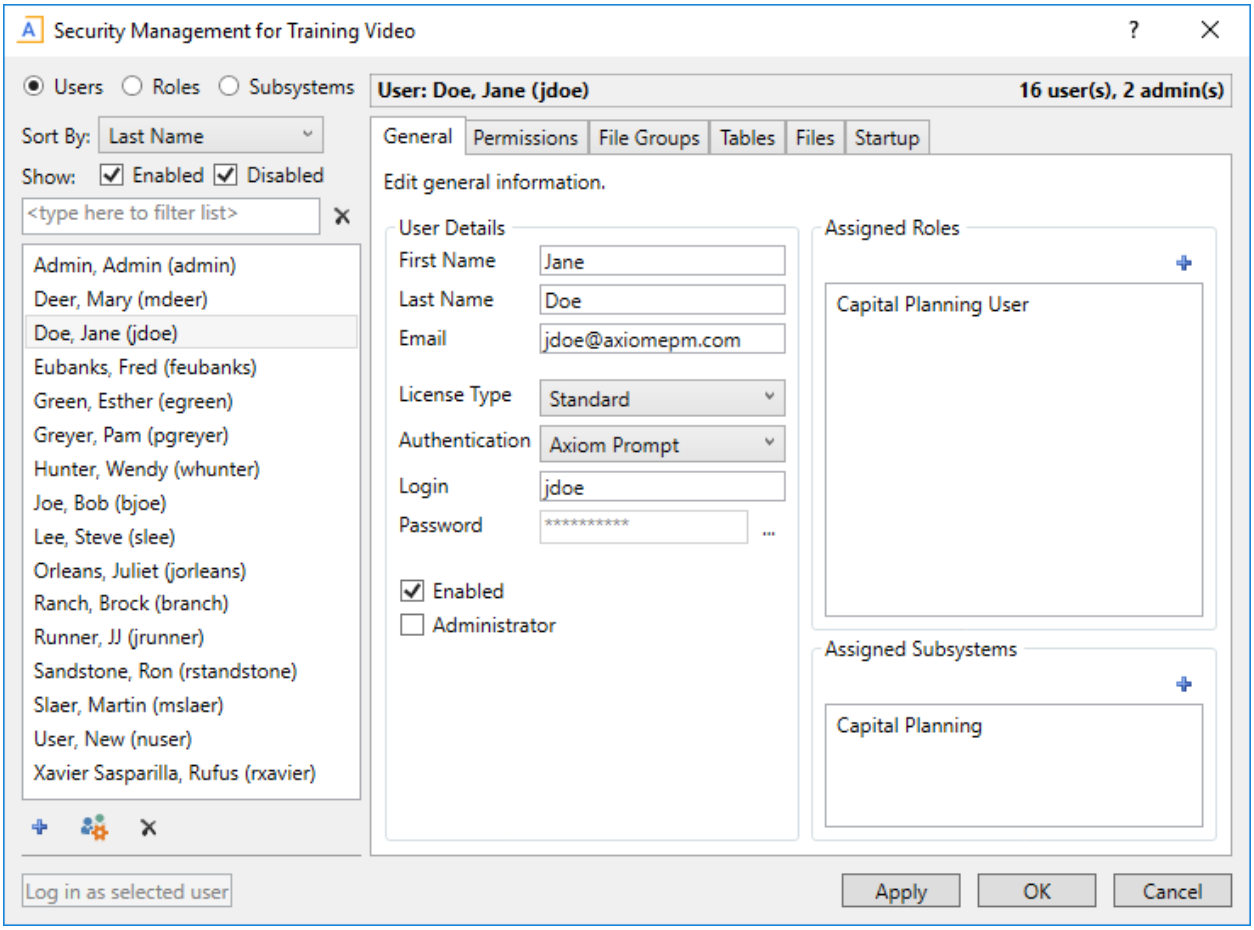
  NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Security Manager**.

Only users with the following permissions can access the Security Management dialog:

- System administrators
- Users with the **Administer Security** permission
- Users assigned as a subsystem administrator

Viewing users, roles, and subsystems

Users, roles, and subsystems are listed in the left-hand side of the dialog. To switch between items, select one of the radio buttons at the top of the dialog. By default, users are displayed.



- You can sort the user list by last name, first name, and login name. To change the sort, select the desired option from the **Sort By** list. By default, the list is sorted by last name.
- To search for a particular user, role, or subsystem, type the name into the search box at the top of the list. To clear the search, click the **Clear filter** icon ✕ to the right of the search box. Note that this will search the user's login name as well as first and last name.
- To show or hide users by their enabled status, use the **Enabled** and **Disabled** check boxes. By default, both check boxes are selected which means that all users are shown (enabled and disabled).

When a user, role, or subsystem is selected in the list, the settings for that item display in the right-hand side of the dialog, organized by tabs.

TIP: You can double-click on any user, role, or subsystem name listed in the Assigned Users / Assigned Roles / Assigned Subsystems sections to open that record.

NOTE: Subsystems are optional in systems without installed products. Subsystem features are only available if you have enabled them using the system configuration settings.

Editing security

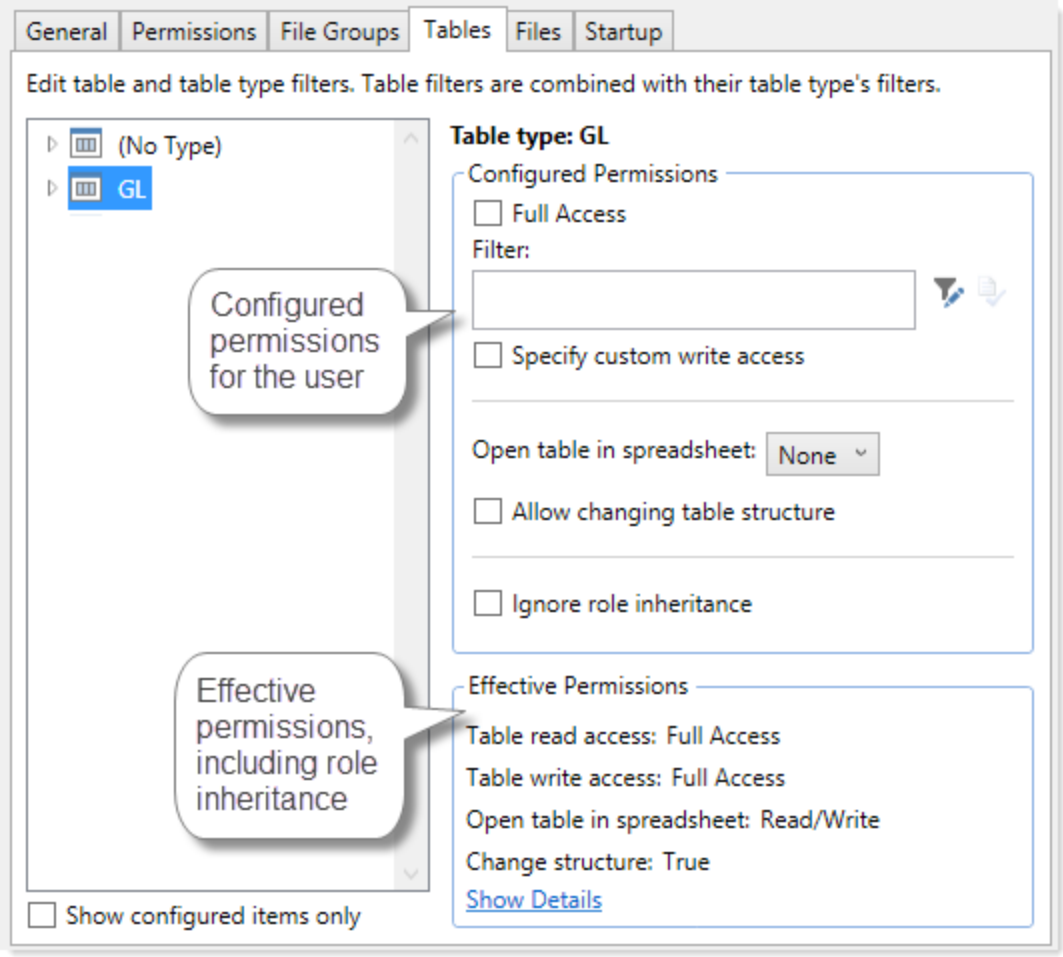
Changes made in the Security Management dialog are reflected in "real-time" within the dialog. If a required setting is missing, a validation message appears in the bottom left of the dialog. You can click on the message to be taken to the applicable setting. This issue must be resolved before you can save any changes.

At any time you can save changes by clicking **Apply** (to leave the dialog open) or **OK** (to close the dialog). In most cases, changed security permissions will be effective within seconds of being saved; the user does not need to log out and log back in before changes are applied.

Effective permissions

Several tabs of the Security Management dialog, such as the **File Groups** tab and the **Tables** tab, display the effective permissions for the user. This is the permission that the user has after applying all of the relevant security settings, including inherited role permissions, subsystem restrictions, and administrator permissions. This allows you to understand exactly what permission the user has.

For example, if you select a table type or a table in the Tables tab, the **Configured Permissions** section displays what permissions have been granted at the user level, and the **Effective Permissions** section displays the actual access rights of the user. In the following example screenshot, although the user herself has no configured access to the table type, her effective permission is full access. This means that either the user is assigned to a role with full access to the table type, or the user has been granted administrator rights. You can see exactly which rights contribute to the effective permissions by clicking the **Show Details** link.



Example effective permissions

As edits are made in the dialog, those changes are reflected in the effective permissions immediately. For example, if you grant a user permission to **Administer Imports**, and then switch to the **Files** tab, the effective permissions for the Imports Library will reflect that the user has full permissions to all imports, even though the change has not yet been saved.

Managing Users and Roles

All users of Axiom Financial Planning must be defined within security. Users can be assigned access rights on an individual basis, and/or they can be assigned to specific roles and inherit the rights of the role.

The total number of active users that can be defined for your implementation depends on your license agreement with Kaufman Hall. If you have any questions, please contact Axiom Support for assistance.

The total number of available licenses and currently active users are displayed in the upper right-hand corner of the **Security Management** dialog. This area also displays the total number of users who have been granted administrator rights. For example: **20 of 25 licenses in use, 3 admins**.

NOTE: In addition to the Security Management dialog, you can also manage users and roles in bulk via a spreadsheet interface. For more information, see Bulk edit of security.

Axiom Financial Planning user roles

You can assign each user in Security to one or more roles to define the user's security permissions. Generally speaking, the permissions of each assigned role are combined with any user permissions to result in the most permissive set of rights available to the user. There are some exceptions. For more information, see How role settings are applied to users.

You can assign users to roles from the user record or from the role record. Users have an Assigned Roles section that lists their assigned roles. Roles have an Assigned Users section that list their assigned users.

NOTE: Access to integrated products depends on your system's integrations. For example, if your system is integrated with Axiom Capital Planning, system users may have access to additional tables and files not listed in the following role descriptions.

All users are automatically assigned the Axiom Everyone role. This role provides access to the Axiom platform functions with which Axiom Financial Planning is integrated. All Axiom Financial Planning users are given this role by default when they are added to Axiom Financial Planning if they do not already have this role from having access to another Axiom product. For information on the type of access this role provides, see The Everyone role.

The standard available roles in Axiom Financial Planning include the following:

Financial Planning User

This is the baseline role in Axiom Financial Planning. This role grants end-user level access to plan files and reports. Access privileges are detailed in the following table.

Tab	Access to
Permissions	None
File Groups	Financial Planning (year) – • Create plan files, create new records, run Axiom queries • Plan files – Read/Write, save data, insert calc methods

Tab	Access to

Tables	• Dimensions >
	  ◦ MODEL – OTIS: Read
	  ◦ MODEL(year) – OTIS: Read
	• FinancialPlanning – Full Access, OTIS: None
	  ◦ FPDefaults – R/W, OTIS: None
	  ◦ Medians – R/W, OTIS: None
	• FinPlan Custom Data – Full Read access

Files > Reports Library	• Financial Planning Reports – Read Only, with show in Explorer, save data, process files
	• Financial Planning Utilities >
	  ◦ Everyone – Read Only, with save data
	  ◦ Other Utilities – Read Only
	• System Files >
	  ◦ Documents > User > Financial Planning – Read Only, with show in Explorer
	  ◦ Forms > Financial Planning – Read Only, with save data
	  ◦ FP Drills – Read Only
	  ◦ Home Files > Financial Planning – Read Only, with show in Explorer

Files > Scheduler Jobs Library	Financial Planning – Read Only
Files > Task Panes Library	Financial Planning – Read Only **Exception:** No Access to Financial Planning Admin pane
Files > Ribbon Tabs Library	Read Only
Files > Process Definition Library	Financial Plan Processes – Read Only
Files > File Groups	Financial Planning (year) – • Drivers – Read Only, with save data • Process Definitions – Read Only • Templates – Read Only, with save data • Utilities – Read Only, with save data

Financial Planning Admin

This role grants the user access to the Admin ribbon tab, the FP Admin task pane, as well as

administrative rights to all file groups, reports, and utilities for Axiom Financial Planning. Access privileges are detailed in the following table.

Tab	Access to
Permissions	• Administer Axiom Explorer • Administer Exports • Administer File Groups • Administer Imports • Administer Locked Items • Administer Tables • Browse Audit History • Scheduled Jobs User • User Documents Folder Access
File Groups	Financial Planning (year) – • Modify file group, create plan files, create new records, process plan files, run Axiom queries • Plan Files – Read/Write, with save data, unprotect files, use Sheet Assistant, insert calc methods
Tables >	• No Type – ◦ JobCodeSummary – Read/Write, OTIS: None ◦ MRtoFP (if integrated) – Read/Write, OTIS: None ◦ RFtoFP (if integrated) – Read/Write, OTIS: None ◦ TransferToFPOptions – Read/Write, OTIS: None • Dimensions > ◦ CODE – OTIS: Read ◦ MODEL– OTIS: Read/Write ◦ MODEL(year) – OTIS: Read/Write ◦ NODE – OTIS: Read/Write ◦ NODE (year) – OTIS: Read ◦ PAYOR – OTIS: Read/Write ◦ SCENARIO – OTIS: Read/Write ◦ SCENARIO (year) – OTIS: Read/Write • FinancialPlanning – Full Access, OTIS: Read/Write > ◦ FPDefaults – Full Access, OTIS: Read/Write ◦ Medians – Full Access, OTIS: Read/Write • FinPlan Custom Data – Full Access, OTIS: Read/Write

Tab	Access to
Files > Reports Library	• Financial Planning Reports – Read Only (except as noted in Exception), with show in Explorer, save data, unprotect files, use Sheet Assistant, process files **Exception:** ◦ _My Reports – Read/Write • Financial Planning Utilities – Read Only (except as noted in Exceptions), with show in Explorer, save data, unprotect files, use Sheet Assistant, process files **Exceptions:** ◦ _My Utilities – Read/Write, with show in Explorer, save data, allow unprotect, use Sheet Assistant, process files ◦ Report Distribution > SourceFiles – Read/Write, with show in Explorer ◦ Report Distribution > Security Setup – Read Only, with show in Explorer, save data, allow unprotect • System Files > ◦ Dashboards > FP – Read Only, with show in Explorer, save data, allow unprotect, use Sheet Assistant, process files ◦ Dimension Maintenance > Dimension Maintenance – Read Only, with show in Explorer, save data, process files ◦ Documents > Admin > Financial Planning – Read Only, with show in Explorer ◦ Documents > User > Financial Planning – Read Only, with show in Explorer ◦ Forms > Financial Planning – Read Only, with save data ◦ FP Drills – Read Only ◦ Home Files > Financial Planning – Read Only, with show in Explorer, save data ◦ Home Files > Home, HomePage, HK – Read Only, with show in Explorer, save data ◦ Home Files > StandardHome – Read/Write, with show in Explorer ◦ Images – Read Only ◦ Suite Variables – Read/WRite, with show in Explorer, save data
Files > Scheduler Library	Financial Planning – Read Only, with show in Explorer
Files > Exports Library	Financial Planning – Read/Write, with show in Explorer, Execute
Files > Imports Library	Financial Planning – Read/Write, with show in Explorer, Execute

Tab	Access to
Files > Task Panes Library	• Financial Planning – Read Only • Suite – Read Only
Files > Ribbon Tabs Library	Read Only, with access to Admin tab
Files > Process Definition Library	Financial Planning – Read/Write, with show in Explorer
Files > Data Diagrams Library	Financial Planning – Read Only, with show in Explorer
Files > File Groups	Financial Planning (year) > • Drivers – Read/Write, with show in Explorer, save data, process files • Process Definitions – Read/Write with show in Explorer • Templates – Read Only, with show in Explorer • Utilities – Read/Write, with show in Explorer, save data, process files

Managing users

Using the **Security Management** dialog, you can create new users, edit existing users, and delete users. To access this dialog:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Security Manager**.

  NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Security Manager**.

To work with users, make sure that **Users** is selected in the top left-hand corner of the dialog. To save changes, click **Apply** (or **OK** if you are finished editing security settings).

NOTE: Subsystem administrators can only work with users that belong to their assigned subsystem. The user list is filtered to only show these users.

Creating users

You can create a new blank user, or you can clone the settings of an existing user. If you clone a user, all of that user's settings are copied to the new user, except for unique personal information (name, email, login, password).

To create a user, click one of the following buttons located underneath the user list:

- To create a new blank user, click **Create user** ✚.
- To clone an existing user, select that user in the list and then click **Clone user**.

The new user is added to the list. You can define the security settings for the new user as desired, including assigning the user to one or more roles.

If you are a subsystem administrator, then all users that you create must belong to a subsystem. If you are an administrator for only one subsystem, then any new users are automatically added to that subsystem. If you are an administrator for multiple subsystems, then the user is automatically assigned to one of the subsystems—you can later change the assignment as needed.

Editing user properties

To edit user properties, select a user from the **Users** list, then make any changes to that user. Changes to user settings are applied to that user when the changes are saved.

Deleting users

IMPORTANT: If a user has made any changes to the system or data, deleting the user will have implications on auditing. In order to comply with SOX, HIPAA, and other protocols for standard security practices, it is strongly recommended to *disable* existing user records instead of deleting them. Generally speaking, a user record should only be deleted if it is newly created and has not been used.

To delete a user, select a user from the **Users** list, then click **Delete user** ✕. You are prompted to confirm that you want to delete the user.

If you delete a user, that user is removed from Axiom Financial Planning security entirely. Alternatively, you can disable a user if you want to keep the user record, but prevent the user from accessing Axiom Financial Planning. On the **General** tab, clear the **Enabled** check box.

When a user is deleted, the user's associated user folders in `\Axiom\Axiom System\User Folders` are also deleted (such as My Favorites and My Documents) .

NOTE: Only Axiom Support users can delete other Axiom Support users.

Managing roles

Using the **Security Management** dialog, you can create new roles, edit existing roles, and delete roles. To access this dialog:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Security Manager**.

NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Security Manager**.

To work with roles, select **Roles** in the top left-hand corner of the dialog. To save changes, click **Apply** (or **OK** if you are finished editing security settings).

NOTE: Subsystem administrators can only work with roles that belong to their assigned subsystem. The role list is filtered to only show those roles.

Creating roles

You can create a new blank role, or you can clone the settings of an existing role. If you clone a role, all of that role's settings are copied to the new role, including assigned users.

To create a role, click one of the following buttons located underneath the role list:

- To create a new blank role, click **Create role** +.
- To clone an existing role, select that role in the list and then click **Clone role**.

The new role is added to the list. You can define the security settings for the new role as desired, and you can assign users to the role.

If you are a subsystem administrator, then all roles that you create must belong to a subsystem. If you are an administrator for only one subsystem, then any new roles are automatically added to that subsystem. If you are an administrator for multiple subsystems, then the role is automatically assigned to one of the subsystems—you can later change the assignment as needed.

Editing roles

To edit a role, select a role from the **Roles** list, then make any changes to that role. Changes to role settings are applied to users who are assigned to that role when the changes are saved.

Deleting roles

To delete a role, select a role from the **Roles** list, then click **Delete role** ✕. You are prompted to confirm that you want to delete the role.

A role cannot be deleted if users are assigned to it.

TIP: If you have a role that you want to delete and many users are assigned to it, you can delete it using the Open Security in Spreadsheet feature. The users will be automatically updated to remove the role assignment. For more information, see Bulk edit of security.

How role settings are applied to users

Axiom Financial Planning supports role-based security. Each user can be assigned to one or more roles, and that user inherits the security settings defined for those roles. This topic explains how role-level rights are inherited by individual users.

In general, role rights are additive. Users are granted the most permissive set of rights among their own personal security settings and any roles that they are assigned to. Roles are intended to grant permissions, not deny permissions.

Role inheritance works slightly differently for different areas of security, as detailed in the following sections. When configuring security settings for a user, be sure to review the **Effective Permissions** section that is available in most areas of the dialog. This section displays the user's effective permissions after taking into account all applicable factors, including role inheritance, subsystem restrictions, and administrator status.

NOTE: If subsystems are being used, then role inheritance works in the same way, but users' effective permissions are limited by the subsystem's maximum permissions. For more information, see Security Subsystems.

Permissions

The **Permissions** tab of security defines access rights for specific Axiom Financial Planning features. By default, users inherit security permissions from any roles that they are assigned to. However, you can override role inheritance for a user on a per permission basis.

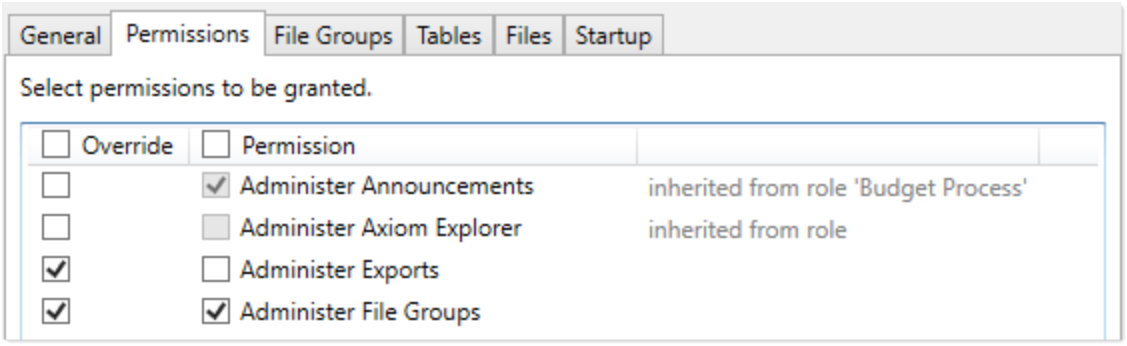
If a permission is set to inherited, then the user is granted the most permissive set of rights among any roles the user is assigned to. For example, imagine the following settings for the **Browse Audit History** permission:

User	Inherited
Role1	Unchecked
Role2	Checked

If the user is assigned to both Role1 and Role2, then the user inherits the permission and can access the audit history for the system.

If instead you select to **Override** a permission for a user, then that permission is no longer inherited from roles. The user is granted or denied the permission based on whether the **Permission** box is checked for the user.

The following screenshot shows what the Permissions tab looks like in all possible states:



Example Permissions tab

In this screenshot, the example permissions are treated as follows:

- **Administer Announcements**: Inherited from role. The Budget Process role grants this permission to the user, so the Permission check box shows as checked, and the role name is listed in the details to the right.
- **Administer Axiom Explorer**: Inherited from role. None of the roles that the user belongs to currently grant this permission, so the Permissions check box shows as unchecked.
- **Administer Exports**: The Override check box is checked, so the user does not inherit this permission from any roles. The Permission check box is not checked, so the user does not have this permission.
- **Administer File Groups**: The Override check box is checked, so the user does not inherit this permission from any roles. The Permission check box is also checked, so the user has this permission.

Startup documents

The **Startup** tab of security specifies files to open when a user starts Axiom Financial Planning, such as the home page, task panes, and ribbon tabs. Users inherit startup files from roles in addition to their own individually assigned startup files.

Each user can have only one home page. If a user has an individually assigned home page, that file will be used and any role settings are ignored. Otherwise, the user will inherit the home page from a role. If no home page is assigned, the default home page is used.

For more information about startup file inheritance, see Assigning startup files (Startup tab), and review the section for the applicable type of startup file.

File groups

The **File Groups** tab of security defines access rights for plan files in file groups. For file groups, you can configure role inheritance to be handled in a variety of ways. You can specify that role settings are combined with user settings, or that role settings are inherited independently from user settings, or that role settings are ignored entirely and not inherited.

For more information and examples of how role file group permissions apply to users, see Understanding role inheritance options for file group permissions.

All other areas

For all other areas of Security, the user inherits the most permissive set of rights among their own personal security settings and any roles that they are assigned to. This applies to the **Tables** tab and the **Files** tab.

For example, imagine the following access level settings for a report folder:

User	Read-Only
Role1	None
Role2	Read/Write

If the user is assigned to both Role1 and Role2, then the user has Read/Write access to that report folder, because that is the most permissive set of rights available to the user.

Each tab has an **Effective Permissions** section where you can view the rights that the user will be granted after taking into account role inheritance, administrator status, and folder inheritance (where applicable).

NOTES:

- For table access, if both the user and a role have filtered access, the filters are concatenated using OR. So if a user has a table filter of `DEPT.Region='North'` and a role the user is assigned to has a table filter of `DEPT.Region='South'`, then that user's full filter is:

  ```
  DEPT.Region='North' OR DEPT.Region='South'
  ```

  That user has access to data for either the North or South regions.

- For table access, you can choose to ignore role inheritance. If this option is enabled for a user, then any applicable role access settings for the table are not inherited (including the **Full Access** setting) and the only filter applied is the user's filter.

Assigning users to roles

Each user in security can be assigned to one or more roles to define the user's security permissions. Generally speaking, the permissions of each assigned role are combined with any user permissions to result in the most permissive set of rights available to the user. There are some exceptions; for more information see How role settings are applied to users.

Users can be assigned to roles from the user record or from the role record. Users have an **Assigned Roles** section that lists their assigned roles. Roles have an **Assigned Users** section that list their assigned users.

To assign roles to a user from the user record:

1. In the Security Management dialog, select the user.
2. On the **General** tab, in the **Assigned Roles** section, click the **Add** button ✚.
3. Use the **Assign Roles** dialog to assign one or more roles to the user:
   - Use the **Add** and **Remove** buttons to move role names between **Available Roles** and **Assigned Roles**. All roles listed in the Assigned Roles box will be assigned to the user.
   - You can also double-click role names to move them between the boxes.
4. When you have finished assigning roles, click **OK** to close the Assign Roles dialog, and then **Apply** or **OK** to save the changes to the user record.

To assign users to a role from the role record:

1. In the Security Management dialog, select the role.
2. On the **General** tab, in the **Assigned Users** section, click the **Add** button ✚.
3. Use the **Assign Users** dialog to assign one or more users to the role:
   - Use the **Add** and **Remove** buttons to move user names between **Available Users** and **Assigned Users**. All users listed in the Assigned Users box will be assigned to the role.
   - You can also double-click user names to move them between the boxes.
4. When you have finished assigning users, click **OK** to close the Assign Users dialog, and then **Apply** or **OK** to save the changes to the role record.

Granting administrator-level permissions

In Security, users can be designated as a system administrator, by enabling the **Administrator** option on the **General** tab.

System administrators have full rights to all features and all data for the system. Although you can configure security settings for administrators, such as to define file access or table filters, these settings will be overridden as long as the Administrator check box is enabled for the user. The Effective Permissions will reflect the user's full access.

Administrator-only features

Administrators have access to all features and files in the current Axiom Financial Planning system. While non-admin users can be granted access to many features and files, some features are only available to administrators:

- The ability to make another user a system administrator
- The ability to lock non-admin users out of the system, and the ability to log into a locked system
- The ability to restore a deleted file
- The ability to modify system configuration settings using Save Type 4, or using the System Configuration page in the Axiom Web Client

- Access to Scheduler administration features in the Scheduler dialog (such as viewing all job history, managing system jobs and event handlers, managing Scheduler servers, and managing remote data connections)
- Access to system folders in Axiom Explorer (therefore, any file management for system files that cannot be done using system utilities can only be done by administrators)
- Access to certain underlying file group folders such as the Plan Files folder, Plan File Attachments folder, and the Calc Method Libraries folder
- Access to the **Developer > Tools** menu on the Axiom Designer ribbon (though some of the features on this menu are available elsewhere without the administrator restriction)
- Access to the technical administration features in the Axiom Web Client, such as: Reset Services, Rebuild Table Views, System Logs, and Update License
- Ability to create and edit imports that use the current Axiom database as the source data

Security access for non-administrators

If you want a user to be able to access and edit security settings, but you do not want to make the user an administrator, there are two options:

- You can give the user the **Administer Security** permission. Users with this permission can add, edit, and delete users, roles, and subsystems, and can access security tools such as **System Access** and **Logged in Users**.
- If you are using subsystems, you can assign a user as a subsystem administrator. Users with this permission can edit the security settings for users that belong to the subsystem, and can also create and delete users within the subsystem. For more information, see About subsystems.

These users do not have access to the **Administrator** check box in Security. They cannot make themselves or any other user an administrator.

The Everyone role

The Everyone role is a built-in role for each Axiom Financial Planning system. The purpose of this role is to define security settings that apply to every user in the system. All users automatically belong to the Everyone role.

The Everyone role has the following default settings:

- **Document reference tables.** When a new document reference table is created, the Everyone role is automatically granted full read access to that table. This permission grants all users the right to query the data in document reference tables. In most cases, this is the desired level of rights. If you have some particular document reference tables that you do not want every user to have access to, then you can do one of the following:
  - Modify the Everyone role to remove access to those tables, and instead grant access directly to specific users and roles.

    OR

    - Leave the Everyone role at the default of full access, and instead modify certain users to ignore role inheritance for that table.

- **On-demand file groups.** When a new on-demand file group is created, the Everyone role is automatically granted the **Create New Records** permission for that file group. Effectively, this means that any user who also has access to plan files in the file group will also have permission to create new plan files. If you do not want this behavior—meaning that you want some users to be able to access plan files in the file group without being able to create new plan files—then you can remove the permission from the Everyone role and instead grant it to individual users and roles as needed.
- **Startup task panes.** By default, the Everyone role is configured to open the Explorer and Process task panes on startup, as non-closeable task panes. You can modify the Everyone role to remove any of these task panes, and instead grant access directly to specific users and roles (or do not grant access to anybody, if you do not want to use these task panes at all). Only the Explorer task pane will open automatically for all users; the Process task pane only displays when it is relevant to the user.

  NOTE: In systems with installed products, your Everyone role may have been modified to not open these task panes on startup, and instead open different task panes.

- **Startup ribbon tabs**. By default, the Everyone role is configured to open the Axiom and Axiom Designer ribbon tabs on startup.
    - The Axiom ribbon tab shows for all users and provides the default menu for the Desktop Client. You should not remove this tab from the Everyone role unless you have created one or more custom ribbon tabs that you plan to assign to the necessary users and/or roles instead.
    - The Axiom Designer ribbon tab is limited to administrators only. You can modify the configuration of the startup file so that it displays to other users, or you can remove it from the Everyone role and instead grant access directly to specific users and roles (or do not grant access to anybody, if you do not want to use the ribbon tab at all).

  NOTE: In systems with installed products, your Everyone role may have been modified to not open these task panes on startup, and instead open different task panes.

If desired, you can modify the Everyone role to grant additional rights to every user. Any right granted at the Everyone level will be inherited by every user, except for rights that have been overridden at the user level. Subsystem restrictions, if applicable to the user, still apply.

Note the following about the Everyone role:

- The Everyone role cannot be renamed or deleted. The security settings for the role can be modified in either the **Security Management** dialog or by using **Open Security in Spreadsheet**.

- Users cannot be explicitly assigned to the role, nor can they be removed from the role. All users permanently belong to this role.
- The Everyone role is not recognized by GetSecurityInfo("InRole") or when querying security tables via Axiom query. It is assumed that all users belong to the role; therefore it is not listed as a role assignment.

Configuring Security Settings

Security settings for users, roles, and subsystems are organized by tabs in the Security Management dialog. The following tabs are available:

Tab	Description
General	Define general settings such as name and email, as well as role assignments and system access.
Permissions	Set permissions for individual features.
File Groups	Set access rights for file groups.
Tables	Set access rights for tables.
Files	Set access rights for files in the Axiom Financial Planning file system. This includes reports, imports, task panes, and Scheduler jobs.
Startup	Specify certain files to open automatically on system startup.

Defining user properties (General tab)

The following settings are available for users on the **General** tab.

User Details

Each user has the following general properties:

Item	Description
First Name	The user's first and last name. This information can be referenced by using the function GetUserInfo.
Last Name	
Email	The user's email address. This address is used to send user notifications, such as for process management. This information can be referenced by using the function GetUserInfo.

Item	Description
License Type	The user's license type. By default, users are **Standard** users unless a different user type is selected. Standard users have the potential to access any feature or file in Axiom Financial Planning, limited by their security permissions. In addition to standard users, the following user types are available: • **Axiom Support** users are intended to allow Axiom Financial Planning consultants and support representatives to log into your system as part of requested support activities or contracted consulting work. Any user accounts assigned to this license type must log in using Axiom Prompt authentication, and must acknowledge that they are Axiom representatives when they log into the system. **NOTE:** Once a user has been assigned an Axiom Support license, that license can only be removed by another Axiom Support user. • **Viewer** users allow for view-only access to Axiom Financial Planning. Viewer users can access files as read-only, but they cannot save files or data, and they cannot otherwise perform "change actions" on the files (such as submitting a plan file for process management). Viewer users also cannot perform any administration functions. Security permissions for viewer users can be set as normal, but any settings above read-only access to files will be ignored. The Effective Permissions will note that the user is being limited due to the Viewer license. However, if you switch the user to a Standard license, the settings will be honored. The number of users that can be created and assigned to each license type depends on your Axiom Financial Planning license.

Item	Description
Authentication	The method used to authenticate the user for access to Axiom Financial Planning. By default, new users will be assigned to your installation's configured authentication mode; however, this can be changed on a per user basis as needed. • **Axiom Prompt**: Select this option if you want the user to be authenticated by using their Axiom Financial Planning user name and password. You would use this option if your installation is not configured to enable an external authentication method, or if you are using an external authentication method but you want to create a user who can log in directly. • **Windows User**: Select this option if you want the user to be authenticated based on their Windows credentials. This option is only valid if your installation is configured to enable Windows Authentication. For more information, see Using Windows Authentication. • **LDAP Prompt**: Select this option if you want the user to be authenticated via your LDAP directory. This option is only valid if your installation is configured to enable LDAP Authentication. For more information, see Using LDAP Authentication. • **OpenID**: Select this option if you want the user to be authenticated using an OpenID provider. This option is only valid if your installation is configured to enable OpenID Authentication. For more information, see Using OpenID Authentication. • **SAML**: Select this option if you want the user to be authenticated using a SAML identity provider. This option is only valid if your installation is configured to enable SAML Authentication. For more information, see Using SAML Authentication. • **Unspecified**: This option exists to support backwards-compatibility for systems upgraded from older versions. Upgraded users may be assigned to it, but it cannot be selected otherwise. If you have users assigned to this option, we recommend changing their assignment to the appropriate authentication type.

Item	Description
Login	The user's login name. If the user's authentication type is anything other than Axiom Prompt, then the user's login name must match the user's login name for the designated authentication source (for example, it must match the user's Windows login name when using Windows Authentication). See the information on the appropriate authentication type for login name requirements. For Windows Authentication only, you can validate that the login name matches a user name in one of the allowed domains by clicking the **Validate** icon  to the right of the box. A message box will let you know whether the name was found or not. This feature is only available if Windows Authentication is enabled and at least one valid domain name has been specified as an allowed domain. This information can be referenced by using the function GetUserInfo.
Password	The user's Axiom Financial Planning password. Click the **...** button to the right of the box to set or change the user's password. All users must have a non-blank password. Users can change their own password later from within the application. **NOTES:** • By default, Axiom Financial Planning enforces a basic set password rules. If desired, you can disable these rules and allow any password. See Enabling password rules. • The Password setting only displays for Axiom Prompt users. For all other authentication types, a randomly generated password will be created for the user and cannot be changed. Users cannot log in with this randomly generated password; they can only log in using their specified authentication type. If you are an administrator and you need to log into Axiom Financial Planning as another user in order to test that user's security settings, you do not need to know that user's password. For more information, see Testing user security.
Enabled	Specifies whether the user can access Axiom Financial Planning. If this check box is *not* selected, the user cannot log into any Axiom Financial Planning system. **NOTE:** System administrators cannot disable other system administrators. The **Administrator** permission must be removed before the user can be disabled.

Item	Description
Locked Out	If a user has become locked out of the system due to exceeding the configured number of failed login attempts, then the system will automatically select this check box. You can clear the lockout by clearing this check box. This setting only displays if you have manually configured a lockout threshold. For more information, please contact Financial Planning Support. If an administrator becomes locked out, and no other administrator accounts are available to clear the lockout, the Financial Planning Software Manager can be used to reset the administrator's password and clear the lockout.
Administrator	Specifies whether the user has administrator-level permissions. If this check box is selected, then the user has access to all features and data in the current system. For more information, see Granting administrator-level permissions. **NOTE:** This check box only displays to users who have the **Administrator** permission. In other words, a user cannot make themselves an administrator, they have to be granted the right by a user who is already an administrator.
Directory Sync Enabled	Specifies whether the user will be synched with Active Directory the next time an Active Directory import is performed. This is enabled by default. • If enabled, then the user will be synchronized with Active Directory according to the settings in the Scheduler task for the import. For more information about how this import and synchronization occurs, see How Active Directory user synchronization works. • If disabled, then the user will not be affected by the Active Directory import, even if the user name matches a user name in the import. **NOTE:** This check box only displays if Active Directory import has been enabled for your system.

Assigned Roles

Users can be assigned to one or more roles. If the user is already assigned to roles, those roles are listed here.

- To add a user to a role, click **Add** +. In the **Assign Roles** dialog, you can select roles for the user.
- To remove a user from a role, select the role in the list and then click **Remove** ✕.

Role assignments can be made when editing either the user or the role. Any changes made in one area are automatically applied to the other area.

NOTE: The Everyone role is not listed in the **Assigned Roles** box. All users belong to the Everyone role and cannot be removed; therefore it is not listed as a role assignment.

For more information, see How role settings are applied to users.

Assigned Subsystems

This section only displays if subsystems are enabled for your system. See Security Subsystems.

If you are using subsystems, you can optionally assign the user to one or more subsystems. If the user is already assigned to subsystems, those subsystems are listed here.

- To add a user to a subsystem, click **Add** +. In the **Assign Subsystems** dialog, you can select subsystems for the user.
- To remove a user from a subsystem, select the subsystem in the list and then click **Remove** ✕.

IMPORTANT: If you remove a user from a subsystem, that subsystem's maximum permission limit will no longer apply to that user.

Subsystem assignments can be made when editing either the user or the subsystem. Any changes made in one area are automatically applied to the other area.

NOTE: If you are a subsystem administrator, then all users that you have access to must belong to a subsystem. If you are an administrator for only one subsystem, then any new users you create are automatically added to that subsystem. If you are an administrator for multiple subsystems, then the user is automatically assigned to one of the subsystems; you can change the assignment as needed.

Configuring role properties (General tab)

The following settings are available for roles on the **General** tab.

Role Details

Each role has the following general properties:

Field	Description
Name	The name of the role. **NOTE:** The name of the built-in Everyone role cannot be changed.
Description	A description of the role. The description is for the administrator's use only, to help explain the purpose of the role.

Assigned Users

Multiple users can be assigned to a role. If the role already has assigned users, those users are displayed here.

- To add a user to the role, click **Add** +. In the **Assign Users** dialog, you can select users to add to the role.
- To remove a user from the role, select the user in the list and then click **Remove** ✕.

Role assignments can be made when editing either the user or the role. Any changes made in one area are automatically applied to the other area.

NOTE: This section is not available when editing the built-in Everyone role. All users belong to the Everyone role and cannot be removed.

For more information, see How role settings are applied to users.

Configuring feature permissions (Permissions tab)

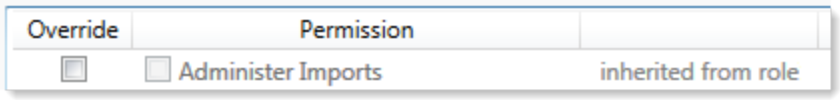
On the **Permissions** tab of the **Security Management** dialog, you can specify which features a user or role has access to. The **Permissions** tab works slightly differently depending on whether you are defining rights for a user or a role.

NOTE: If you are defining permissions for a subsystem, see Defining maximum permissions for subsystems.

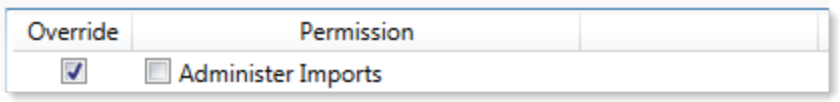
Setting permissions for users

For users, each permission has three available settings:

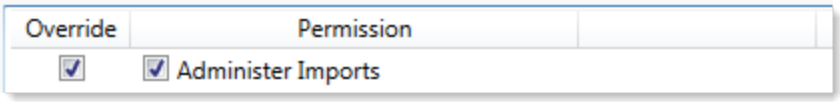
- **Inherited**: The permission is not set for the user. The permission is grayed out and the text "inherited from role" appears to the right of the permission name. If the user is assigned to a role, this permission can be inherited from the role.



- **Denied**: If the **Override** check box is selected, but the **Permission** check box is not selected, this means that the user explicitly does not have access to the feature. The user will not inherit the permission from any roles.



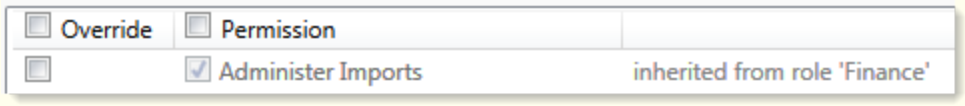
- **Allowed**: If the **Override** check box and the **Permission** check box are selected, this means that the user explicitly has access to the feature, regardless of any role settings.



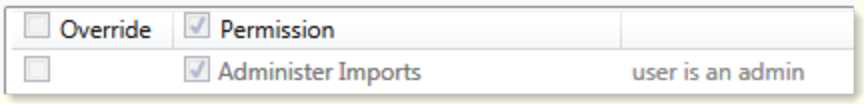
By default, all user permissions are left unset and are inherited from any role assignments. If you want to override role inheritance and explicitly set a permission for the user, then you must select the **Override** check box and then leave the permission unchecked (to deny the permission) or checked (to allow the permission).

NOTES:

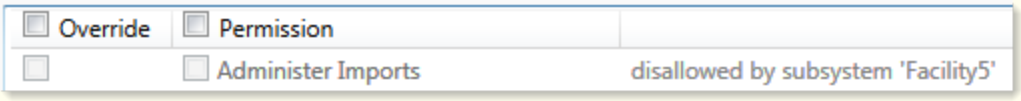
- When a permission is inherited from a role, it displays the effective permission for the user. For example, if a user is assigned to a role that has the **Administer Imports** permission, and that permission is eligible for inheritance, then the check box for that permission displays as grayed out and selected. The name of the role from which the permission is inherited is also listed. For example:



- If a user has administrator rights to the system, that user has all permissions. In this case, the permissions list is grayed out and cannot be edited, and all permissions display as selected. The text "user is an admin" displays next to the permission names.



- If the user belongs to a subsystem, and the subsystem settings do not allow a particular permission to be granted to users in the subsystem, then the permission is grayed out and cannot be edited. The text "disallowed by subsystem" (including the subsystem name) displays next to the permission name.



Setting permissions for roles

For roles, the **Permission** box for each permission is either checked or unchecked. If a permission is checked for a role, then users who have that permission set to "inherited" will inherit rights to that permission when they are assigned to that role.

Permissions

The following permissions are available:

Permission	Description
Administer Announcements	The user can create, edit, and delete announcements and announcement categories. The user must have access to a form-enabled file with an Announcements component in order to use this permission.

Permission	Description
Administer Axiom Explorer	The user can access the Axiom Explorer dialog. The user's other security permissions determine what folders they can view within this dialog and what actions they can perform on them. **NOTE:** This permission has no impact on the availability of the Explorer task pane. Any user can use the Explorer task pane.
Administer Exports	The user can create exports in the Exports Library. The user must also have read/write permissions to at least one folder within the Exports Library (as configured on the **Files** tab), or else they will have no place to save their created exports. Execute permissions are also managed on the Files tab.
Administer File Groups	The user has general administrative permissions to *all* file groups. The user can: • Create and delete file groups • Edit file group settings • Clone file groups • Manage scenarios for file groups • Manage restore points for file groups • Manage categories for file groups • Manage file group aliases • Use the Delete Plan Files command to delete any plan file from an on-demand file group **NOTE:** Generally speaking, this permission does not grant access to any files within the file groups, such as plan files, templates, and drivers. The user must be granted access to these files separately if the user is expected to manage or use these files. There are two exceptions: the user can delete any on-demand plan file using Delete Plan Files, and the user can restore any plan file when using restore points.
Administer Imports	The user can create import utilities. The user must also have read/write permissions to at least one folder within the Imports Library (as configured on the **Files** tab), or else they will have no place to save their created imports. Execute permissions are also managed on the Files tab.
Administer Locked Items	The user can remove file locks on documents and tables, and can remove save locks on Axiom forms. The list of locked items is limited to the files and tables that the user has some level of access to. The user cannot see or unlock items that the user does not have access to.

Permission	Description
Administer Picklists	The user can administer picklist tables using the Web Client Table Manager. The user can create new picklist tables. For existing picklist tables, the user can edit table properties and delete tables (as long as the user has at least read-only permission to the table, otherwise the table does not display in the table manager). Administer Picklist users do not gain access to the table administration features in the Desktop Client.
Administer Security	The user can access and edit security settings for the current system. The user can also access security-related tools such as **System Access** and **Logged in Users**. The **Administrator** check box is not available to users with this permission.
Administer Tables	The user has general table administration permissions. The user can: • Create and delete tables • Edit table structure • Open tables using Open Table in Spreadsheet • Use other table utilities available on the table administration menu (**Administration > Tables > Table Administration** The user's read and write filters (as set on the **Tables** tab) are honored for purposes of viewing and saving table data.
Administer Task Panes	The user can create and edit task panes and ribbon tabs, as allowed by the user's folder / file access rights defined for the Task Panes Library and the Ribbon Tabs Library (as set on the **Files** tab).
Administer Updates	The user can download and apply updates to the Axiom Financial Planning installation.
Browse Audit History	The user can view audit history for the system. **NOTE:** Users with this permission can see audit records for all changes, including changes made to tables that the user does not otherwise have access to. Use caution in granting this permission.
Remove Protection	The user can remove workbook and worksheet protections, for any Axiom file that the user can access. **NOTE:** Alternatively, you can grant unprotect rights for individual report files and folders on the **Files** tab, or for plan files on the **File Groups** tab.

Permission	Description
Scheduled Jobs User	The user can access the Scheduler dialog for the purposes of working with scheduled jobs. The user can create jobs, edit jobs, run jobs, and delete jobs, as allowed by the user's folder and file access rights defined for the Scheduled Jobs Library (as configured on the **Files** tab of Security). For example, you might create a sub-folder for each user and only grant the user rights to that folder. The user can view the results of jobs that the user has executed. Other job history is not available to the user. The user cannot manage Scheduler servers, edit system jobs, or use other Scheduler administration features. **NOTE:** Generally speaking, task-level security is not applied to users with this permission, within the context of Scheduler. However, file-level rights are enforced. For example, the user can create and/or run a Process Plan Files task within a Scheduler job, even if the user does not have the Process Plan Files permission. But within that task, the user can only process file groups and plan files that the user otherwise has access to.
User Documents Folder Access	The user can access a My Documents folder in their My Files section. The user can save files to My Documents. The user has read/write access over any file saved to this area. Typically this permission is only granted to power users who may need a place to save their own "personal" reports or an area to temporarily save "in progress" files. Administrators can access any user's My Documents folder. Other users cannot access it. **NOTE:** If a user has this permission and then later it is removed, the user's existing My Documents folder is not deleted; it is simply hidden from the user in Explorer dialogs. If desired, an administrator can delete the folder in `\Axiom\Axiom System\User Folders`.

NOTE: Generally speaking, if a user does not have rights to a feature, the menu item associated with that feature does not show on that user's ribbon tabs or other applicable areas.

Configuring file group permissions (File Groups tab)

On the **File Groups** tab of the **Security Management** dialog, you can manage user access to plan files and to file group features. On this tab, you can specify the following:

- Which plan files a user can access
- The level of access to those plan files (read-only or read/write)

- What features are available in those plan files (such as saving data or inserting calc methods)
- Which file group administration features the user can access (such as Create Plan Files or Process Plan Files)

NOTES:

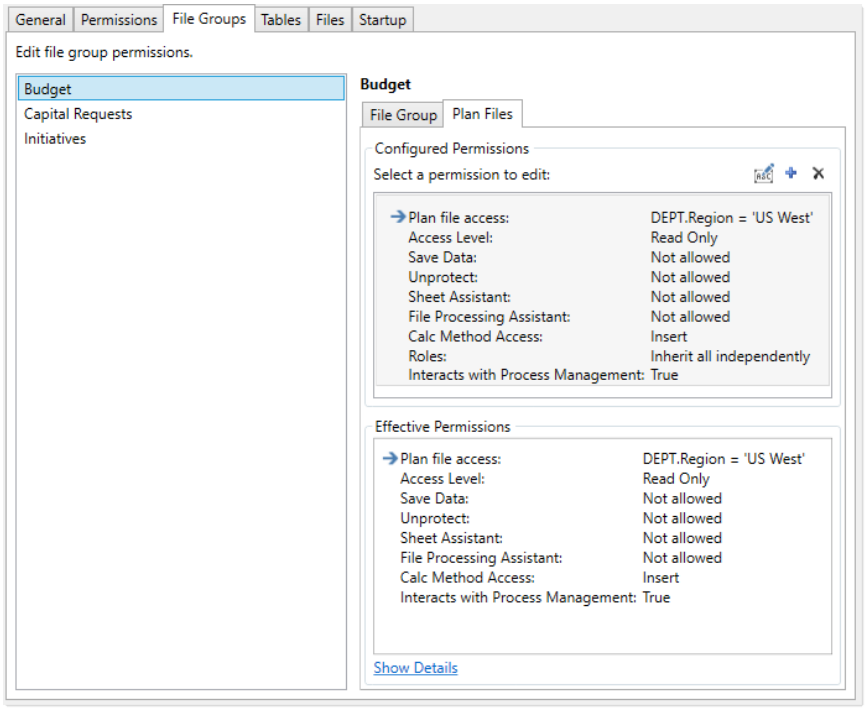
- The settings on this tab do not apply to administrators. Administrators have access to all plan files and all file group features.
- If you are defining permissions for a subsystem, see Defining maximum permissions for subsystems.

IMPORTANT: This tab does not control access to other files in a file group, such as templates, drivers and utilities. To give users access to these files, use the **Files** tab.

File group permissions

The settings on the **File Group** tab define permissions for each file group. The left-hand side lists the available file groups for the system. When you select a file group in the list, you can define the security settings for the user or role using the two sub-tabs on the right-hand side.

- **File Group**: Manage access to file group administration features such as Create Plan Files and Process Plan Files. This tab can be ignored for most end users.
- **Plan Files**: Manage access to plan files. It is necessary to configure access on this tab if you want the user to have any access to plan files in the file group.



Example File Groups tab, configuring permissions to plan files

File groups are listed by display name, followed by the file group code in parentheses. If the name of the file group is different than the display name, that name is also displayed in the parentheses.

The **Effective Permissions** section displays the full permissions of the user, taking into account any inherited role rights and other settings such as administrator rights.

NOTE: If a non-admin user has no effective permissions for a file group (either on the **File Groups** tab or on the **Files** tab), then that user cannot see the file group in Axiom Explorer, the Axiom ribbon tab, and other lists of file groups.

File Group tab

Use the **File Group** tab to configure user access to administration features for the file group. This tab is optional and can be ignored for most end users.

To grant a user access to one of these features, select the check box. By default, all check boxes on this tab are not selected, which means the user does not have access to any of these features.

Item	Description
Modify File Group	This permission grants general administrative rights to the file group. The user can: • Edit the file group settings • Clone the file group • Manage scenarios for the file group • Manage restore points for the file group
Create Plan Files	The user can create plan files for the file group, using the **Create Plan Files** feature. This permission is limited to those plan files where the user has read/write access, as defined in the **File Groups** tab of Security. This permission also grants access to the **Copy Plan Files** feature for standard file groups, which can be used in certain specialized configurations to copy plan files from one file group to another. In this case the user must have read/write access and **Create Plan Files** permission to the target file group. **NOTE:** If the file group is an on-demand file group, then users do *not* need this permission in order to create new plan files "on demand." Instead, users need the **Create New Records** permission.

Item	Description
Create New Records	The user can create new plan files for the on-demand file group. This process includes creating a new identity record in the plan code table and then creating a plan file for that record using either its assigned template or by copying an existing plan file (when using the **Clone selected item** feature). This permission only applies to on-demand file groups. By default, this permission is automatically enabled on the Everyone role when a new on-demand file group is created. This means that any user with at least **Read-Only** access to plan files in this file group will also have the ability to create new plan files. (This includes plan file permission sets with the potential to be elevated to read-only access or higher, due to the **Interacts with Process Management** permission.) If you do not want all users with access to the file group to be able to create new plan files, then you can remove the permission from the Everyone role and instead grant it to individual users and roles.
Process Plan Files	The user can process plan files for the file group, using the **Process Plan Files** feature. This permission is limited to plan files where the user has at least read-only access, as defined in the **File Groups** tab of Security. The user can run Axiom queries and save data as part of the process, but the user can only save the file if they have read/write access to it.
Run Axiom Queries	The user can refresh Axiom queries in plan files, using the **Refresh** feature. By default, non-admin users cannot use the **Refresh** feature in plan files. If you have a plan file design where users should be able to refresh the queries in the file as needed, then you should enable this permission. **NOTES:** • This permission does not apply to "refresh on open" Axiom queries, or to queries run using the RunAxiomQueryBlock function. These queries will always run, regardless of whether the user has this permission. • This permission does not apply to form-enabled plan files (when viewed as an Axiom form). Axiom queries in form-enabled plan files will refresh according to the standard form refresh behavior, regardless of whether the user has this permission.
Manage Calc Methods	The user can perform all management activities for calc method libraries in the file group, including adding new calc methods, editing calc methods, deleting calc methods, as well as use any other calc method features available on the **CM Library** menu. The user can also insert or change calc methods in any file group files that the user has access to, and can override any calc method controls.

Plan Files tab

Use the **Plan Files** tab to configure user access to plan files for the file group. Each plan file *permission set* defines the following:

- The plan files that the permission set applies to (all plan files or a filtered subset)
- The permissions to be applied to those plan files (such as: access level, ability to save data, and calc method permissions)
- The role inheritance to be applied to the permission set (none, combine, or independent)

Users can have multiple permission sets per file group—for example, to define read/write access to one set of plan files and read-only access to another set of plan files. These permission sets can be configured for the user directly or inherited from one or more roles. Roles can only have one defined permission set per file group.

You can add, edit, and delete permission sets as follows:

- To add the first permission set for a user or a role, click **Add a Permission**.
- To add an additional permission set for a user, click the plus icon ✚ .
- To edit a permission set, double-click it. You can also select it and then click the edit icon .
- To delete a permission set, select it and then click the delete icon ✕.

NOTES:

- If a user has no configured permission sets, the user will inherit role permissions using independent inheritance. Each role's permissions will be inherited as a separate unit. For more information on role inheritance behavior for file groups, see Understanding role inheritance options for file group permissions.
- If a user has multiple configured permission sets, only the first permission set displays in **Open Security in Spreadsheet**.

When creating or editing a permission set, the **Plan File Permission** dialog opens. Within this dialog, you can configure all permissions relating to this permission set.

Item	Description
File access level	The level of access that the user or role has to the plan files covered by this permission set. Select from one of the following: • **No Access**: The user or role has no access to plan files. The No Access option is intended to be used in conjunction with **Interacts with Process Management** and/or with **Combine** role inheritance. You can define other permissions for the plan files, and those permissions will apply when the user's access level is elevated due to a plan file process, or combined with another permission set to result in a higher level of access. • **Read Only**: The user or role has read-only access to plan files. • **Read/Write**: The user or role has read/write access to plan files in the file group. **NOTES:** • The ability to save data to the database from within a file is controlled separately, using the **Allow Save Data** permission. • If you are using a plan file process with this file group, select the level of access that you want the user to have when they are NOT the current step owner. For example, you may want the user to have no access if they are not the step owner, or read-only access. • If the file group uses virtual spreadsheet plan files, and you want file locking behavior to apply to the plan files, then users must have Read/Write access to the files instead of Read-Only access (even though the virtual files cannot be saved).

Item	Description
Allow Save Data	Select this check box if you want the user or role to be able to save data to the database from the plan files covered by this permission set. **NOTES:** • If you are using a plan file process to manage access to plan files, you do *not* need to select this option. When the user is a step owner of a plan file, the user's permissions will be "elevated" as needed, including the ability to save data to the database. Generally you would only enable **Allow Save Data** for a user if you want the user to be able to save the data at all times, regardless of process step ownership. • If a user has **Read Only** access and **Allow Save Data**, then the user will be able to save data to the database but not save changes to the file. Generally this configuration would only be used with form-enabled plan files. Users with this combination of rights can save data from the file at any time, regardless of whether the file is locked to another user. • In most cases, this option is only selected if the user also has **Read/Write** access to the file group, so that file changes and data changes can be saved in sync.
Allow Calc Method Insert	Select this check box if you want the user or role to be able to insert calc methods into plan files. This option enables or disables the user's overall ability to insert calc methods. Within individual templates/plan files, calc method controls can be used to further control which calc methods can be inserted and where they can be inserted. It is valid to select this option even if the user has **No Access** or **Read Only** access to plan files, if the user's access will be elevated by a plan file process or combined with another permission set. It is also valid to insert calc methods in read-only plan files when using form-enabled plan files. **NOTE:** This setting does not apply if the user has been granted the **Manage Calc Methods** permission. Users with this permission can perform any calc method action in any plan file that they have access to within the file group.

Item	Description
Allow Calc Method Change	Select this check box if you want the user or role to be able to change methodologies in the plan file by overwriting one calc method with another. This option enables or disables the user's overall ability to change calc methods. Within individual templates/plan files, calc method controls can be used to further control which calc methods can be used to overwrite and where overwrite is allowed. It is valid to select this option even if the user has **No Access** or **Read Only** access to plan files, if the user's access will be elevated by a plan file process or combined with another permission set. **NOTE:** This setting does not apply if the user has been granted the **Manage Calc Methods** permission. Users with this permission can perform any calc method action in any plan file that they have access to within the file group.
Allow Unprotect	Select this check box if you want the user or role to be able to unprotect the worksheet and workbook within plan files. If enabled, the user will have access to the **Protect** toggles in the **Advanced** group on the Axiom ribbon. This option should only be granted in special situations. Normally, end users are not allowed to unprotect plan files.
Allow Sheet Assistant	Select this check box if you want the user or role to see the Sheet Assistant. Generally, you should only expose the Sheet Assistant if the user is expected to edit file settings, including Axiom query settings. Enabling this permission also has the following impacts: • The user has access to the Control Sheet. The Control Sheet is hidden by default in plan files but the user can unhide it via the Sheet Assistant. • The Drilling Control Sheet will not be hidden if the user has the Sheet Assistant permission. • If the user has read/write permission and the Sheet Assistant permission, then the user can enable forms for the file and can see the Form Assistant and Form Control Sheet. • The Data Source Assistant is also available if the Sheet Assistant is available. If this check box is not selected, then the user cannot see the Sheet Assistant or the other related items as described above. This option should only be granted in special situations. Normally, end users are not allowed to edit settings in plan files.

Item	Description
Allow File Processing	Select this check box if you want the user or role to be able to perform file processing on the file. If selected, then the user has access to file processing features, including the File Processing button on the menu and the File Processing task pane. The related control sheets will also be visible to the user. If this check box is not selected, then the user cannot perform file processing actions and cannot see the related menu items, task panes, or control sheets. This option should only be granted in special situations. Normally, end users do not perform file processing in plan files.
Apply settings to	Select one of the following to determine the plan files that this permission set applies to: • **All Plan Files**: The configured permissions apply to all plan files in the file group. • **Filtered Plan Files**: The configured permissions apply to a subset of plan files in the file group, as defined using a filter. For more information on defining a plan file filter, see Defining plan file filters.
Interacts with Process Management	This option specifies whether this permission set interacts with plan file processes. It is enabled by default for users, and disabled by default for roles. Enabling this option has the following effects, for plan files covered by this permission set: • If the access level of the permission set is No Access, the permission set will still be considered for step ownership when the user is directly assigned as the step owner. If "interacts" is disabled, then the permission set is only considered if the access level is at least Read Only. • If the ownership assignment is through a role, enabling this option tells the process to consider this permission set when evaluating which role members should be step owners. If this option is not enabled, then this permission set will be ignored by the plan file process when evaluating the role permission.

Settings for users only

The following settings apply only to users, not to roles. These settings specify how the user will inherit file group rights from any roles that the user is assigned to. For more information, see Understanding role inheritance options for file group permissions.

Item	Description
Role Inheritance	Specify how the user will inherit file group permissions from roles: • **None**: The user will not inherit file group permissions from roles. Only the user's configured permissions will be applied. Role permissions will be ignored. • **Combine**: The user's permissions and any role permissions will be combined, so that the user will be granted the most permissive set of rights among all the plan file access settings. Using the **Role(s)** setting, you can specify whether this applies to all roles that the user belongs to, or only a specific role. • **Independent** (default): The user will inherit permissions from roles, but the user's configured permissions and the role's inherited permissions will be applied separately. Using the **Role(s)** setting, you can specify whether this applies to all roles that the user belongs to, or only a specific role.
Role(s)	Select which roles the role inheritance settings apply to. This setting only applies if the role inheritance is set to **Combine** or **Independent**. • If you select **(all roles)**, then the specified inheritance settings apply to all roles that the user belongs to. This is the default setting. • If you select a particular role, then the specified inheritance settings apply to only that particular role. If the user belongs to other roles, and those other roles are not selected in additional file group permission sets for the user, then those role permissions are ignored.

Defining plan file filters

To define a filter to control access to plan files, select the **Filtered Plan Files** option and then use the Filter Wizard to construct the filter. (You can also type a filter directly into the filter box.) The filter must be based on the plan code table for the file group, or on a reference table that the plan code table links to. When using the Filter Wizard, the wizard only displays the eligible tables.

After defining a filter, you can validate it by clicking the **Validate filter** button. This check is to ensure that the filter syntax is valid. You can test to make sure that a file group filter is operating as you expect by logging in as the user (or as a user assigned to the role) and checking to see which plan files display in the **Open Plan Files** dialog for the file group.

Filter variables can be used in plan file filters, to set a filter that is based on a user's login name (see example below) or on another related user property. This is useful to be able to set a filter at the role level, yet resolve the filter dynamically for each user in the role. For more information, see Filter variables.

NOTE: You can leave the filter blank only if you are using **Combine** role inheritance. This assumes that either the user or the role has a filter that will apply after the permissions are combined. If the filter remains blank after inheritance, then the user will have no access to plan files.

Example filters

```
DEPT.Dept IN (200,400)
```

This example limits the user to accessing plan files for departments 200 and 400.

```
DEPT.Region='North'
```

This example limits the user to accessing plan files for departments assigned to the North region.

```
DEPT.Owner='{CurrentUser.LoginName}'
```

This example limits the user to accessing plan files for departments that are assigned to that user (by the presence of the user's login name in the Owner column). This type of filter would most likely be set on a role, so that the filter could be set once yet resolve dynamically for each user in the role. For example, for user JDoe, this filter would resolve as `DEPT.Owner='JDoe'`.

Configuring plan file security for use with plan file processes

This section provides basic guidelines for setting user permissions when you intend to use a plan file process with the file group. There are many nuances to file group security settings and how they can interact with plan file processes, especially if you are using advanced security configurations such as multiple permission sets for plan files or the combine option for role inheritance.

Generally speaking, you should configure security permissions for plan files to reflect the "baseline" permissions that you want the users to have when they are *not* process step owners. When the users are step owners, their permissions will be temporarily "elevated" as needed so that they can complete the process task. For example, a user may have Read-Only access to a plan file configured in security, so this is their baseline permission. But when the user is the step owner of an edit step, their permission will be elevated to Read/Write and Allow Save Data so that they can edit and save the plan file.

Additionally, the **Interacts with Process Management** setting for plan file permissions can be used as follows:

- If you want a user to only have access to the plan file when they are the step owner, you can configure a permission set to the plan file with **No Access** and **Interacts with Process Management** enabled. This causes the permission set to be considered for step ownership of a plan file even though the access level is **No Access**. The user must still have a plan file filter that includes the plan file.
- If the ownership assignment is through a role, enabling **Interacts with Process Management** tells the process to consider this permission set when evaluating which role members should be step owners. If "interacts" is not enabled when using a role assignment, then this permission set will be ignored by the process.

Example user permissions for use with a plan file process

The first step in configuring plan file permissions for use with a plan file process is deciding what level of permissions that you want the user to have when the user is *not* a process step owner. This is the user's baseline level of security permissions that they will always have.

NOTE: All of the example permission sets below assume that the user's plan file filter includes the plan file where the user is assigned as a step owner. The user must have a configured or inherited permission set that includes this plan file. The plan file process cannot not grant permissions to plan files, they can only elevate existing permissions to those files.

No Access	If you want a user to have no access to the plan file when the user is not a process step owner, then set the permissions as follows: • **File Access Level**: No Access • **Allow Save Data**: Unchecked • **Interacts with Process Management**: Checked When the user is a step owner, the process will elevate the user's permissions as appropriate.
Read-Only Access	If you want a user to have read-only access to the plan file when the user is not a process step owner, then set the permissions as follows: • **File Access Level**: Read-Only • **Allow Save Data**: Unchecked • **Interacts with Process Management**: Checked if the ownership assignment comes through a role (can be left unchecked if the user will be assigned directly) When the user is a step owner, the process will elevate the user's permissions as appropriate.
Full Access	If you want a user to have full edit rights to the plan file when the user is not a process step owner, then set the permissions as follows: • **File Access Level**: Read/Write • **Allow Save Data**: Checked • **Interacts with Process Management**: Checked if the ownership assignment comes through a role (can be left unchecked if the user will be assigned directly)

These permissions can be set at the user level, or at a role level, or at some combination of the two (if using **Combine** role inheritance). All other plan file permissions can be enabled or not as appropriate for the user. In some cases, the other permissions will only be relevant when the user's access level has been

elevated by the process. For example, if the user has **No Access** plus **Allow Calc Method Insert**, then the ability to insert calc methods is only relevant when the user is a step owner (because otherwise they will be unable to see or open the plan file).

Enabling Interacts with Process Management

When creating new permission sets for users, **Interacts with Process Management** is enabled by default. You can disable this permission for the user if:

- The permission set grants Read-Only access or higher.

  AND

- The permission set does not need to be considered when using role ownership assignments.

When creating new permission sets for roles, **Interacts with Process Management** is disabled by default. You should consider whether to enable the option or leave it disabled, based on how you are granting permissions to users and how you are assigning step owners. Keep in mind the following:

- If ownership assignments are made through a role, then users who belong to the role must have permission to the plan file *and* **Interacts with Process Management** enabled in order to be a step owner.
- If the role assignment is configured to consider **All permissions**, then it is not necessary to enable **Interacts with Process Management** on the role that will be used as the assignment. In this case, the role simply defines the pool of eligible users. If a user has any permission set with access to the plan file and "interacts" enabled, then they will be a step owner.
- If the role assignment is configured to consider **Only permissions associated with the assigned role**, then either **Interacts with Process Management** must be enabled on the role so that users in the role inherit it, or the users must have an individual permission set with the "interacts" permission that is also configured to combine with the role.

Understanding role inheritance options for file group permissions

Role inheritance for file group permissions is handled differently than in other areas of Security. For each set of permissions defined for a user on the **File Groups** tab, you can specify whether role permissions are inherited and how they are inherited.

File group permissions have three different role inheritance options:

- None
- Combine
- Independent

By default, if no file group permissions are configured for a user, the role inheritance is set to independent. This means that users will inherit file group settings from all roles that they are assigned to, but those inherited settings will be applied independently instead of merged.

The following sections explain how each role inheritance option works.

No inheritance

The **None** option means that no role inheritance applies. Role settings are ignored for this particular permission set. If the user only has one permission set, then role settings are ignored entirely (for settings on the **File Groups** tab).

The following is an example of how file group settings are treated with no inheritance, assuming that the user belongs to the role:

File Group Settings	User Configured Settings	Role Configured Settings	User Effective Permissions
File Access Level	Read Only	Read/Write	Read Only
Allow Save Data	Unchecked	Checked	Unchecked
Allow Calc Method Insert	Checked	Checked	Checked
Allow Calc Method Change	Unchecked	Checked	Unchecked
Apply settings to	Filtered Plan Files: DEPT.Region='North'	Filtered Plan Files: DEPT.Region='South'	Filtered Plan Files: DEPT.Region='North'

In this example, the role settings are ignored, and the user has only his or her configured permissions.

Combine inheritance

The **Combine** option means that the user's permissions are combined with role permissions. The user is granted the most permissive rights as defined for either the user or the role, on a per permission basis.

The following is an example of how file group settings are treated with combine inheritance, assuming that the user belongs to the role:

File Group Settings	User Configured Settings	Role Configured Settings	User Effective Permissions
File Access Level	Read Only	Read/Write	Read/Write
Allow Save Data	Unchecked	Checked	Checked
Allow Calc Method Insert	Checked	Checked	Checked
Allow Calc Method Change	Unchecked	Checked	Checked
Apply settings to	Filtered Plan Files: DEPT.Region='North'	Filtered Plan Files: DEPT.Region='South'	Filtered Plan Files: (DEPT.Region='North') OR (DEPT.Region='South')

In this example, the user and role permissions are combined, and the user is granted the most permissive set of rights available for each individual setting.

When you select combine inheritance, you can choose to combine with all roles that the user is assigned to, or to combine with a specific role. For example, imagine that the user belongs to role A and role B, and the permissions are as follows:

File Group Settings	User Configured Settings	Role A Configured Settings	Role B Configured Settings
File Access Level	Read Only	Read/Write	Read Only
Allow Save Data	Unchecked	Checked	Unchecked
Allow Calc Method Insert	Checked	Checked	Unchecked
Allow Calc Method Change	Unchecked	Checked	Unchecked
Apply settings to	Filtered Plan Files: DEPT.Region='North'	Filtered Plan Files: DEPT.Region='South'	Filtered Plan Files: DEPT.Country='France'

In this case, the effective permissions of the user depend on whether the combine inheritance is set to all roles, or to a specific role:

File Group Settings	Combine: All Roles	Combine: Role A	Combine: Role B
File Access Level	Read/Write	Read/Write	Read Only
Allow Save Data	Checked	Checked	Unchecked
Allow Calc Method Insert	Checked	Checked	Checked
Allow Calc Method Change	Checked	Checked	Unchecked
Apply settings to	Filtered Plan Files: (DEPT.Region='North') OR (DEPT.Region='South') OR (DEPT.Country='France')	Filtered Plan Files: (DEPT.Region='North') OR (DEPT.Region='South')	Filtered Plan Files: (DEPT.Region='North') OR (DEPT.Country='France')

When combined with all roles, the user is granted the most permissive set of rights across all of the roles. When combined with only one of the roles, the second role is effectively ignored. Unless the user has another set of permissions that allows inheritance from the second role, the user will not inherit any file group settings from the second role.

Independent inheritance

The **Independent** option means that the user inherits permissions from roles, but the role permissions are applied independently from the user's configured permissions. The user and role permissions are not merged, as they are when using the combine option. The user effectively has two sets of permissions: one set based on the user's configured permissions, and one set based on the role's inherited permission. Additionally, if the user belongs to multiple roles, each role's permissions are inherited independently from each other (assuming that the independent inheritance is set to apply to "all roles").

The following is an example of how file group settings are treated with independent inheritance, assuming that the user belongs to the role:

File Group Settings	User Configured Settings	Role Configured Settings
File Access Level	Read Only	Read/Write
Allow Save Data	Unchecked	Checked
Allow Calc Method Insert	Checked	Checked
Allow Calc Method Change	Unchecked	Checked
Apply settings to	Filtered Plan Files: DEPT.Region='North'	Filtered Plan Files: DEPT.Region='South'

In this example, the user's effective permissions are the same as the user configured permissions and the role configured permission, except applied separately. When the user accesses a plan file that belongs to the North region, it will be read only, and the user will not be able to change calc methods. When the user accesses a plan file that belongs to the South region, it will be read/write, and the user has all of the other plan file permissions as defined for the role.

If there is any overlap between the two independent permissions, then the user will be granted the most permissive set of rights for the area of overlap only. In the above example the filters cannot overlap, but imagine that the user and role filters were instead something like the following:

User Filter: DEPT >= 5000 and DEPT < 6000

Role Filters: DEPT >= 4000 and DEPT < 6000

In this case, the role permissions alone would apply to any departments from 4000 up to 4999. Where the permissions overlap, for departments 5000 to 5999, the user and role permissions would be combined.

NOTE: If you use independent inheritance with a specific role instead of all roles, that configuration blocks inheritance from all other roles unless the user has another permission set that allows the inheritance from the other roles.

Multiple permission sets

For each file group, a user can have multiple sets of permissions that apply to the plan files in that file group. This allows you to define different permissions for different subsets of files. For example, you might want to give a user full read/write access to plan files belonging to the North region, but only read access to plan files belonging to the South region. In this case, you can create two sets of permissions for the user.

If a user has multiple permission sets, each permission set has its own role inheritance settings. For example, you may want to define filters at the user level, but define other access rights at the role level, as shown in the following example:

User Permission Set 1, Combine: Role A

File Group Settings	User Configured Settings (Set 1)	Role A Configured Settings	User Effective Permissions (Combine: Role A)
File Access Level	None	Read/Write	Read/Write
Allow Save Data	Unchecked	Checked	Checked
Allow Calc Method Insert	Unchecked	Checked	Checked
Allow Calc Method Change	Unchecked	Checked	Checked
Apply settings to	Filtered Plan Files: DEPT.Region='North'	Filtered Plan Files: <Blank Filter>	Filtered Plan Files: DEPT.Region='North'

User Permission Set 2, Combine: Role B

File Group Settings	User Configured Settings (Set 2)	Role B Configured Settings	User Effective Permissions (Combine: Role B)
File Access Level	None	Read Only	Read Only
Allow Save Data	Unchecked	Unchecked	Unchecked
Allow Calc Method Insert	Unchecked	Checked	Checked
Allow Calc Method Change	Unchecked	Unchecked	Unchecked
Apply settings to	Filtered Plan Files: DEPT.Region='South'	Filtered Plan Files: <Blank Filter>	Filtered Plan Files: DEPT.Region='South'

The ability to define multiple permission sets with separate inheritance settings is a very flexible feature, able to meet a wide variety of security needs. When using multiple permission sets, keep in mind that it is possible to configure settings that cancel out or contradict the settings of another set.

For example, if you configure one permission set with no role inheritance, and then you configure a second permission set with independent inheritance, then the no inheritance setting on the first set is pointless (since you are already independently inheriting all role settings from the second set). On the other hand, it can be meaningful to have no inheritance on the first permission set, and then combine inheritance on the second permission set (for either all roles or a specific role). Make sure that you understand the purpose of each permission set, and check the effective permissions section for the user to ensure that permissions are being inherited as intended.

Configuring table permissions (Tables tab)

On the **Tables** tab of the **Security Management** dialog, you can manage user access to tables. You can control what data a user can query from a table (*read access*), and what data a user can save to a table (*write access*).

Table access can be managed at the table level and at the table type level. By default, users have the following permissions:

- All table types, and stand-alone data tables and reference tables, start at "no access" for both read and write. You must configure access to these table types and tables on a per user or role basis. If access is defined for a table type, then any tables added to the table type will automatically inherit that access.
- All document reference tables are automatically set to full read access, via the Everyone role.

NOTES:

- If a user is an administrator, the settings on this tab are ignored. Administrators can access data in all tables.
- If you are defining permissions for a subsystem, see Defining maximum permissions for subsystems.

Understanding table permissions

This section explains how the table access settings in Security work.

Read access and write access

Each table and table type can have read access permissions and write access permissions.

- *Read access* defines what data a user can query from a table—for example, via a GetData function or by running an Axiom query. For each table or table type, a user can have no read access, full read access, or filtered read access.

- *Write access* defines what data a user can save to a table. For most users this means via a Save Type 1 process set up in a plan file or a report, but it also applies to Open Table in Spreadsheet (if the user has access to it). For each table or table type, a user can have no write access, full write access, or filtered write access.

  NOTE: Table write access does not apply to document reference tables (Save Type 3). Document reference tables can only be created and edited via a source document; therefore the ability to write data to the table is controlled by the user's access rights to the source document. Also, write access is ignored for import packages—if the user has execute rights to an import, then they can save the imported data to the specified destination table, regardless of their write access to that table.

By default, the write access for a table or table type is set to the same level as the read access. If that is the desired level of access, then you only need to configure the read access; the write access will be automatically set. You can see this inheritance for the write access in the **Effective Permissions** box after you set the read access.

However, if you want differing levels of read and write access for a table or table type, then you must select the **Specify custom write access** check box, and then configure the specific write access.

For example, imagine the following settings for the table GL2020:

If the read access is set to...	And the write access is set to...	The user's permission is...
Full Access	(Default)	Read: Full Access Write: Full Access
Filter: DEPT.Region='North'	(Default)	Read: DEPT.Region='North' Write: DEPT.Region='North'
Full Access	Specify custom write access: Filter: DEPT.Region='North'	Read: Full Access Write: DEPT.Region='North'
Full Access	Specify custom write access: Filter: <Blank Filter>	Read: Full Access Write: No Access
No Access	Specify custom write access: Full Access	Read: No Access Write: Full Access

NOTES:

- For reference tables, the read access settings are only applied when the reference table is queried directly—for example, when viewing the reference table using **Open Table in Spreadsheet**, or when the reference table is the *primary* table of an Axiom query. The read access settings defined on a reference table are not applied when queries are made against a data table that joins to the reference table.

  Therefore if you want to restrict access to *data*, the filter must be defined on the data table or its table type. For example, if you want to restrict a user to only viewing planning data for the North region, then you must define that filter on the data table or the table type, not on the DEPT reference table.

- Read filters are not applied to data that already exists in a spreadsheet. For example, when the administrator runs the **Process Plan Files** utility to process Axiom queries in plan files, the plan files are populated with data according to the administrator's data rights. When individual users open these plan files, they see all of the data that was populated into the spreadsheet. The read filters of the individual users would only be applied if the users processed Axiom queries by using the Refresh feature. If you would like to limit data access in plan files, you can consider dynamically hiding sheets that you do not want particular users to access.

- Keep in mind that just because a user has write access to a table, it does not mean that the user actually has the means to save any data. For example, in order for a user to save data to a table from a plan file, the user must have access rights to the plan file, and the permission to save data from the file, and the file must be configured to save data to the table. If a user does not have access to files and/or features that facilitate saving data to the database, then the user cannot save any data, regardless of his or her write access permissions.

How table type access and table access combine

Tables inherit any rights set at the table type level, and then combine that access with any rights set at the table level, resulting in the most permissive set of rights for the table.

- If a table type is set to full or filtered access, then all tables in that table type inherit the full or filtered access. You cannot "override" the table type setting at the table level to deny access to a specific table in the table type. You can set individual tables to have more permissive access than the table type, but not less permissive.
- If desired, you can leave the table type access unset, and instead configure access at the table level. The user will be granted whatever access is set at the table level.
- If access filters are set at both the table type level and the table level, the filters are concatenated using OR (meaning the filters are combined to result in the most permissive set of rights for the table).

For example, imagine a table type of GL, which contains a table named GL2020:

If the table type GL is set to...	And the table GL2020 is set to...	The user's permission is...
Full Access	No Access (nothing is configured)	Full Access
Full Access	DEPT.Region='North'	Full Access
No Access (nothing is configured)	DEPT.Region='North'	DEPT.Region='North'
DEPT.Region='South'	Full Access	Full Access
DEPT.Region='South'	DEPT.Region='North'	(DEPT.Region='South') OR (DEPT.Region='North')

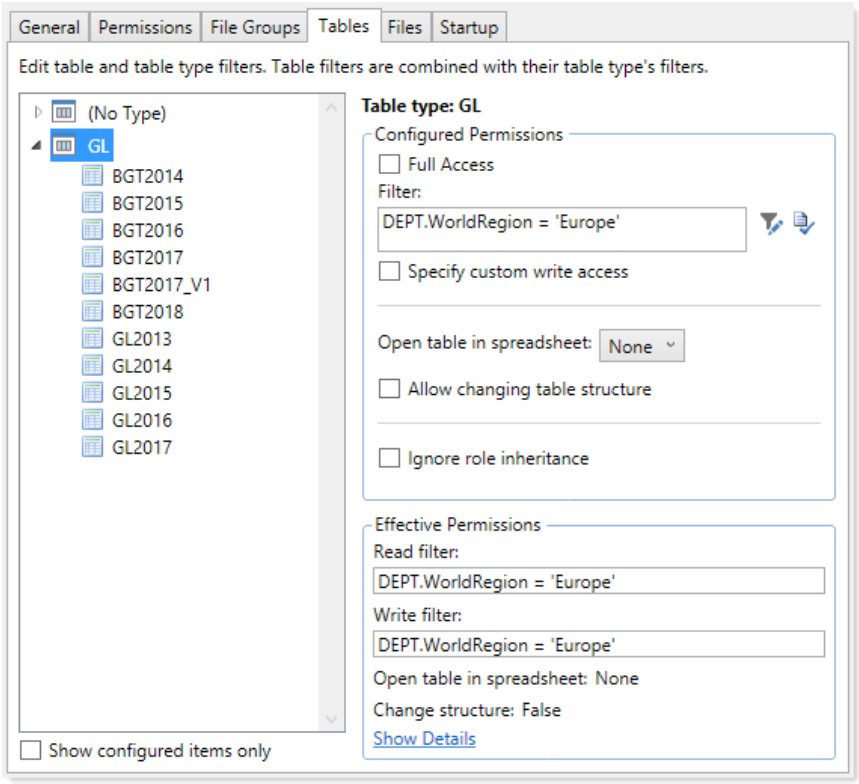
Tables that do not belong to a table type only have their individual table access rights.

Table visibility to users

If a user does not have any read access to a table, then that table will not display in lists of tables throughout the system, such as in the Sheet Assistant, or the Filter Wizard. Table Library folders and table types will only display if the user has read access to at least one table within the folder or the table type. (Exception: if the user has the Administer Tables permission, then that user will see all Table Library folders and table types for the purposes of creating new tables.)

Table permissions

The settings on the **Tables** tab define access for each table or table type. The left-hand side of the tab lists the available tables in the system, organized by table type. Tables that do not belong to a table type are listed under **(No Type)**. When you select a table or a table type in the list, you can configure the security settings for the user or role within the **Configured Permissions** section in the right-hand side of the tab.



Example Tables tab

The **Effective Permissions** section displays the full permissions of the user for the selected item, taking into account any rights inherited from the table type or a role, and other settings such as administrator rights or subsystem restrictions. Make sure to check this section to ensure that users are being granted rights as you expect.

Because table permissions can be set at any point in the treeview, it can be difficult to later tell which items have been configured. To change the view to only show items with configured permissions, select the check box for **Show configured items only**. If the treeview is blank after selecting this check box, this means that the user or role has no configured permissions.

NOTE: By default, the Everyone role grants all users full read access to document reference tables. Any changes made to document reference tables in the **Tables** tab will not apply to users unless you modify the Everyone role to remove full access (or unless you configure the user to ignore role inheritance for that table).

Read access settings

The following settings apply to all tables and table types, to define read access to data. By default, the write access is automatically set to the same level as the read access. If that is the desired level of access, then you do not need to do anything further to configure write access for a table or table type.

Item	Description
Full access (Full read access)	Select this check box if you want the user or role to have full access to the table or table type. By default, this check box grants full read and write access. If you want to configure write access separately, then you must enable the separate option to **Specify custom write access**. Selecting that option exposes additional settings for write access, and renames this check box to **Full read access**. **NOTE:** If you are defining access for a table that belongs to a table type, and full access has already been granted at the table type level, then this check box is effectively ignored. However, the setting will be stored at the table level and could apply in the future if the table type access is ever changed, or if the table is removed from the table type. Be sure to check the **Effective Permissions** section of the dialog to see what level of access is being granted due to inheritance.
Filter (Read filter)	If you want the user or role to have filtered access to the table or table type, specify the filter. For example: • `ACCT.Acct>10000` restricts the user to only accessing data for accounts over 10000. • `DEPT.Dept=100` restricts the user to only accessing data for department 100. • `DEPT.Region='North'` restricts the user to only accessing data for departments assigned to the North region. By default, the filter applies to both read and write access. If you want to configure write access separately, then you must enable the separate option to **Specify custom write access**. Selecting that option exposes additional settings for write access, and renames this option to **Read filter**. **NOTE:** If you are defining a filter for a table that belongs to a table type, the filter will be concatenated to the table type filter using OR. If full access has been granted at the table type level, then the table level filter is effectively ignored. However, the filter will be stored for the table and could apply in the future if the table type access is ever changed, or if the table is removed from the table type. Be sure to check the **Effective Permissions** section of the dialog to see what level of access is being granted due to inheritance.

To define a filter for a table or table type, type the filter into the **Filter** box, or use the Filter Wizard . Note the following:

- If the filter is for a table type, the filter should be based on key columns that are common to all tables in the table type (using either the key column itself, or a column in the lookup table that the key column links to). For example, if the GL table type has two required key columns, ACCT and

DEPT, then you can create a table type filter that uses one or both of these columns, or one that uses grouping columns in the associated reference tables. Filters using any other columns may be invalid.

- If the table type has required columns, then any filter defined must be based on those required columns. If the required columns do not have lookups, then no valid filters can be defined.
- When selecting key columns in the Filter Wizard, the Filter Wizard automatically uses the lookup column in the reference table instead of the column in the data table. For example, if you select the column Acct in the GL2020 data table, the filter wizard automatically uses `ACCT.ACCT` in the filter (instead of `GL2020.ACCT`).

After defining a filter, you can validate the filter syntax by clicking the **Validate filter** button .

IMPORTANT: If you define a write filter on a reference table, then any columns used in the filter must also be included in the save definition when saving to that table using Save Type 1. For example, if the table is DEPT and the filter uses DEPT.Region, then the Region column must be included in the save definition in order for the user to save data.

Write access settings

The following settings only apply if you want to configure write access at a different level than the read access.

NOTE: Write access settings do not apply to document reference tables. Document reference tables are only created and edited via a source document; therefore the ability to write data to the table is controlled by the user's access rights to the document.

Item	Description
Specify custom write access	Select this check box if you want to configure write access at a different level than the read access. When this check box is selected, two additional settings become available in the dialog to set the write access: **Full write access** and **Write filter**. If you want the user to have no write access to the table, then select this check box and ignore the other write access settings. If **Full write access** is unchecked and **Write filter** is blank, then the user has no write access.

Item	Description
Full write access	Select this check box if you want the user or role to have full write access to the table or table type. **NOTE:** If you are defining access for a table that belongs to a table type, and full access has already been granted at the table type level, then this check box is effectively ignored. However, the setting will be stored at the table level and could apply in the future if the table type access is ever changed, or if the table is removed from the table type. Be sure to check the **Effective Permissions** section of the dialog to see what level of access is being granted due to inheritance.
Write filter	If you want the user or role to have filtered write access to the table or table type, specify the filter. For example: • `ACCT.Acct>10000` restricts the user to only saving data for accounts over 10000. • `DEPT.Dept=100` restricts the user to only saving data for department 100. • `DEPT.Region='North'` restricts the user to only saving data for departments assigned to the North region. **NOTE:** If you are defining a filter for a table that belongs to a table type, the filter will be concatenated to the table type filter using OR. If full access has been granted at the table type level, then the table level filter is effectively ignored. However, the filter will be stored for the table and could apply in the future if the table type access is ever changed, or if the table is removed from the table type. Be sure to check the **Effective Permissions** section of the dialog to see what level of access is being granted due to inheritance.

To define a filter for a table or table type, type the filter into the **Filter** box, or use the Filter Wizard. Note the following:

- If the filter is for a table type, the filter should be based on key columns that are common to all tables in the table type (using either the key column itself, or a column in the lookup table that the key column links to). For example, if the GL table type has two required key columns, ACCT and DEPT, then you can create a table type filter that uses one or both of these columns, or one that uses grouping columns in the associated reference tables. Filters using any other columns may be invalid.
- If the table type has required columns, then any filter defined must be based on those required columns. If the required columns do not have lookups, then no valid filters can be defined.
- When selecting key columns in the Filter Wizard, the Filter Wizard automatically uses the lookup column in the reference table instead of the column in the data table. For example, if you select the column Acct in the GL2020 data table, the filter wizard automatically uses `ACCT.ACCT` in the filter (instead of `GL2020.ACCT`).

After defining a filter, you can validate the filter syntax by clicking the **Validate filter** button .

IMPORTANT: If you define a write filter on a reference table, then any columns used in the filter must also be included in the save definition when saving to that table using Save Type 1. For example, if the table is DEPT and the filter uses DEPT.Region, then the Region column must be included in the save definition in order for the user to save data.

Other table permissions

The following permissions can also be defined for tables and table types:

Item	Description
Open Table in Spreadsheet	This option specifies whether the user can view the table in Open Table in Spreadsheet, and at what level of access. Select one of the following: • **None** (default): The user cannot view the table in Open Table in Spreadsheet. • **Read-Only**: The user can view the table as read-only in Open Table in Spreadsheet. • **Read/Write**: The user can view the table as read/write in Open Table in Spreadsheet. Granting this permission gives the user access to the Table Library, so that the user can launch Open Table in Spreadsheet for the table. This permission does not apply to document reference tables. Document reference tables cannot be opened via Open Table in Spreadsheet. This permission can only be assigned if the user has read or read/write permission to the table data (either configured on the user or inherited from a role). If the user inherits Open Table in Spreadsheet permission from a role but does not have any corresponding access to table data, then the permission will be ignored. If the user is granted read/write access to Open Table in Spreadsheet but only has read access to the table, then the spreadsheet access will be limited to read-only.

Item	Description
Allow changing table structure	Select this check box if you want the user to be able to edit the table structure and table properties. If selected, then the user can open the **Edit Table** dialog for the table. The user can add, modify, and delete table columns, as well as modify other table properties. Granting this permission gives the user access to the Table Library, so that the user can launch **Edit table structure** for the table. By default this option is not selected, which means the user cannot edit the table structure or table properties. This permission does not apply to document reference tables. The table structure of document reference tables is controlled via the source file. This permission can be granted regardless of whether the user has access to the table data.
Ignore role inheritance	Select this check box if you do not want the user to inherit table access settings from a role (including the Everyone role). • If selected, then only the user's individual settings will be used to determine access to data in the table or table type. • If this check box is not selected, then the user will be granted the most permissive set of rights among the user's configured settings and any roles that the user belongs to. If both the user and a role have filtered access, then the filters are concatenated using OR.

Restricting access to document reference tables

By default, all users have full read access to document reference tables, via the Everyone role. In most cases this is the desirable level of access. However, in some cases you may need to restrict access to a subset of users. To restrict access to a document reference table, you must do the following:

- In the Everyone role, clear the **Full Access** check box for the table. Now no non-admin users have access to the table.
- For each individual user or role that you want to grant full or filtered access to the table, modify the table access settings as desired.

TIP: Alternatively, you could leave the Everyone role at full access, and then modify specific users to **Ignore role inheritance** for the table. Those users would then have no access to the table.

Write access settings do not apply to document reference tables. Document reference tables are only created and edited via a source document; therefore the ability to write data to the table is controlled by the user's access rights to the document.

NOTE: If you have restricted access to a document reference table created by a driver file, keep in mind that your security changes will not be cloned when the file group is cloned. This is because the table itself is not cloned; the driver file is. If you want to apply the same changes to the new table created by the new driver file, then you will need to manually configure access to this table after processing the drivers for the new file group.

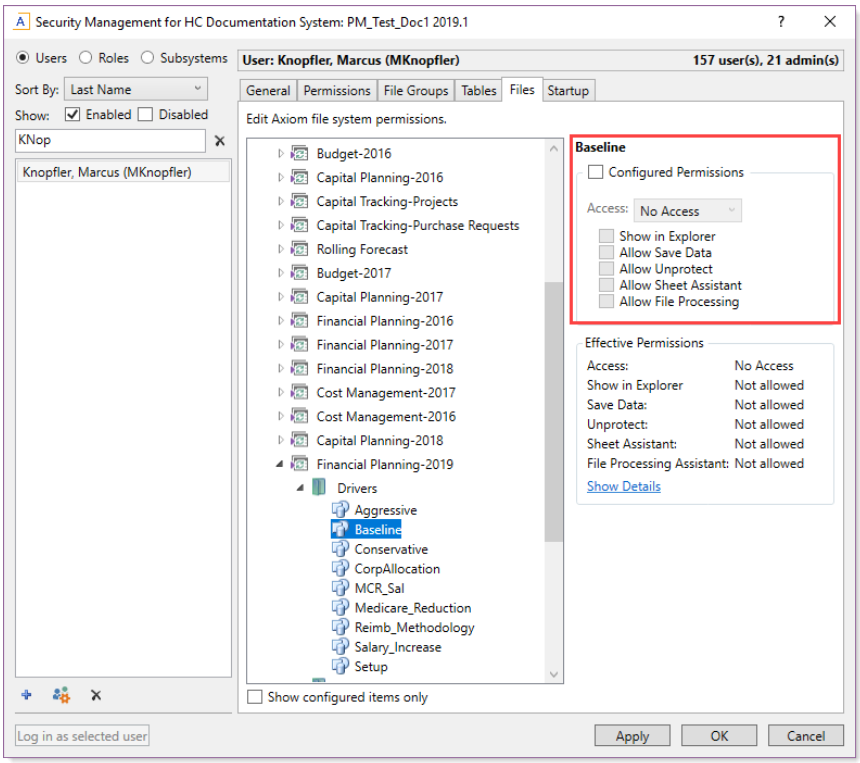
Grant user access to specific drivers

Security administrators can give selected users access to specific drivers by making them available in the Fin Plan task pane. This is useful for non administrators who need to manage certain drivers, such as global assumptions. The manage driver utility only displays drivers to which the user has access, and only users with access to at least one driver will see the Financial Plan Assumptions section in the Fin Plan task pane.

To grant a user access to specific drivers:

1. On the **Admin** ribbon tab, in the **System Management** group, click **Security** > **Security Manager**.
2. In the **Security Manager** dialog, in the user list on the left, select the user.
3. On the right, click the **Files** tab.
4. In the **Edit Axiom file system permissions** pane, scroll down to and expand **File Groups**.
5. Under **File Groups**, expand the Financial Planning year for which the user needs driver access (for example, Financial Planning - 2018).
6. Under the year, expand **Drivers**, and then in the list of drivers, select the driver to grant access to.

   Configuration settings for the driver display on the right:



7. In the driver permissions section, select the **Configured Permissions** check box.
8. From the **Access** drop-down, select **Read/Write**.
9. In the list of permissions, select **Show in Explorer** and **Allow Save Data**.
10. Click **Apply**.
11. If the user needs access to the driver for an additional year, repeat steps 5 through 10.
12. Click **OK**.

It is a good idea to log in as the user to verify that you have provided the correct access to the desired driver for the desired year(s).

Configuring file access (Files tab)

On the **Files** tab of the **Security Management** dialog, you can control access to files in the Axiom Financial Planning file system. The following areas can be controlled:

- The Reports Library
- The Data Diagrams Library
- The Filter Library
- The Imports Library and the Exports Library
- The Process Definitions Library
- The Scheduler Jobs Library

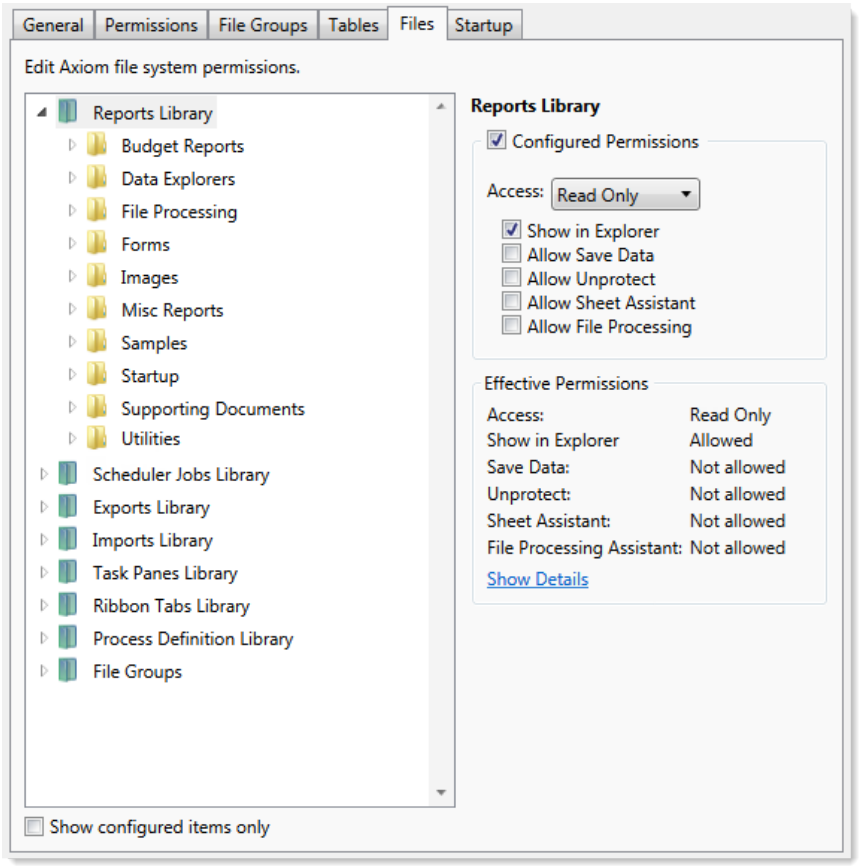
- The Task Panes Library
- The Ribbon Tabs Library
- Certain supporting files for file groups: Templates, Drivers, Utilities, and Process Definitions

NOTES:

- File permissions do not apply to users with administrator rights. Administrators always have full access to all files.
- File permissions must be defined within the Security Management dialog. The bulk editing tool Open Security in Spreadsheet does not support configuring file and folder permissions.
- If you are defining file permissions for a subsystem, see Defining maximum permissions for subsystems.

Configuring file permissions

The left-hand side of the **Files** tab displays the available folders and files. When you select a folder or a file in the list, you can define the security settings for the user or role within the **Configured Permissions** section in the right-hand side of the tab.



Example Files tab

File permissions can be set at the folder level and at the file level. By default, all sub-folders and files underneath a parent folder inherit the rights of the parent folder, unless rights are explicitly set for the sub-folder or file.

You can set permissions at the library level and then override those permissions for specific sub-folders and files as needed, or you can set permissions for specific sub-folders and files only.

By default, each user or role has no access to any files or folders on this tab. You must define file permissions for each user or role.

To configure permissions to a file or folder:

1. Select the file or folder in the treeview, and then select **Configured Permissions**.

   If this check box is selected for a sub-folder or a specific file, the sub-folder or file will no longer inherit any permissions set for the parent folder. You can clear the check box, and the sub-folder or file will once again inherit permissions from the parent folder.

2. Select the applicable permission options as desired.

   Each type of file (reports, import, etc.) has slightly different security settings that can be defined on this tab. For more information on the file-specific options, see the detailed sections.

If a new folder or file is added to any library, a user will have access to it if the folder or file is placed underneath an existing parent folder that the user has rights to. For example, if a user has rights to the entire Reports Library, that user will have access to any new folders and files added to the Reports Library. If a user only has rights to a specific sub-folder in the Reports Library, that user will have access to new folders and files added to that sub-folder.

The **Effective Permissions** section displays the full permissions of the user, taking into account any inherited role rights, and other settings such as administrator rights. This section also takes into account rights that are inherited from a parent folder.

NOTE: Because file permissions can be set at any point in the treeview, it can be difficult to later tell which items have been configured. To change the view to only show items with configured permissions, select the check box for **Show configured items only**. If the treeview is blank after selecting this check box, this means that the user or role has no configured permissions.

Reports Library

The following permissions can be set for files in the Reports Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to reports can open and refresh reports, but cannot save changes. If read access is set at the folder level, users cannot save new reports to that folder. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders.
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box for the target report of a custom drill. The user only needs to be able to access this report when performing a custom drill on the source file. Displaying the file in the Reports Library would just clutter the list of files because the user never needs to open the file from that location. **NOTE:** The **Reports Library** dialog (accessible from **Reports > All Reports**) does not honor this permission. If a user has at least read-only access to a report, it will show in this dialog, regardless of the Show in Explorer permission.

Option	Description
Allow Save Data	Select this check box if you want the user or role to be able to save data to the database for the folder or file. If a report is set up to use Save Type 1, 3, or 4, the user will be able to save data to the database. If this check box is not selected, then the user cannot save data to the database from the report. **NOTE:** If a user has **Read Only** access and **Allow Save Data**, then the user will be able to save data to the database but not save changes to the file. Note that users with this combination of rights can save data from the file at any time, regardless of whether the file is locked to another user.
Allow Unprotect	Select this check box if you want the user or role to be able to remove workbook and/or worksheet protection for this folder or file. Users with this permission can use the **Advanced** > **Protect** options on the ribbon to remove workbook or worksheet protection from Axiom files. **IMPORTANT:** If you enable this permission at the folder level, then the user will be able to unprotect any file that they save to the folder (assuming that the user has read/write access to the folder). **NOTE:** This setting is ignored for users with the **Remove Protection** permission on the **Permissions** tab; those users can remove protection for any file.
Allow Sheet Assistant	Select this check box if you want the user or role to see the Sheet Assistant. Generally, you should only expose the Sheet Assistant if the user is expected to edit file settings, including Axiom query settings. Enabling this permission also has the following impacts: • The user has access to the Control Sheet. If the Control Sheet is hidden in the document, the user can make it visible by double-clicking any field name in the Sheet Assistant. • If the user has read / write permission and the Sheet Assistant permission, then the user can enable forms for the file and can see the Form Assistant and Form Control Sheet. • The Drilling Control Sheet, if present in the file, is not hidden if the user has the Sheet Assistant permission. • The Data Source Assistant is also available if the Sheet Assistant is available. If this check box is not selected, then the user cannot see the Sheet Assistant or the other related items as described above.

Option	Description
Allow File Processing	Select this check box if you want the user or role to be able to perform file processing on the file. If selected, then the user has access to file processing features, including the File Processing button on the menu and the File Processing task pane. The related control sheets will also be visible to the user. If this check box is not selected, then the user cannot perform file processing actions and cannot see the related menu items, task panes, or control sheets.

NOTE: If a user does not have access to any report files or folders, then the Reports menu item does not display on the menu, and the user cannot create reports.

Filter Library

The following permissions can be set for files in the Filter Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or filter. • **Read Only**: The user or role has read-only access to the folder or filter. Users with read-only access to saved filters can load those filters into the Filter Wizard for use. If read access is set at the folder level, users cannot save new filters to that folder. • **Read/Write**: The user or role has read/write access to the folder or filter. If the item is a filter, the user can save changes to the filter. If the item is a folder, the user can also save new filters to the folder, create sub-folders, and delete and rename filters and folders.
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored.

Scheduler Jobs Library

NOTE: Users must also have the **Scheduled Jobs User** permission (on the **Permissions** tab) in order to access any files in the Scheduler Jobs Library.

IMPORTANT: Users do not have to have any file permissions to a Scheduler job in order to execute that job via an event handler (such as when using Run Event or Raise Event).

The following permissions can be set for files in the Scheduler Jobs Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to Scheduler jobs can open jobs and can manually execute jobs, but cannot save changes. If read access is set at the folder level, users cannot save new jobs to that folder. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders.
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box if a user needs to be able to open a Scheduler job from a shortcut in a task pane, but otherwise the user does not need to be able to browse to it in the Scheduler Jobs Library.

Exports Library

The following permissions can be set for files in the Exports Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot open the folder or file (however, they can execute the export, if they have the separate Execute permission). • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to exports can open export files to view the settings, but they cannot edit the settings. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders. **NOTE:** Read/write access to the Exports Library does not allow the user to create exports. Export creation is controlled by the **Administer Exports** permission on the **Permissions** tab.
Execute	Select this check box to give the user execute permissions to the folder or file. Users with execute permissions can run the export. **NOTE:** Table read permissions are honored for export packages. When the user executes the export, the user's permission to the table will determine the eligible data to export. If the user does not have access to the table at all, then no data will be exported.

Option	Description
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. For example, you might clear this check box if a user needs to be able to execute an export from a shortcut in a task pane, but otherwise the user does not need to be able to browse to it in the Exports Library. **NOTE:** If a user has Execute permissions but No Access to the export file, then you should select this check box if you want the export to display in the Export Library. When using this configuration, the user can double-click the file to open the Execute dialog only. If, however, the user will only execute the export from links in a task pane or other predefined links, then you can leave this option cleared.

NOTE: The export access permission and the execute permission are independent. A user can have no access to an export file but still be given execute permissions. Similarly, a user can have read/write access to the export settings, but not be able to execute it.

Imports Library

The following permissions can be set for files in the Imports Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file (however, they can execute the import, if they have the separate Execute permission). • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to imports can open import files to view the settings, but they cannot edit the settings. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders. **NOTE:** Read/write access to the Imports Library alone does not allow the user to create new imports. The user must also have the **Administer Imports** permission on the **Permissions** tab.
Execute	Select this check box to give the user execute permissions to the folder or file. Users with execute permissions can run the import. **NOTE:** Table write permissions are ignored for import packages. If a user has execute rights to an import, then the imported data will be saved to the configured destination table, regardless of the user's write access to that table.
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. **NOTE:** If a user has Execute permissions but No Access to the import file, then you should select this check box if you want the import to display in the Import Library. When using this configuration, the user can double-click the file to open the Execute dialog only. If, however, the user will only execute the import from links in a task pane or other predefined links, then you can leave this option cleared.

NOTES:

- The import access permission and the execute permission are independent. A user can have no access to an import file but still be given execute permissions. Similarly, a user can have read/write access to the import settings, but not be able to execute it.
- The Import Errors folder is system-maintained and therefore does not display in this dialog. You cannot manually grant or deny access to this folder or the error files within it; access is automatically granted based on access to the import that generated the error.
- If an import uses an Axiom database as its source, then non-administrators cannot view or edit that import regardless of their access rights granted here. However, non-administrators can execute the import if they have that permission.

Task Panes Library

The following permissions can be set for files in the Task Panes Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to task panes can view and use task panes but cannot save changes. If read access is set at the folder level, users cannot save new task panes to that folder. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders. **NOTE:** Users must also have the **Administer Task Panes** permission (on the **Permissions** tab) in order to create or edit task panes.

Option	Description
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box if a user needs to be able to open an associated task pane for a file, but otherwise the user does not need to be able to open the task pane from the Task Panes Library.

NOTES:

- Task panes can contain shortcuts to various files and system features. The ability of a user to open a file or use a feature from the task pane depends on the user's permission for that file or feature.
- Users do not need to have access permission to a task pane in order to open it at startup. If a user is assigned a task pane on the Startup tab of security, it will always open as read-only at startup, regardless of the user's access permission.
- By default, the Axiom ribbon tab does not contain any command to open task panes. If a user has rights to a file in the Task Panes Library, then in order to see and open this file manually the user must have access to either the Explorer task pane or the Axiom Explorer dialog, or you must include access to the task pane within another custom task pane or ribbon tab file that is assigned as a startup file to the user. For example, you might create a custom task pane that includes a link to the Task Panes Library, and if a user has file access rights to any task panes they could be launched from this location. Users only gain access to the **Manage > Task Panes** menu item if they have the **Administer Task Panes** security permission.

Ribbon Tabs Library

The following permissions can be set for files in the Ribbon Tabs Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to task panes can view ribbon tab files but cannot save changes. If read access is set at the folder level, users cannot save new ribbon tab files to that folder. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders. **NOTE:** Users must also have the **Administer Task Panes** permission (on the **Permissions** tab) in order to create or edit task panes.
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. This setting does not have much use for ribbon tab files because ribbon tabs are typically configured as startup files for end users, and end users do not need access permission to be able to open the file at startup.

NOTES:

- Users do *not* need to have access permission to a ribbon tab in order to open it at startup. If a user is assigned a ribbon tab on the Startup tab of security, it will always open as read-only at startup, regardless of the user's access permission.
- In general, there is no need to grant end users access to the Ribbon Tabs Library unless the user needs to be able to create and edit ribbon tabs. If a user opens a ribbon tab file directly from the Ribbon Tabs Library, it will always open in the editor, not in the application ribbon. There is no way to open a ribbon tab file on demand and have it display in the application ribbon.

Process Definition Library

The following permissions can be set for files in the Process Definition Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to the file can open the process definition from the Explorer task pane and view the settings. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders. Users with read/write access cannot start or stop the process, they can only edit the process definition settings.

Option	Description
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box if a user needs to be able to open a process definition from a shortcut in a task pane, but otherwise the user does not need to be able to browse to it in the Process Definition Library.

Data Diagrams Library

The following permissions can be set for files in the Data Diagrams Library:

Option	Description
Access	Select one of the following: • **No Access**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders.

Option	Description
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box if a user needs to be able to open a data diagram from a shortcut in a task pane, but otherwise the user does not need to be able to browse to it in the Data Diagrams Library.

File Groups

The following permissions can be set for certain files and folders in file groups. Each file group is listed separately in this section, with sub-folders for Templates, Drivers, Utilities, and Process Definitions.

NOTE: Permissions cannot be set at the file group level and inherited by the folders. Each folder must be configured separately.

Option	Description
Access	Select one of the following: • **Hidden**: The user or role cannot access the folder or file. • **Read Only**: The user or role has read-only access to the folder or file. Users with read-only access to files can open and refresh those files, but cannot save changes. If read access is set at the folder level, users cannot save new files to that folder. • **Read/Write**: The user or role has read/write access to the folder or file. If the item is a file, the user can save changes to the file. If the item is a folder, the user can also save new files to the folder, create sub-folders, and delete and rename files and folders.

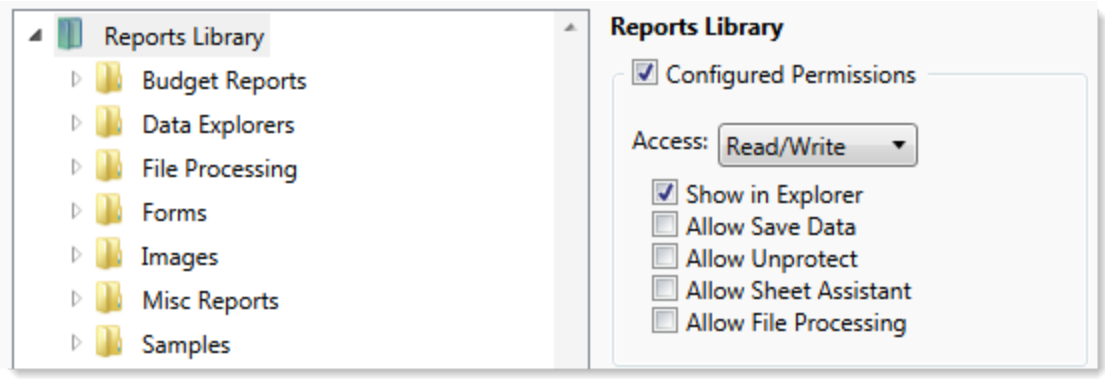
Option	Description
Show in Explorer	Select this check box if you want the file to display in the Explorer task pane and other "Explorer views" of the file library (such as Axiom Explorer, libraries displayed on the ribbon menu, and libraries displayed when saving files). This check box becomes selected by default when you assign an access level of Read Only or higher. If this check box is cleared, and the user has Read Only access or higher, then the file does not display in Explorer views but the user can still open the file if the user has access to a feature that indirectly opens the file. This includes features such as custom drilling, GetDocument functions, and file shortcuts in task panes and ribbon tabs. The idea is that the user never needs to directly open the file from a folder structure, but the user needs access to the file in order to use these other features. If the user's access level is No Access, then this setting is ignored. For example, you might clear this check box if a user needs to be able to open the file from a shortcut in a task pane, but otherwise the user does not need to be able to browse to it in the Explorer task pane.
Allow Save Data	Select this check box if you want the user or role to be able to save data to the database for the folder or file. If a file is set up to use Save Type 1, 3, or 4, the user will be able to save data to the database. If this check box is not selected, then the user cannot save data to the database from the report. **NOTES:** • If a user has **Read Only** access and **Allow Save Data**, then the user will be able to save data to the database but not save changes to the file. Note that users with this combination of rights can save data from the file at any time, regardless of whether the file is locked to another user. • This permission is ignored for template files and does not apply to process definitions. Save-to-database processes do not run within file group templates.

Option	Description
Allow Unprotect	Select this check box if you want the user or role to be able to remove workbook and/or worksheet protection for this folder or file. Users with this permission can use the **Advanced > Protect** options on the ribbon to remove workbook or worksheet protection from Axiom files. **IMPORTANT:** If you enable this permission at the folder level, then the user will be able to unprotect any file that they save to the folder (assuming that the user has read/write access to the folder). **NOTES:** • This setting is ignored for users with the **Remove Protection** permission on the **Permissions** tab; those users can remove protection for any file. • This setting does not apply to process definitions.
Allow Sheet Assistant	Select this check box if you want the user or role to see the Sheet Assistant. Generally, you should only expose the Sheet Assistant if the user is expected to edit file settings, including Axiom query settings. Enabling this permission also has the following impacts: • The user has access to the Control Sheet. If the Control Sheet is hidden in the document, the user can make it visible by double-clicking any field name in the Sheet Assistant. • If the user has read / write permission and the Sheet Assistant permission, then the user can enable forms for the file and can see the Form Assistant and Form Control Sheet. • The Drilling Control Sheet, if present in the file, is not hidden if the user has the Sheet Assistant permission. • The Data Source Assistant is also available if the Sheet Assistant is available. If this check box is not selected, then the user cannot see the Sheet Assistant or the other related items as described above. **NOTE:** This setting does not apply to process definitions. Also, control sheets are not hidden in template files.
Allow File Processing	Select this check box if you want the user or role to be able to perform file processing on the file. If selected, then the user has access to file processing features, including the File Processing button on the menu and the File Processing task pane. The related control sheets will also be visible to the user. If this check box is not selected, then the user cannot perform file processing actions and cannot see the related menu items, task panes, or control sheets. **NOTE:** This setting does not apply to process definitions.

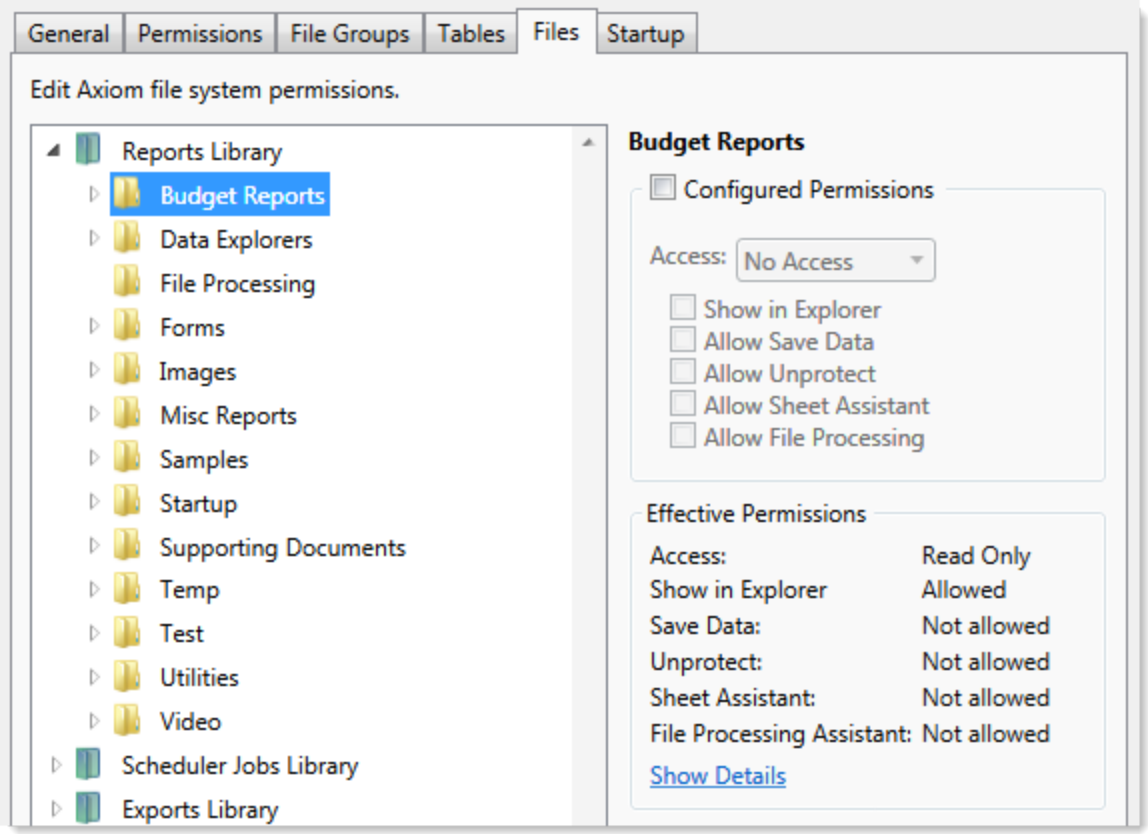
File permission examples

The following examples use the Reports Library, but the concept of folder inheritance applies to all files on the Files tab.

If a user has read/write access to the Reports Library, that user can access and save files anywhere in the library, unless a different level of access is explicitly set for a sub-folder or a file. For example:

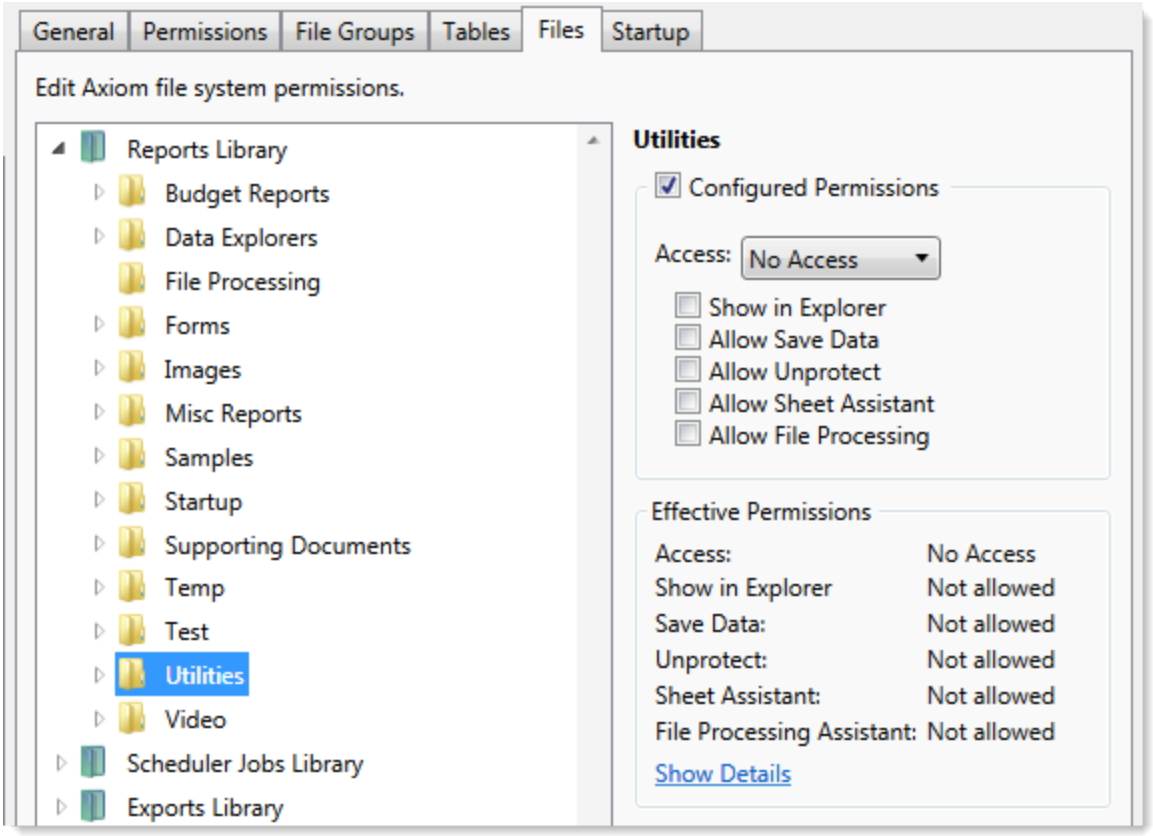


Sub-folders and files inherit the rights defined for the parent folder, unless permissions are explicitly set for the sub-folder or file. When you select a sub-folder or file in the folder tree, you can tell if it is inheriting permissions by whether the **Configured permission** check box is selected. If this check box is not selected, then the folder or file is inheriting permissions, and you can view the inherited permissions in the **Effective Permissions** section.



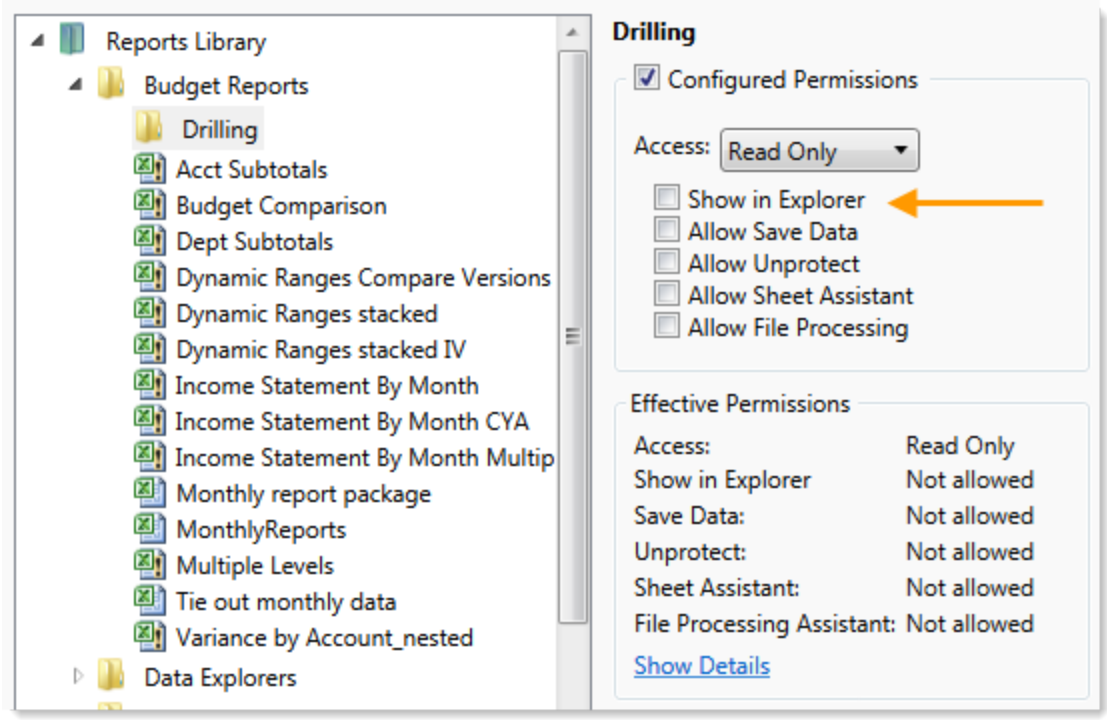
NOTE: The effective permissions also take into account role inheritance and administrator rights (if applicable). Therefore, the sub-folder or file might show a different level of permissions than its parent folder, if it is inheriting from a role.

If rights are set at the library level, but you want to set a different level of rights for a specific folder or file, select **Configured permission** for that folder or file and define the desired level of rights. In the following example, the user has read/write access to the Reports Library, but no access to the **Utilities** sub-folder.



Note that if the user was assigned to a role that had access to the Utilities folder, then the user would be granted that level of access even though the folder is explicitly hidden for the user. Users are granted the highest level of file permissions allowed by their user rights and assigned roles. You cannot override role inheritance for report file access.

It is also possible to grant a user access to a file or folder, but hide that file/folder in the user's Explorer task pane and other "Explorer views." In the following example, the **Drilling** sub-folder contains drill target files. The user needs read-only access to the files in order to perform the drill, but otherwise the user never needs to open the files directly or see the files in their Reports Library. By clearing the **Show in Explorer** option, this folder and its files will not display to the user.



Assigning startup files (Startup tab)

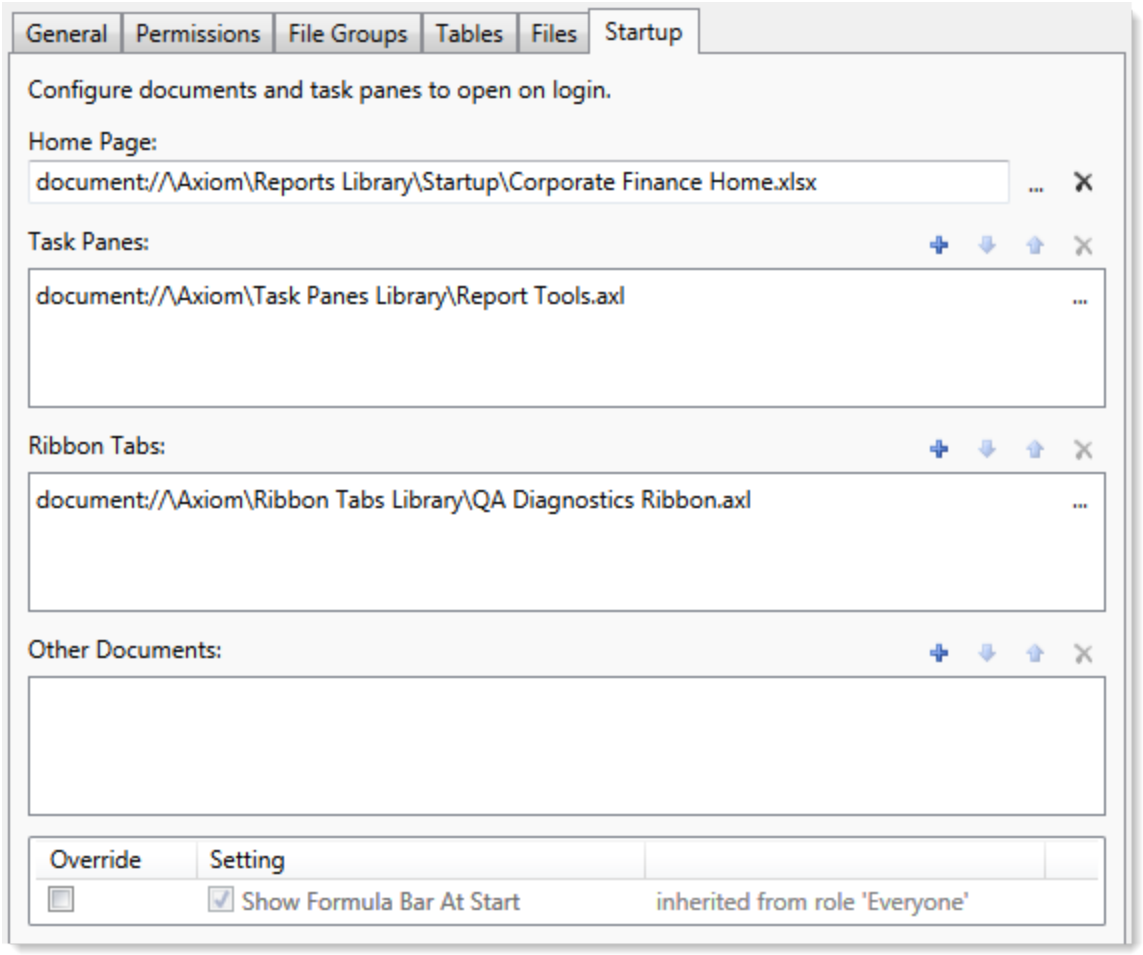
On the **Startup** tab of the **Security Management** dialog, you can specify which files to open automatically when a user logs into the system. You can also configure certain startup options.

Startup files are assigned using the following categories:

- **Home Page**: You can assign an alternate home page for a user or role.
- **Task Panes**: You can assign custom task panes to open on startup.
- **Ribbon Tabs**: You can assign custom ribbon tabs to open on startup.
- **Other Documents**: You can assign additional reports (regular or form-enabled) to open on startup.

NOTE: Startup files are stored by document ID. If you subsequently change the name of a startup file or move it to a different location, the startup configuration will still work. If the file is deleted, the startup item will simply be ignored; it will not cause an error on startup.

Startup files only apply when using the Excel Client or the Windows Client, with one exception: if the assigned home page is an Axiom form, that page will also display as the user's home page when accessing forms in the Web Client.



Example Startup tab

Assigning home pages

You can optionally assign home pages on a user or role basis. If a home page is specified in Security, this file will be used instead of the default files in the Startup folders. You can use any Axiom report (including web reports and Axiom forms), or any normal Excel file stored in the Reports Library.

You can assign each user or role a "global" home page to be used in all clients. You can also override this assignment to show a different home page in the Desktop Client (Excel Client or Windows Client).

The home page is always opened as read-only. The user does not need to be granted permissions to the file in order to open it on startup.

To assign a home page to a user or role:

1. On the **Startup** tab of the **Security Management** dialog, click the **[...]** button to the right of either of the following fields:

Item	Description
Home Page	This "global" home page is used in all clients, unless a Desktop Client Home Page is also specified. If you want this home page to display in the Web Client, the selected file must be web-enabled (either an Axiom form or a web report). If the file is not web-enabled, then the assignment will be ignored for purposes of the Web Client.
Desktop Client Home Page	This home page is used in the Desktop Client only (Windows Client or Excel Client), overriding the Home Page assignment.

The **Shortcut Properties** dialog opens so that you can select a file.

2. To specify the file, click the **[...]** button to the right of the **Shortcut Target** box. In the **Choose Document** dialog, select the desired file from the Reports Library, then click **OK**.
3. Once the file has been selected, specify any of the following optional **Shortcut Parameters**:

Item	Description
Axiom Tab Name	An alternate name to display on the file tab. By default, the tab name is "Home".
Quick Filter	A Quick Filter to apply to the file. The Quick Filter must be a valid filter criteria statement. Once the file is opened, users can clear the filter using the Quick Filter option on the ribbon. **NOTE:** Queries in the target file must be configured to refresh on open, in order for the filter to be applied to the data when the file is opened. This option does not apply to web reports.
Non-closeable	Specifies whether the user can close the file once it has been opened. By default, this is not enabled, which means the file is closeable. If a user closes the home page, they can reopen it using the **Show Home** button on the default Axiom ribbon tab. You might enable this option if you have defined a custom ribbon tab for end users that does not contain the Show Home button. This ensures that users will always have access to the home page by preventing them from closing it.
View As Form	Select this option to open the report as an Axiom form. This option only applies if the report is form-enabled.

4. Click **OK**.

The selected file displays in the **Home Page** box.

You can change the home page assignment at any time, or remove the assignment by clicking the delete ✕ button.

Home page priority order

When a user logs into an Axiom Financial Planning client, their home page is determined using the following priority order. If the first item on the list is defined, then that file is used, otherwise the next item on the list is used, and so on.

Desktop Client (Excel and Windows)

1. Security-assigned home page at the user level
2. Security-assigned home page for a role the user belongs to (excluding the Everyone role)

   NOTE: If a user belongs to multiple roles, and more than one role has an assigned home page, the home page of the "first" role is used (determined alphabetically by role name).

3. Security-assigned home page for the Everyone role

   Axiom Financial Planning first cycles through items 1-3 looking for a **Desktop Client Home Page** assignment. If no assignment is found, Axiom Financial Planning cycles through items 1-3 again, this time looking for a **Home Page** assignment. If no security home page is found, Axiom Financial Planning continues to the next item.

4. Default home page in the Axiom System directory
   - In the Windows Client, Axiom Financial Planning checks `\Startup\Home\Windows Client` first, then moves on to `\Startup\Home`.
   - In the Desktop Client, Axiom Financial Planning checks `\Startup\Home\Excel Client` first, then moves on to `\Startup\Home`.

If no valid home pages are found for the Desktop Client, a blank spreadsheet is used.

Web Client

1. Product-assigned home page

   This item only applies in systems with installed products. If a product area in the Web Client has a designated home page, that home page takes precedence over all other home page assignments. When the user logs into the Web Client, they see the home page for their default product area.

2. Security-assigned home page at the user level
3. Security-assigned home page for a role the user belongs to (excluding the Everyone role)

   NOTE: If a user belongs to multiple roles, and more than one role has an assigned home page, the home page of the "first" role is used (determined alphabetically by role name).

4. Security-assigned home page for the Everyone role

   For the Web Client, only the **Home Page** assignment is considered for items 1-3. The **Desktop Client Home Page** is ignored. The Home Page assignment must be a web-enabled file in order to be used as the Web Client home page. If no valid assignment is present in Security, Axiom Financial Planning continues to the next item.

5. Default home page in the Axiom System directory

   In the Web Client, Axiom Financial Planning checks `\Startup\Home\Web Client` for a web-enabled file, and uses that file as the home page if present. The `\Startup\Home` directory is ignored in this case, even if the file in that directory is web-enabled. If no valid home page is present in the Axiom System directory, Axiom Financial Planning continues to the next item.

6. Default Web Client home page provided by Axiom Software

   This page displays the user's notifications and web favorites. This built-in page is only used as the home page if no other home page assignment is found.

Assigning startup task panes

You can assign one or more custom task panes to display automatically when a user logs into the system. Typically, these settings are defined at the role level rather than at the user level—either on the Everyone role to display for all users, or on your organization's defined roles.

Users do not need to have file permissions to access the task panes that are designated to open on startup. Because of this, in most cases you should use the **Non-Closeable** option to specify that the task pane cannot be closed. This will ensure that the task pane is always available to the user. Otherwise, the user could close the task pane and then have no way to open it again, because they do not have access to the file itself.

Users inherit any task panes defined for roles that they are assigned to, in addition to their own assigned task panes. Task panes are opened in the following order:

- Task panes defined for the Everyone role, in the order specified on the Everyone role
- Task panes defined for roles (multiple roles sorted in alphabetical order), in the order specified for the role
- Task panes defined for the user, in the order specified for the user

If a single task pane is listed in more than one place, it is only opened once, the first time it is listed.

NOTES:

- The startup task pane settings do not control the display of system-controlled task panes such as the Sheet Assistant or File Processing. These task panes display dynamically when they are relevant to the current context, if the user has the appropriate rights.
- By default, the Everyone role is configured to open the following built-in task panes on startup: Explorer and Process. These task panes are not system-controlled; if desired you can change their security settings or remove the task panes entirely. For more information, see the discussion on built-in task panes and ribbon tabs in the *System Administration Guide*.

To assign startup task panes to a user or role:

1. On the **Startup** tab of the **Security Management** dialog, click the plus + button at the top of the **Task Panes** box.

   The **Shortcut Properties** dialog opens.

2. To specify the task pane, click the **...** button to the right of the **Shortcut Target** box. In the **Choose Document** dialog, select the desired task pane from the Task Panes Library and then click **OK**.

3. Once the task pane has been selected, specify any of the following optional **Shortcut Parameters**:

Item	Description
Axiom Tab Name	Define an alternate tab name for the task pane (by default, the tab name is the file name).
Non-closeable	Select this option to prevent the user from closing the task pane. This option should be selected for startup task panes if users do not otherwise have access to the task pane. Most end users are not granted access to the Task Panes Library and therefore they only see task panes that are configured to open on startup. In this case, if the user closes the task pane, they will have no way to reopen it (other than to exit the system and then log in again). Preventing users from closing the task pane ensures that it will always be available.

4. Click **OK**. The selected file displays in the **Task Panes** box.

You can repeat this process for as many custom task panes that you want to assign to the user or role.

Once one or more task panes have been assigned, you can modify the assignments as follows:

- To adjust the order of multiple assigned task panes, select the task pane that you want to move and then use the arrow buttons to move it up or down.
- To delete an assigned task pane, select the task pane in the list and then click the **Delete** ✕ button.
- To edit the shortcut parameters of an assigned task pane, double-click the task pane in the list to reopen the **Shortcut Properties** dialog.

Assigning startup ribbon tabs

You can assign one or more custom ribbon tabs to display automatically when a user logs into the system. Typically, these settings are defined at the role level rather than at the user level—either on the Everyone role to display for all users, or on your organization's defined roles.

Keep in mind that just because a ribbon tab is opened at startup does not necessarily mean it will display to the user. You can configure certain ribbon tab options that further control the display. For example, you can specify that a particular ribbon tab only displays if the user is an administrator, or if the current file is a plan file. These options make it easier to configure a ribbon tab for the Everyone role, yet still dynamically control the display so that only the users who need the ribbon tab can see it.

Users do not need to have file permissions to access the ribbon tabs that are designated to open on startup. Startup is the only time that ribbon tabs can be opened in the ribbon, so in general there is no reason to give end users file permissions to these files except for the small handful of users who need to create and edit the ribbon tabs.

Users inherit any ribbon tabs defined for roles that they are assigned to, in addition to their own assigned ribbon tabs. Ribbon tabs are opened in the following order:

- Ribbon tabs defined for the Everyone role, in the order specified on the Everyone role
- Ribbon tabs defined for roles (multiple roles sorted in alphabetical order), in the order specified for the role
- Ribbon tabs defined for the user, in the order specified for the user

Custom ribbon tabs display before (to the left of) any Excel ribbon tabs. In the case of the Windows Client, custom ribbon tabs display before the Home tab.

If a single ribbon tab is listed multiple times, it is only opened once, the first time it is listed.

NOTE: By default, the Everyone role is configured to display two built-in ribbon tabs: Axiom and Axiom Designer. These ribbon tabs are not system-controlled; if desired you can change the security settings for these tabs, customize the tab contents, or remove the tabs entirely. For more information, see the discussion on built-in task panes and ribbon tabs in the *System Administration Guide*.

To assign startup ribbon tabs to a user or role:

1. On the **Startup** tab of the **Security Management** dialog, click the plus **+** button at the top of the **Ribbon Tabs** box.

   The **Shortcut Properties** dialog opens.

2. To specify the ribbon tab, click the **...** button to the right of the **Shortcut Target** box. In the **Choose Document** dialog, select the desired ribbon tab from the Ribbon Tabs Library and then click **OK**.

3. Once the ribbon tab has been selected, specify any of the following optional **Shortcut Parameters**:

Item	Description
Axiom Tab Name	Optional. Define an alternate tab name for the ribbon tab (by default, the tab name is the file name).
Requires Admin	Select this check box if the ribbon tab should only be visible if the user is an administrator. In general, this option is only used if you are assigning a ribbon tab for the Everyone role, but you want to limit the display to administrators.
Requires Sheet Assistant	Select this check box if the ribbon tab should only be visible if the user has Sheet Assistant permission to the current file. This option can be used to dynamically display a ribbon tab that contains tools appropriate for file designers. Keep in mind that the ribbon tab will dynamically show and hide as the user changes the current file (assuming the user only has Sheet Assistant permission to certain files).
Visible for doc type	Optional. Select a document type if the ribbon tab should only be visible when the current file is a certain type of file. You can specify **Plan File**, **Template**, or **Report**. By default, this option is set to **All**, which means the ribbon tab displays for all file types (assuming it is otherwise eligible to display). If you specify a document type, keep in mind that the ribbon tab will dynamically show and hide as the user switches between different documents. This may be confusing to the user if the ribbon tab is not very obviously designed for a particular document type.

4. Click **OK**. The selected file displays in the **Ribbon Tabs** box.

You can repeat this process for as many custom ribbon tabs that you want to assign to the user or role.

Once one or more ribbon tabs have been assigned, you can modify the assignments as follows:

- To adjust the order of multiple assigned ribbon tabs, select the ribbon tab that you want to move and then use the arrow buttons to move it up or down.
- To delete an assigned ribbon tab, select the ribbon tab in the list and then click the **Delete** ✕ button.
- To edit the shortcut parameters of an assigned ribbon tab, double-click the ribbon tab in the list to reopen the **Shortcut Properties** dialog.

Assigning other startup documents

You can assign other documents to open automatically when a user logs into the Axiom Financial Planning Desktop Client. These documents are opened in addition to the home file. You can select any Axiom report (including web reports and Axiom forms) or any normal Excel file stored in the Reports Library.

There is no limit on the number of files that can be opened at startup, however, many files or large files may slow performance and cause delays starting Axiom Financial Planning.

If a document is assigned to open on startup, then it will always open on startup as read-only, regardless of the user's file permissions for that document. The user does not need to have permission to access the file otherwise.

Users inherit any documents defined for roles that they are assigned to, in addition to their own assigned documents. Documents are opened in the following order:

- Documents defined for the Everyone role, in the order specified on the Everyone role
- Documents defined for roles (multiple roles sorted in alphabetical order), in the order specified for the role
- Documents defined for the user, in the order specified for the user

If a single document is listed in more than one place, it is only opened once, the first time it is listed. Note that the home page is always the first document opened.

To assign other startup documents to a user or role:

1. On the **Startup** tab of the **Security Management** dialog, click the plus + button at the top of the **Other Documents** box.

   The **Shortcut Properties** dialog opens.

2. To specify the document, click the **...** button to the right of the **Shortcut Target** box. In the **Choose Document** dialog, select the desired file from the Task Panes Library and then click **OK**.

3. Once the document has been selected, specify any of the following optional **Shortcut Parameters**:

Item	Description
Axiom Tab Name	An alternate name to display on the file tab. By default, the tab name is the file name. If the file is an Axiom form or a web report, then this tab name is only used when launching the Windows Client, and causes the file to open within the application instead of the browser.

Item	Description
Quick Filter	A Quick Filter to apply to the file. The Quick Filter must be a valid filter criteria statement. Once the file is opened, users can clear the filter using the Quick Filter option on the ribbon. **NOTE:** The target file must be refreshed in order for the filter to be applied to the data. One or both of the following settings should be enabled in the file: • **Refresh all Axiom functions on open** (if the file uses functions to return data instead of an Axiom query) • **Refresh data on file open** (for the applicable Axiom queries) This option only applies to Axiom spreadsheet reports and Axiom forms.
Non-closeable	Specifies whether the user can close the file once it has been opened. By default, this is not enabled, which means the file is closeable. You may want to enable this option if users do not otherwise have access to the file. In this case, if the user closes the file, they will have no way to reopen it (other than to exit the system and then log in again). Preventing users from closing the file ensures that it will always be available. You would only do this if the file is something that users need to see throughout their session. If the file is simply informational and users don't need to see it again once they have viewed it, then you probably want to let users close the file.
View As Form	Select this option to open the report as an Axiom form. This option only applies if the report is form-enabled.

4. Click **OK**. The selected file displays in the **Other Documents** box.

You can repeat this process for as many additional documents that you want to assign to the user or role.

Once one or more documents have been assigned, you can modify the assignments as follows:

- To adjust the order of multiple assigned documents, select the document that you want to move and then use the arrow buttons to move it up or down.
- To delete an assigned document, select the document in the list and then click the **Delete** ✕ button.
- To edit the shortcut parameters of an assigned document, double-click the document in the list to reopen the **Shortcut Properties** dialog.

NOTE: When a user launches the Excel Client, any web-enabled startup documents other than the Home file will be opened in the browser instead of within the Excel Client. In the Windows Client, if you define an **Axiom Tab Name** for the web-enabled document, it will open within the application instead within the browser.

Assigning startup options

You can configure startup options that impact how Axiom Financial Planning displays when a user logs in. These options are listed at the bottom of the **Startup** tab of the **Security Management** dialog, underneath the assigned startup files. You can set these startup options at the user level or at the role level.

Currently there is only one startup option that can be set:

- **Show Formula Bar At Start**

If this option is enabled, then the formula bar automatically shows when a user logs into the Axiom Financial Planning Excel Client or the Windows Client. If this option is disabled, then the formula bar is hidden.

Users can still toggle the formula bar shown or hidden using the **Formula Bar** check box on the **Axiom** ribbon tab. This startup option simply determines the initial state of the formula bar when the user logs in; it does not prevent the user from changing that state later.

By default, all users are set to show the formula bar at start, via the Everyone role. If you want to change this behavior, you have several options:

- You can override the behavior for specific users by clicking the **Override** check box and then clearing the check box for **Show Formula Bar At Start**. This means that the formula bar will be hidden at start for this user.
- You can clear the **Show Formula Bar At Start** check box for the Everyone role, and then set the option as desired for specific users and roles.

NOTE: It is not possible to leave the option enabled for the Everyone role and then override it by role. If you want some roles to show the formula bar and others to hide it, then you must disable the option on the Everyone role and then enable or disable it as appropriate for your other roles.

This setting is always enabled for admin users and cannot be disabled. However, for admin users only, Axiom Financial Planning will remember the last state of the formula bar and apply that on startup, disregarding this setting.

Security Subsystems

Security subsystems allow you to define groups of users to be managed as a distinct "subset" of users within the system. Using subsystems, you can:

- Define a group of users to belong to the subsystem and be limited to a certain maximum level of permissions. When you create a subsystem, you are essentially drawing a permissions boundary that users who belong to the subsystem cannot cross.
- Assign one or more subsystem administrators who can manage security for the users that belong to the subsystem. This allows you to give certain users the right to manage other users' permissions, without needing to grant them full administrator rights or even full security administration rights.

Subsystems are *not* an alternative to roles. Roles grant permissions as a group; roles cannot be used to deny permissions or to grant user management rights. Subsystems are intended for situations where you need to create independently-managed user groups that work within the same system but only need access to specific defined areas of that system. Roles can then be used to grant permissions within the limits of the subsystem.

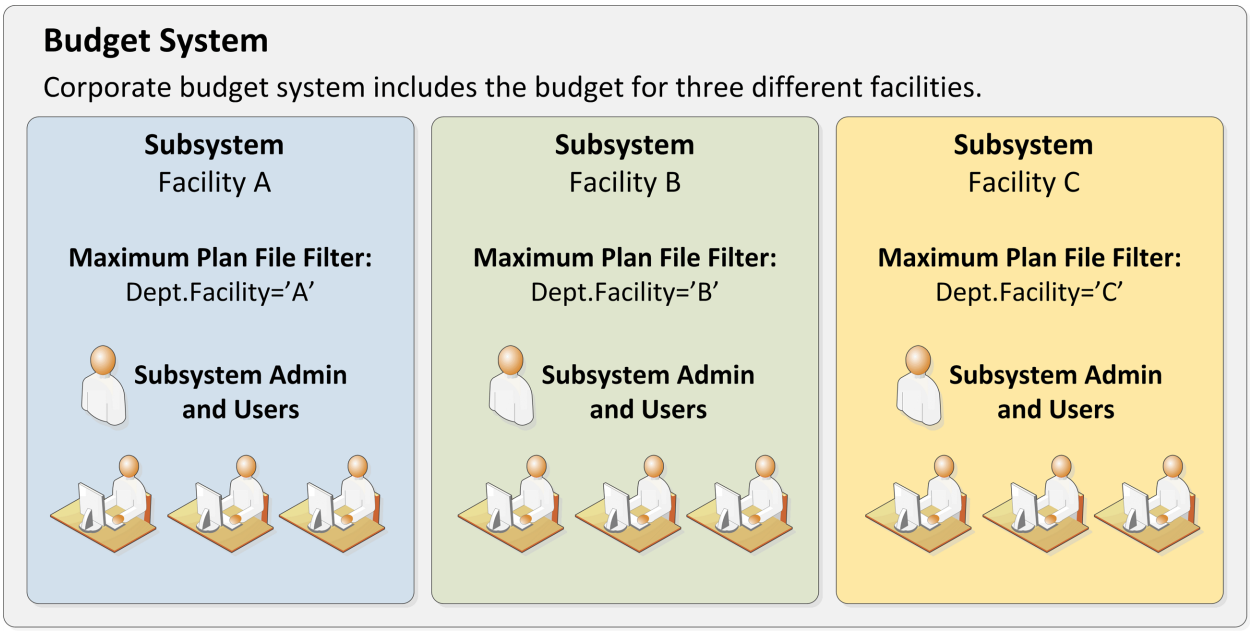
NOTE: Subsystems are optional in systems without installed products. Subsystem features are only available if you have enabled them using the system configuration settings.

About subsystems

Subsystems are used to create distinct groups of users who need to be restricted to a certain maximum level of access. When you create a subsystem, you define:

- The maximum permissions for the subsystem. Using the standard security permission settings, you specify the maximum level of permissions that any user who belongs to this subsystem can have.
- The users who belong to the subsystem. The permissions for these users cannot exceed the subsystem maximum permissions. Roles can also optionally belong to a subsystem, and will be limited to the subsystem maximum permissions.
- The subsystem administrators. Subsystem administrators can access Axiom Financial Planning security for purposes of managing users and roles that belong to the subsystem.

For example, imagine that your organization has three different facilities, and you budget for all of these facilities within the same Axiom Financial Planning system. Each facility has a set of users, and you want to limit those users to a specific set of plan files and reports. You also want to allow the finance manager of each facility to control the user rights for their facility, but you do not want to make them full system administrators.



Example system with subsystems

You could use subsystems for this configuration as follows:

- Create a subsystem for each of the facilities. You can assign existing users to the subsystem, and/or the subsystem administrator can create users for the subsystem.
- Within each subsystem, specify the maximum level of user rights for that facility. This would include plan file access filters to restrict the set of plan files in a file group, and folder permissions for the Reports Library (for example, each facility might have their own folder in the Reports Library, and you would grant each subsystem permission to only the appropriate folder).
- Within each subsystem, assign the facility's finance manager as the subsystem administrator. That user could then manage the rights for each user in the subsystem, including granting the users rights to the necessary plan files and reports (either individually or by using roles). The users can have a lower level of rights than what is allowed by the subsystem, but they cannot have a higher level.

Each user can belong to one or more subsystems. If a user belongs to multiple subsystems, the limits for each subsystem will be applied independently (in other words, using OR to concatenate the restrictions where applicable instead of AND).

In systems with installed products, subsystems are used to control access to specific products. These subsystems are product-controlled and delivered with the product. For example, you may have subsystems for Capital Planning and Budget Planning. You can assign users to subsystems based on the specific products they should be able to access.

About subsystem administrators

When a user is assigned as a subsystem administrator, that user can access security for the purposes of managing users and roles that belong to the subsystem.

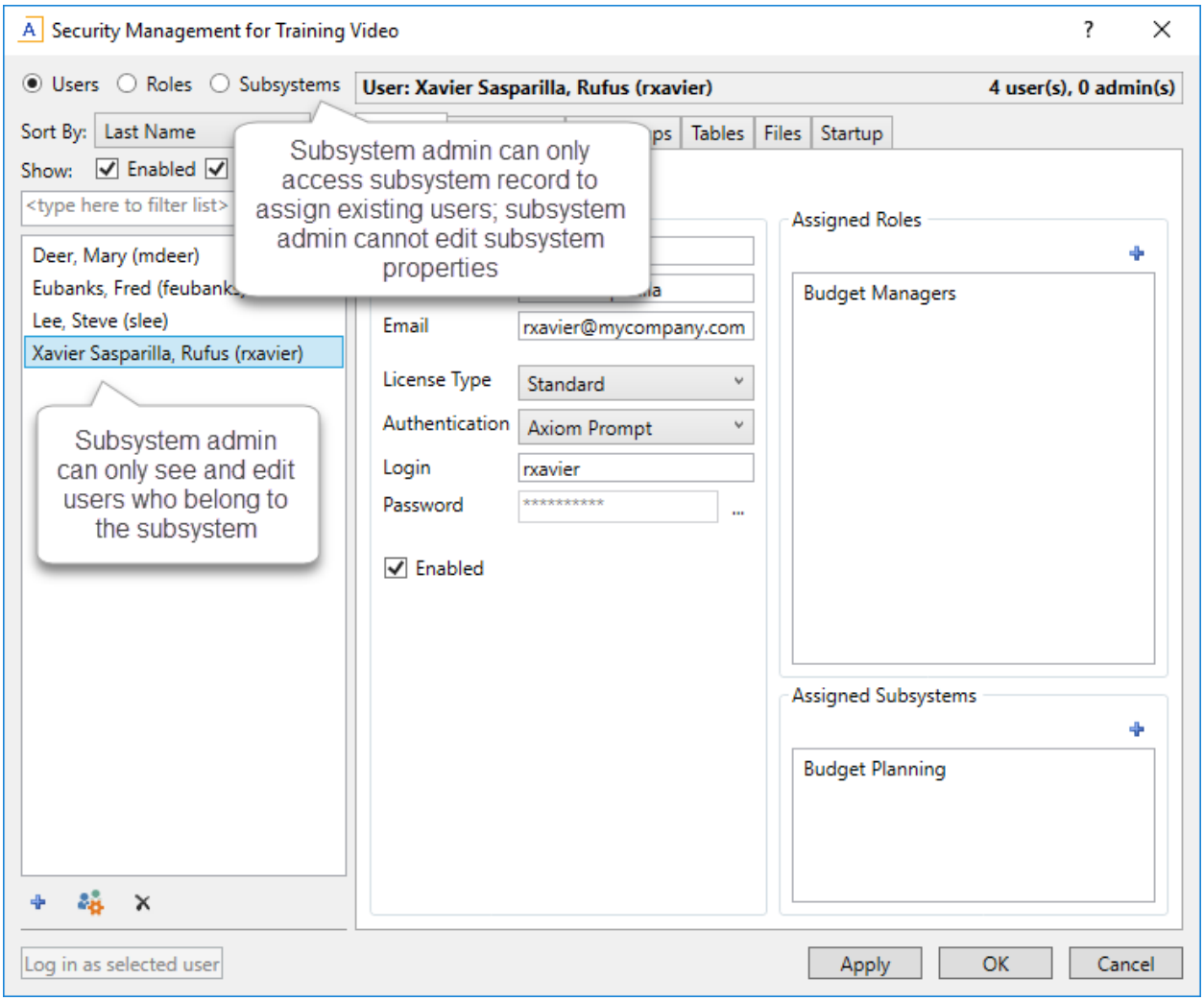
Subsystem administrators are not administrator-level users. The behavior is similar to being granted the **Administer Security** permission, except that the subsystem administrator can only work with users and roles within the subsystem.

Subsystem administrators can do the following:

- Create, edit, and delete users and roles within the subsystem. The subsystem administrator can also assign existing users to the subsystem.
- Assign roles to users in the subsystem. The users can be assigned to subsystem-specific roles or to "global" roles (roles that do not belong to any subsystem).
- Remove locks held by users in the subsystem. This applies to document and table locks, and save data locks, where the subsystem administrator has some level of access to the locked item.
- Use **Log in as selected user** to test the permissions of any user in the subsystem by logging in as that user. (Note that if a system administrator is assigned to the subsystem, the subsystem administrator cannot log in as that user.)

Subsystem administrators cannot edit the subsystem settings, except to assign users and roles to the subsystem. It is assumed that the subsystem is created by a system administrator (or delivered as part of an installed product), and then the subsystem administrator simply manages the users and roles within that predefined framework.

The subsystem administrator can be any user. The subsystem administrator may belong to the subsystem as a user if desired, but that is not a requirement. If the subsystem administrator is also a member of the subsystem, then the subsystem administrator can edit his or her own user permissions, but overall those permissions are restricted by the limits of the subsystem.



Example Security dialog for a subsystem administrator

About subsystems and roles

Subsystems can be used in conjunction with roles. You can assign a user to a subsystem, and then assign the user to one or more roles to grant security permissions. These permissions are then limited by the subsystem boundaries.

There are two ways that you can use roles with subsystems:

- You can assign subsystem users to "global" roles, meaning standard roles that don't belong to a subsystem. These roles can contain users that belong to any subsystem. The role permissions are inherited "as is" by the user and then the user's effective permissions are restricted by their assigned subsystem.
- You can assign a role to a subsystem, and then assign users in the subsystem to the role. In this case, only users who also belong to the subsystem can belong to the role. Also, the role permissions are restricted by the assigned subsystem before the user inherits the permissions.

Subsystem-specific roles are recommended if users may belong to multiple subsystems, due to the small but crucial difference in how role inheritance and subsystem restrictions interact. Also, subsystem administrators can create and edit subsystem-specific roles, which provides the subsystem administrator with greater control over the use of roles with their subsystem users. When using global roles, subsystem administrators can only assign users to the role, they cannot edit the role or see the role's permissions.

Role inheritance and subsystems

If each user only belongs to one subsystem, then there is no difference in the effective permissions when users inherit permissions from global roles or from subsystem-specific roles. However, if a user can belong to multiple subsystems, then the effective permissions can vary depending on which type of role is used.

To illustrate this difference, consider the following plan file filter settings for a file group:

User configured permission:	No Access
Role configured permission:	All Plan Files
Subsystem maximum permission:	DEPT.Facility=5

In this configuration, it doesn't matter whether the role is global or whether it belongs to the subsystem. In both cases, the user will ultimately be restricted to plan files that are assigned to Facility 5. If the role is global, then the subsystem restriction of Facility 5 will be applied to the user after the role inheritance. If the role belongs to a subsystem, then the Facility 5 restriction will be applied to the role before the permissions are inherited. Either way, the end result of the effective permission is the same.

Now consider what can happen if the role is global and the user belongs to two subsystems instead of just one:

User configured permission:	No Access
Role configured permission:	All Plan Files
Subsystem 1 maximum permission:	DEPT.Facility=5
Subsystem 2 maximum permission:	All Plan Files

In this configuration, the user inherits the permission from the global role before the subsystem restrictions are applied to the user. So the user's starting permission is All Plan Files. Because the user's multiple subsystem restrictions are combined using OR, the ultimate subsystem restriction is Dept.Facility=5 OR All Plan Files (which effectively means no restriction—the combined subsystem maximum permission allows access to all plan files). Together with the inherited role permission, this means the user has access to all plan files.

The organization may have intended the user to have access to all plan files. The user belongs to Subsystem 2 and that subsystem allows access to all plan files, so it is a valid result if the user is assigned to a role that grants access to all plan files. However, a potential issue may arise if the role assignment was made by the Subsystem 1 administrator. This subsystem administrator may not know that the user also belongs to Subsystem 2 and/or may not know that Subsystem 2 has a maximum permission of All Plan Files. The Subsystem 1 administrator can only consider the impact of his or her subsystem's restrictions, which would limit the user to plan files from Facility 5. The granting of all plan files via the Subsystem 2 maximum permission may be unintentional.

So if subsystem administrators are managing role assignments and users can belong to multiple subsystems, the only way to ensure that permissions are limited by each respective subsystem is to use subsystem-specific roles instead of global roles. For example, consider the following configuration where the user belongs to multiple subsystems and is assigned to subsystem-specific roles:

User configured permission:	No Access
Role configured permission (Subsystem 1):	All Plan Files
Role configured permission (Subsystem 2):	No Access
Subsystem 1 maximum permission:	DEPT.Facility=5
Subsystem 2 maximum permission:	All Plan Files

Now the role filters are limited by the subsystem restrictions *before* the user inherits permissions from the roles. This gets resolved as follows:

- Subsystem 1 role permission of All Plan Files is restricted by the Subsystem 1 maximum permission of Dept.Facility=5. The user can access only those plan files that belong to Facility 5.
- Subsystem 2 role permission of No Access needs no further resolution—the user is not granted access to any plan files via this subsystem.
- So even though the user's combined subsystem restriction is the same as in the previous example, this is no longer an issue because the role permissions are restricted by their respective subsystems before being inherited by the user. In this case this means the user is only granted the plan file access from the Subsystem 1 role, meaning the user only has access to plan files for Facility 5.

Now imagine the same permissions except that the role configured permission for Subsystem 2 is Dept.VP='Smith' instead of No Access. Now the user's effective permission is as follows:

```
(DEPT.VP='Smith') OR (DEPT.Facility=5)
```

This means the user can access any plan files from Facility 5, and any plan files where the assigned VP is Smith.

Managing subsystems

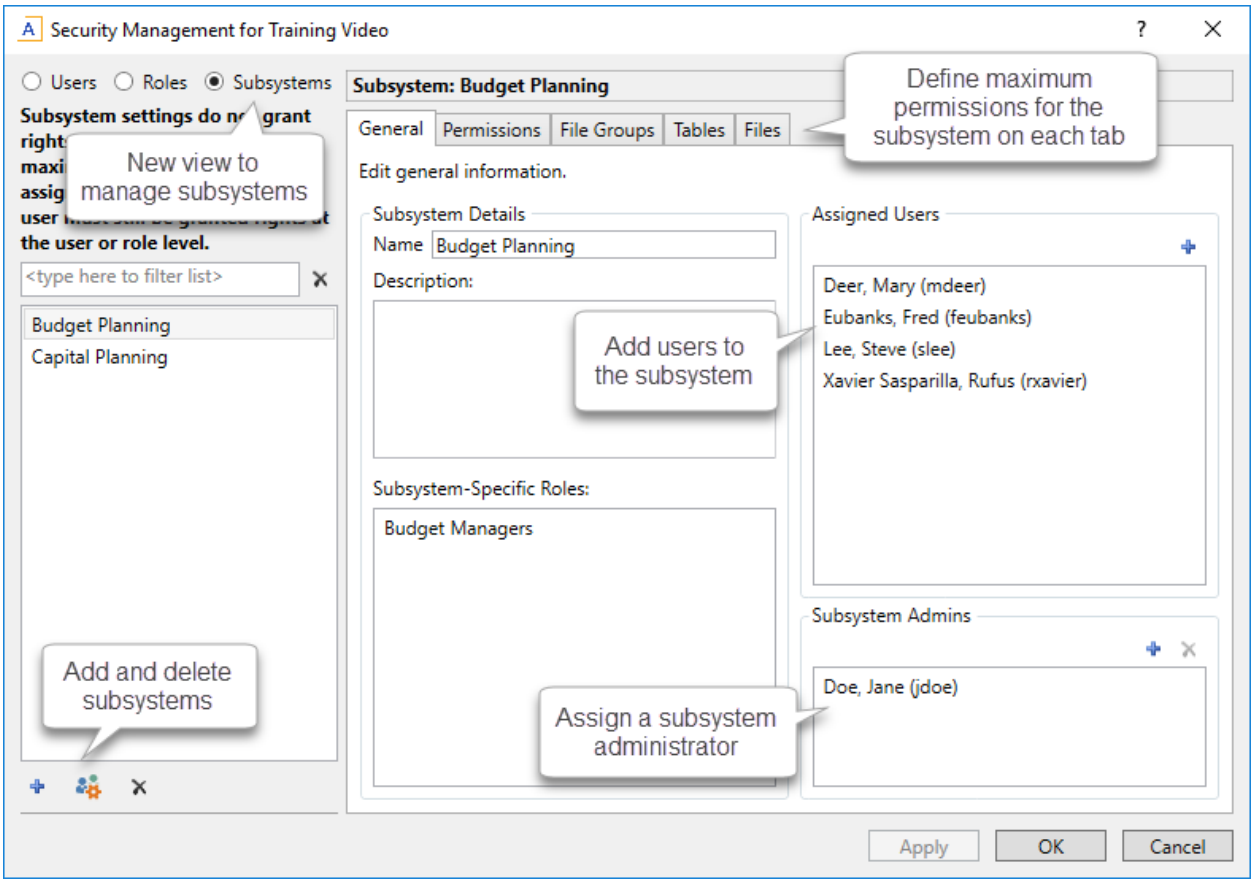
Using the **Security Management** dialog, you can create new subsystems, edit existing subsystems, and delete subsystems. To access this dialog:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Security Manager**.

  NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Security Manager**.

To work with subsystems, select **Subsystems** in the top left-hand corner of the dialog.

NOTE: Only administrators and users with the **Administer Security** permission can create, edit, and delete subsystems. Subsystem administrators are limited to viewing the **General** tab of the subsystem only, for purposes of assigning existing users to the subsystem.



Security dialog with subsystems enabled

To save changes, click **Apply** (or **OK** if you are finished editing security settings).

Creating subsystems

You can create a new blank subsystem, or you can clone the settings of an existing subsystem. If you clone a subsystem, all of that subsystem's settings are copied to the new subsystem, *except* for assigned users.

To create a subsystem, click one of the following buttons located underneath the subsystem list:

- To create a new blank subsystem, click **Create subsystem** .
- To clone an existing subsystem, select that subsystem in the list and then click **Clone subsystem** .

The new subsystem is added to the list. You can define the settings for the new subsystem as desired, and you can assign users and roles to the subsystem. You can also assign a user as a subsystem administrator, to manage the users within the subsystem.

For more information on completing subsystem settings, see:

- Defining subsystem properties (General tab)
- Defining maximum permissions for subsystems

Editing subsystems

To edit a subsystem, select a subsystem from the **Subsystems** list, then make any changes to that subsystem. Changes to subsystem settings take effect when the changes are saved.

Deleting subsystems

To delete a subsystem, select a subsystem from the **Subsystems** list, then click **Delete subsystem** . You are prompted to confirm that you want to delete the subsystem.

A subsystem cannot be deleted if users are assigned to it.

Defining subsystem properties (General tab)

The following settings are available for subsystems on the **General** tab.

Subsystem Details

Each subsystem has the following general properties:

Item	Description
Name	The name of the subsystem.
Description	A description of the subsystem.

Subsystem-Specific Roles

Multiple roles can be assigned to a subsystem. If the subsystem already has assigned roles, those roles are displayed here.

It is not possible to assign roles from the subsystem record. Roles can be assigned to subsystems from the role record, using the **Subsystem** box. See Managing subsystem roles.

Assigned Users

Multiple users can be assigned to a subsystem. If the subsystem already has assigned users, those users are displayed here.

Subsystem assignments can be made when editing either the user or the subsystem. See Managing subsystem users.

Subsystem Admins

One or more users can be assigned as a subsystem administrator. Only administrators and users with the **Administer Security** permission can assign or remove a subsystem administrator. Subsystem administrators do not see this section when they view the subsystem record.

- To assign a user as a subsystem administrator, click **Add** +. In the **Assign Users** dialog, you can select one or more users to add as a subsystem administrator.

  Assigning a user as a subsystem administrator does not automatically add the user to the subsystem. Subsystem administrators are not required to belong to the subsystem. However, if you want the user to also belong to the subsystem, then you must separately assign the user to the subsystem.

- To remove a user as a subsystem administrator, select the user in the list and then click **Remove** ✕. You can select and remove multiple users at once.

Subsystem administrators can access the **Security Management** dialog for the purposes of managing users for the subsystem. Subsystem administrators do not otherwise have administrator-level permissions. For more information on subsystem administration rights, see About subsystem administrators.

Defining maximum permissions for subsystems

When defining security settings for a subsystem, you are defining the maximum permission that any user who belongs to the subsystem can have. Users are not granted these permissions by the subsystem; they are restricted to having this level of permission or less. Generally this means that you must define the maximum desired settings on each tab of the dialog, or else no users in the subsystem can have access to the features controlled by that tab.

You can imagine the subsystem permissions as defining an outer boundary of user rights. Users that belong to the subsystem can be assigned to roles and can be granted individual permissions as normal. Any user permissions that fall within the subsystem boundary will be given to the user. Any user permissions that fall outside of the subsystem boundary will be ignored.

At minimum, you must define settings on the following tabs:

- **File Groups** tab, to specify which file groups the subsystem can access and the maximum allowed access.
- **Tables** tab, to specify which tables the subsystem can access and the maximum allowed access.
- **Files** tab, to specify which folders and files the subsystem can access and the maximum allowed access. In most cases this will include defining access permissions to reports. Optionally, you can grant access to scheduler jobs, task panes, and imports.

If users in the subsystem will not need any special permissions, then you can ignore the **Permissions** tab. Otherwise, you must define the maximum allowed access on that tab.

NOTES:

- If a user belongs to more than one subsystem, then the allowed permissions in one subsystem may exceed the permissions allowed in another subsystem. In this case the permissions "boundary" is the combination of the subsystems, where the user is granted the more permissive boundary (not restricted to the less permissive boundary). In this circumstance, you may find it useful to use subsystem-specific roles to grant permissions to users instead of "global" roles.
- If a system administrator is assigned to a subsystem, the administrator permission takes precedence over the subsystem limitation. Subsystem limitations do not apply to system administrators.

Permissions tab

Select the check boxes for the permissions that you want to be available to users in the subsystem.

For example, if you know that some users in the subsystem need to have access to Scheduler, then you must select the **Scheduled Jobs User** permission for the subsystem. The users' individual permissions and role inheritance will determine which users in the subsystem actually have the **Scheduled Jobs User** permission.

If no users in the subsystem need to have any of these permissions, then you can leave the entire tab unchecked.

NOTE: In most cases, you should *not* select the **Administer Security** permission for a subsystem. If a subsystem user is granted this permission, they will be able to manage all users and roles in the system, not just the subsystem users and roles. Subsystem administrators do not need to be granted this separate permission in order to manage the users in the subsystem.

File Groups tab

For subsystems, you can define a single permission set for each file group. This maximum permission set will be applied against all permission sets defined for the user and inherited from the user's roles. If no permission set is defined for a file group, then the subsystem does not allow access to that file group.

If you want the users in the subsystem to be able to access plan files in a particular file group, then you must create a permission set and configure it as follows:

- Set the file access level to the highest level that you need to make available to users in the subsystem. Typically this means setting the access to at least **Read-Only**. You must also specify whether the subsystem has access to **Allow Save Data**, **Allow Calc Method Insert**, and **Allow Calc Method Change**. Remember that if you are using process management to manage access to plan files, then you do not need to select Allow Save Data because the plan file process will automatically elevate user permissions as necessary.

  NOTE: The setting **Interacts with Process Management** is not available to subsystem permissions. There is no way to disable process interaction at the subsystem level.

- Apply the permission settings to the maximum group of plan files that you need to make available to users in the subsystem.

  You must either select **All plan files** or specify a plan file filter. For example, if you specify a filter such as `DEPT.Facility=5`, then users in this subsystem can only access plan files for facility 5. Any user or role permission that falls outside of that filter is ignored.

  If the subsystem has a plan file filter, and a user in the subsystem is assigned a plan file filter (either individually or via a role), then the subsystem filter and the user filter are concatenated using AND. This restricts the user to only accessing files that match both the user filter and the subsystem filter. For example, if the subsystem filter is `DEPT.Facility=5` and the user filter is `DEPT.VP='Jones'`, then the user can only access plan files that are assigned to VP Jones AND which belong to facility 5.

NOTE: The **Create New Records** maximum permission is enabled by default for on-demand file groups. This is set automatically on the subsystem whenever a new on-demand file group is created. Also, when you create a new subsystem, this permission is automatically set for any existing on-demand file groups. This behavior is to enable the default permissions for on-demand file groups, which are automatically set to allow creating new records via the Everyone role.

Tables tab

If you want the users in the subsystem to be able to access data in particular tables, then you must define access for the table (at either the table or table type level).

When granting access, you must define the maximum level of access needed for the subsystem. For example, if some users in the subsystem need full access to the GL table type, but other users need filtered access, then you must set the GL table type to full access. The users' individual rights and role inheritance will determine their actual level of rights within this boundary.

If a subsystem has a table filter, and a user in the subsystem is assigned a table filter (either individually or via a role), then the subsystem filter and the user filter are concatenated using AND. This restricts the user to only accessing data that matches both the user filter and the subsystem filter. For example, if the subsystem filter is `DEPT.Facility=5` and the user filter is `DEPT.VP='Jones'`, then the user can only access data for VP Jones within facility 5.

NOTE: The default maximum permission for document reference tables is full access. This is set automatically in the subsystem whenever a new document reference table is created. Also, when you create a new subsystem, the maximum permission is automatically set for any existing document reference tables. This behavior is to enable the default permissions for document reference tables, which are automatically set to full access via the Everyone role.

Files tab

If you want users in the subsystem to be able to access a particular folder or file, then you must define access to those folders / files.

NOTE: Remember that users do not need to be granted access to files that are configured as startup files. If the user or role is assigned a file to open on startup, that file will be opened as a startup file, regardless of whether the subsystem allows access to that file.

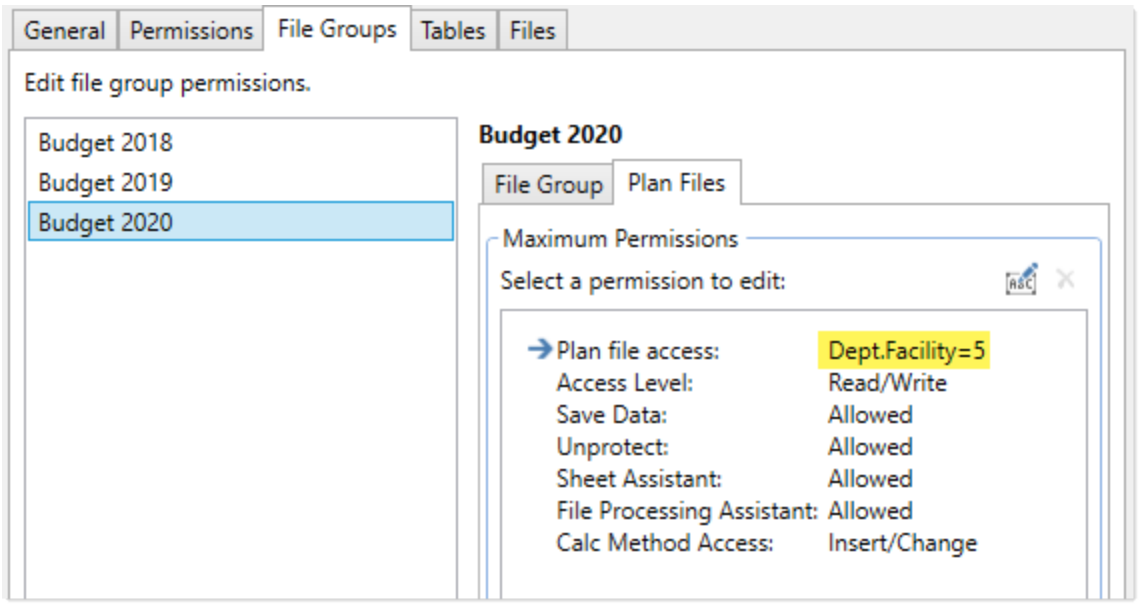
Remember that subfolders and files will inherit any permission set at a "parent" folder level (unless permission is explicitly set for the lower level). For this reason, the effective permissions section displays for the subsystem, so that you can select a folder or file and see any inherited permissions for that item.

Where applicable, you should attempt to specify permissions at a level that accommodates ongoing folder and file additions. For example, if each subsystem will have its own reports folder and that is the maximum access required, then you can define access for just that folder. If the subsystem needs access throughout the Reports Library, then you most likely want to define the maximum access at the Reports Library level (perhaps also explicitly blocking access to certain subfolders and files). The users' individual rights and role inheritance will determine their actual level of rights within this boundary.

Example

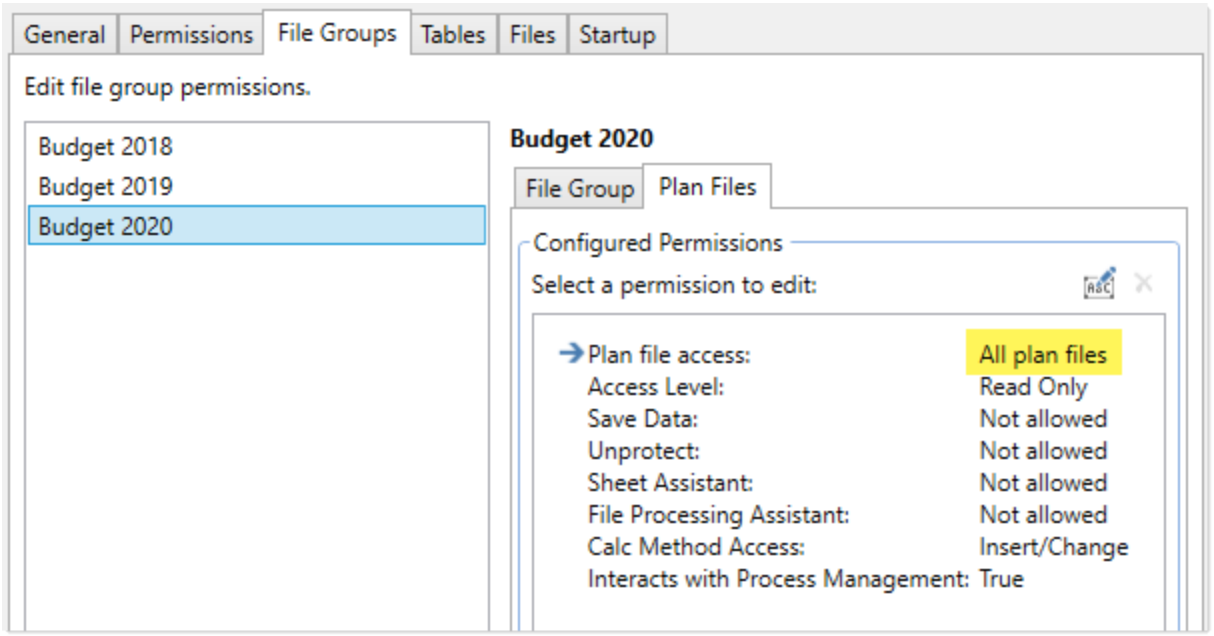
This example illustrates how subsystem maximum permissions limit users who are assigned to the subsystem.

The following screenshot shows file group maximum permissions for a subsystem named Facility 5. For file group Budget 2020, the subsystem is limited by the following filter: `DEPT.Facility=5`. Users who belong to this subsystem can only access plan files that are assigned to Facility 5.



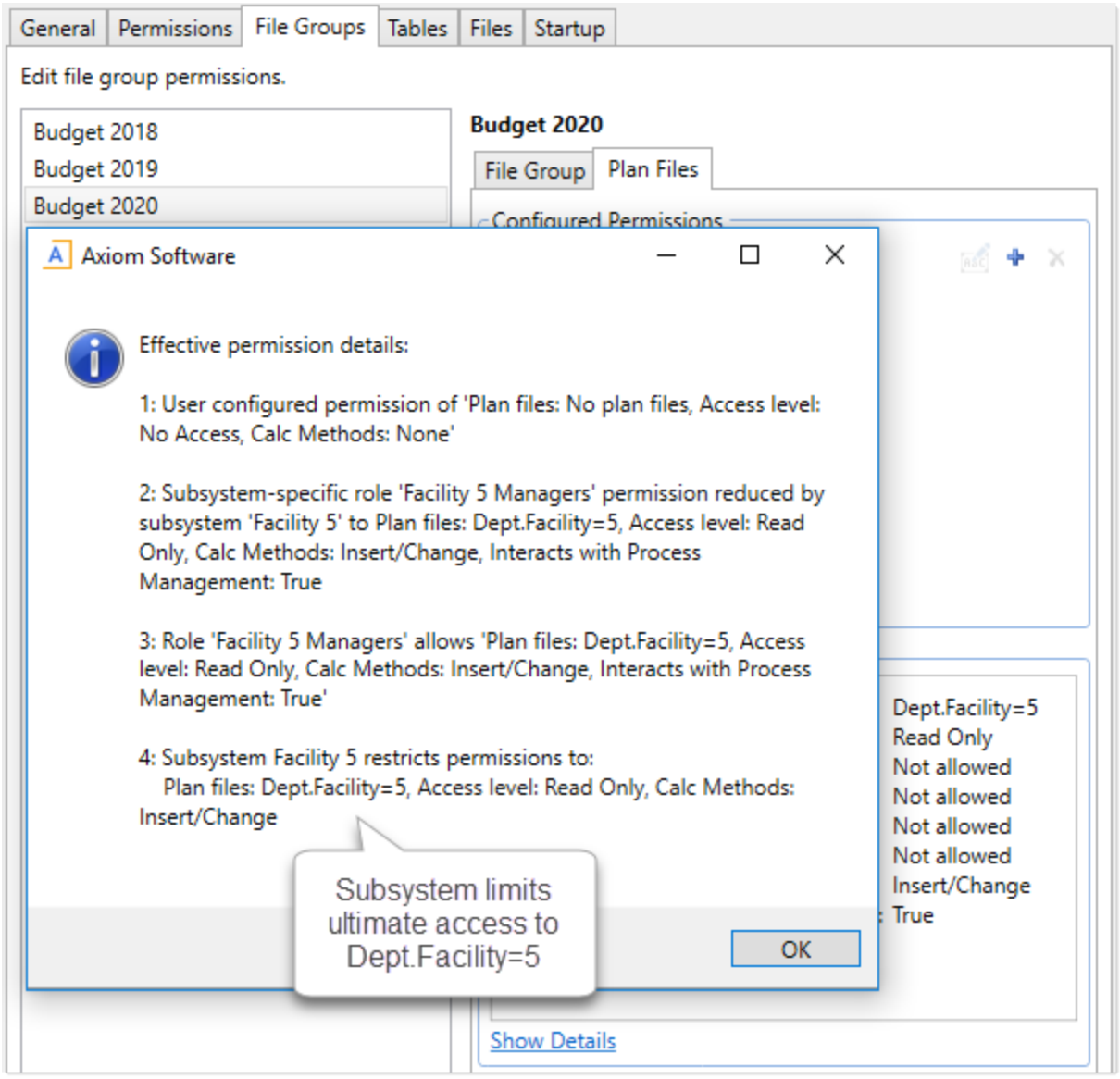
Subsystem maximum permissions

Subsystem settings do not grant any permissions; they only define a maximum boundary of permissions. Therefore users assigned to the subsystem must also be assigned to roles or be granted their own individual security permissions. Imagine that some users belonging to the Facility 5 subsystem are also assigned to the Facility 5 Managers role. This role grants access to all plan files within file group Budget 2020.



Role permissions

Although the role grants access to all plan files, the subsystem is limited to DEPT.Facility=5. The users in the subsystem cannot have greater permission than what is allowed by the subsystem (assuming the users only belong to one subsystem). Therefore the effective permission for this user is DEPT.Facility=5.



User effective permissions once roles and subsystems are applied

Managing subsystem roles

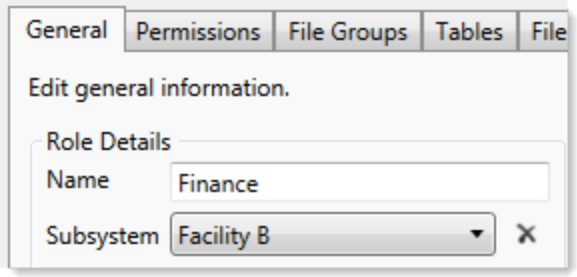
You can create new roles for a subsystem, and you can assign existing roles to a subsystem. When a role belongs to a subsystem, the role permissions are restricted by the subsystem boundaries, and all users in the role must also belong to the subsystem.

When assigning subsystem users to roles, you can use the subsystem roles or you can use "global" roles (that do not belong to the subsystem). For more information on the difference in behavior, see About subsystems and roles.

The subsystem settings should be completed before assigning any roles (unless the roles do not contain any users yet), to ensure that all desired subsystem restrictions are in place before any subsystem users log in.

Assigning a role to a subsystem

When you create or edit a role, you can assign it to a particular subsystem. Use the **Subsystem** drop-down list on the **General** tab to assign the role to a subsystem.



- This assignment can only be made on the role record. The **Subsystem-Specific Roles** section on the subsystem record is for information only; assignment changes cannot be made there.
- Only administrators and users with the **Administer Security** permission can assign an existing role to a subsystem. If the role already has assigned users who do not belong to the subsystem when the role is assigned to the subsystem, then a validation error displays in the Security Management dialog. All users in the role must belong to the subsystem in order to assign the role to the subsystem.
- Subsystem administrators can create new roles for the subsystem. When a subsystem administrator creates a new role, it is automatically assigned to the subsystem when it is created. If the subsystem administrator manages multiple subsystems, then the role's subsystem assignment can be changed to any of those subsystems.
- Only administrators and users with the **Administer Security** permission can remove a role from a subsystem. Click the **Remove** button ✕ to clear the assigned subsystem.

Managing subsystem users

You can create new users for a subsystem, and you can assign existing users to a subsystem. When a user belongs to a subsystem, the user's permissions are limited according to the subsystem boundaries. Users can belong to multiple subsystems.

The subsystem settings should be completed before assigning any users, to ensure that all desired subsystem restrictions are in place before any subsystem users log in.

If the subsystem feature is enabled, then all non-administrator users must be assigned to a subsystem. If a user does not belong to a subsystem, then that user will be blocked from logging in (unless the user is an administrator, a subsystem administrator, or a user with the **Manage Security** permission). This requirement is intended to help ensure that all non-administrator users have a subsystem limit applied to their security permissions.

Assigning existing users to a subsystem

Administrators and users with the **Administer Security** permission can assign existing users to a subsystem from either the user record or the subsystem record. Any changes made in one area are automatically applied to the other area.

- From the subsystem record, on the **General** tab, click the **Add** + button in the **Assigned Users** section to add a user to the subsystem.
- From the user record, on the **General** tab, click the **Add** + button in the **Assigned Subsystems** section to assign the user to a subsystem.

Subsystem administrators can assign existing users to a subsystem, but only from the subsystem record. This is because subsystem administrators cannot see user records for users that do not already belong to the subsystem.

Creating new users for a subsystem

Subsystem administrators can create new users for use in a subsystem. When the new user is created, the user is automatically assigned to the subsystem.

If the subsystem administrator manages multiple subsystems then one of those subsystems will be assigned at random when the user is created. Once the user has been saved, the subsystem administrator can edit the user to change the subsystem assignment as needed.

When creating a new user, administrators and users with the **Administer Security** permission must save the new user before they are able to assign the user to a subsystem. The **Assigned Subsystems** box is not editable until the user has been saved.

Removing a user from a subsystem

Administrators, users with the **Administer Security** permission, and subsystem administrators can remove a user from a subsystem. This can be done from either the user record or the subsystem record.

- From the subsystem record, on the **General** tab, select one or more users in the **Assigned Users** section and then click the **Remove** ✕ button.
- From the user record, on the **General** tab, select one or more subsystems in the **Assigned Subsystems** section and then click the **Remove** ✕ button.

If a non-admin user is removed from all subsystems, then that user will no longer be able to log into Axiom Financial Planning. The user must be assigned to a subsystem or granted administrator-level permissions before they are able to log in again.

Bulk edit of security

You can manage users, roles, and subsystems in bulk by using the **Open Security in Spreadsheet** feature. You can edit, add, and delete multiple users, roles, and subsystems simultaneously within a spreadsheet interface.

Only users with access to security can use this feature: administrators, users with the **Administer Security** permission, and subsystem administrators. The spreadsheet is limited as appropriate depending on the user's rights.

The following items *cannot* be edited in the spreadsheet interface; you must use the Security Management dialog for these items:

- File and folder access to any Axiom library (settings defined in the **Files** tab)
- Startup documents (settings defined in the **Startup** tab)

Opening security in a spreadsheet

To manage security in a spreadsheet:

1. On the **Axiom** tab, in the **Administration** group, click **Security > Open in Spreadsheet**.

   NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Open in Spreadsheet**.

   The **Open Security in Spreadsheet** dialog opens.

2. At the top of the dialog, specify how you want users and roles presented in the spreadsheet:
   - **Horizontally** (default): Users, roles, and subsystems are displayed horizontally across columns. The security settings are displayed in rows.
   - **Vertically**: Users, roles, and subsystems are displayed vertically down rows. The security settings are displayed in columns.
3. Optional. If you want to limit the security settings that display in the spreadsheet, modify the check boxes in the **Select items to include** section.

   For example, you might only want to work with a particular file group or table type. General user and role properties (such as name, email, etc.) are always included in the spreadsheet.

   Clear the check boxes for any items that you do not want to display in the spreadsheet. You can select or clear items by major category (File Groups, Tables, etc.), or you can expand the major categories to select or clear the individual items (such as individual file groups).
4. Optional. If you want to filter the users that display in the spreadsheet, select the **Filter users**

check box. By default, the spreadsheet displays all users, roles, and subsystems for the current system.

If **Filter users** is checked, you can specify the following options to filter users:

Item	Description
Include users who are	Select the following options to include those users in the spreadsheet: • **Enabled** users • **Disabled** users By default, both options are selected, which means that both enabled and disabled users will be included in the spreadsheet. If both options are cleared, then only roles (and subsystems, if applicable) will be included in the spreadsheet.
Include users in these roles	If you want to only view users that belong to specific roles, select the check boxes for those roles. You can also choose to view users who do not belong to any roles. You can use the **Select All** and **Clear All** links to select or clear all roles. This selection also limits the role records that will be included in the spreadsheet.
Include users from these subsystems	If you want to only view users that belong to specific subsystems, select the check boxes for those subsystems. You can also choose to view users who do not belong to any subsystems. You can use the **Select All** and **Clear All** links to select or clear all roles. This also limits the subsystem records that will be included in the spreadsheet. This option only displays if subsystems are enabled for your system.

Selections from multiple categories will be combined. For example, if you select role Finance and subsystem 5, then the spreadsheet will contain all users that are in *either* the Finance role or subsystem 5 (*not* users who only belong to subsystem 5 and the Finance role).

5. Click **OK**.

The spreadsheet opens with the selected security options.

Example security spreadsheet (horizontal orientation)

Editing existing records

To edit the settings for a user, role, or subsystem, make changes directly in the spreadsheet. See the following section *Security settings in the spreadsheet interface* for more information on editing settings within the spreadsheet interface.

NOTE: You cannot edit user login names or role and subsystem names within the spreadsheet interface. If the name is changed, it will be saved as a new record, and the existing record will be unchanged.

For subsystem administrators, only users and roles that belong to their assigned subsystems are brought into the spreadsheet. Subsystem settings are not brought into the spreadsheet.

Adding new records

You can add new users, roles, and subsystems within the spreadsheet interface.

To add a new user, type the new user's login name in an empty cell in row 1 or column A (depending on the spreadsheet orientation), and then complete the desired security settings for that user. Note the following:

- Last name, first name, and email address are required for new users. If these items are blank, a save error will result. Other user properties such as license type and authentication type will use the same default values as when adding a new user in the Security Management dialog.
- You can type a password or leave the password blank. If left blank, the user will be assigned a randomly generated password.

To add a new role, type the role name in an empty cell in row 1 or column A (depending on the spreadsheet orientation), prefixed by "role:". For example, type `role:MyRole`. If the name is not prefixed by "role:", then it will be interpreted as a user login name. Note the following:

- No other settings are required to save a role.
- To assign users to the new role within the spreadsheet interface, you must add the role name to each individual user. There is no option to add users directly to the role record, like you can within the Security Management dialog.

NOTE: Adding subsystems works the same way as adding roles, except the subsystem name must be prefixed by "subsystem:". For example, `subsystem:MySubsystem`.

When adding new users, roles, or subsystems to the spreadsheet, all settings must be typed (or copied and pasted from other records). Drop-down lists are only available when editing existing records. For more information on the valid inputs for the settings, see the following section *Security settings in the spreadsheet interface*.

Users who are subsystem administrators can only create new users and roles. The new users and roles must be assigned to their subsystem.

Deleting records

You can delete users, roles, and subsystems within the spreadsheet interface. To delete a user or role, set **Delete** to **Yes**.

NOTE: When editing security in a spreadsheet, you can delete a role or a subsystem regardless of whether any users are assigned to it. The users will be updated to remove the assignment.

Users who are subsystem administrators can only delete users and roles that belong to their subsystem.

Saving changes

To save changes made in the spreadsheet:

- On the **Axiom** tab, in the **File Options** group, click **Save**.

A confirmation prompt lists the number of users, roles, and subsystems that you are about to update, create, or delete.

Settings are validated before the save occurs. If errors are found, they are displayed in the **Save Errors** pane. Any errors must be resolved before the save can occur.

After a successful save, you will be prompted to refresh the spreadsheet to bring in the most recent data.

Security settings in the spreadsheet interface

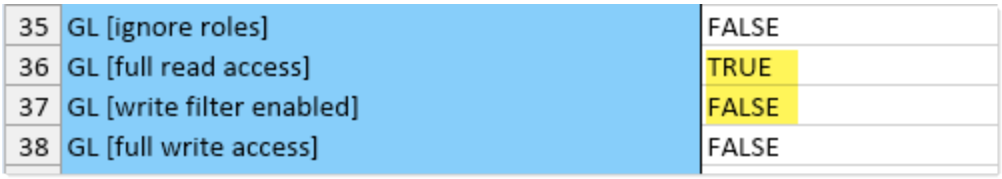
The following is a reference for completing or editing security settings via the spreadsheet interface.

NOTES:

- If an item is not explicitly discussed here, its input is the same as in the Security Management dialog. This section only discusses items that are completed differently than in the Security Management dialog.
- Most check boxes in the Security Management dialog correspond to TRUE (checked) and FALSE (unchecked) in the spreadsheet interface. Any deviations are noted in the following table.

For more information on the purpose of each security setting, see Security settings for users, roles, and subsystems are organized by tabs in the Security Management dialog. The following tabs are available:.

Item	Description
Login, role, or subsystem	The user's login name, the role's name, or the subsystem's name. Role names must be prefixed by `role:`. Subsystem names must be prefixed by `subsystem:`. For example, to create a role named Finance, type `role:Finance`. If users have been imported from Active Directory, those user names are prefixed with the Active Directory domain. For example: Corporate\JDoe. **NOTE:** You cannot rename existing records using the spreadsheet interface. If a name is changed, it is interpreted as a new record.
Delete	Select **Yes** if you want to delete the record. Otherwise, leave the default of **No**.
General	This section works the same way as the Security Management dialog, with the following exceptions: • **Role assignments**: For users, you can view and edit the list of roles that the user is assigned to. Each role name is separated by a semicolon. (The same thing applies to subsystem assignments if subsystems are enabled.) • **User assignments**: For roles, you cannot view or edit the list of assigned users in this interface. If you want to view all users assigned to a role or edit this list from the role perspective, then you must use the Security Management dialog. **NOTE:** The password display is always blank. You can change a user's password by entering a new password. When you save and then refresh the spreadsheet, the password field will return to blank.
Permissions	For users, specify one of the following: • **Inherit**: The user will inherit the permission from any role assignments. • **True**: The user is explicitly granted this permission; role inheritance is ignored. • **False**: The user is explicitly denied this permission; role inheritance is ignored. For roles and subsystems, specify either **True** or **False**.
File Groups	This section works the same way as the Security Management dialog, with the following exceptions: • ***FGName* [calc method permission]**: This item combines the Allow Calc Method Insert and Allow Calc Method Change options from the Security Management dialog. Valid entries are **Insert**, **Change**, or **Insert/Change**. • ***FGName* [create new records]**: This item is listed for all file groups, but only applies to on-demand file groups. A save error will result if this item is set to TRUE for a standard file group. • If a user has multiple permission sets, only the first set can be edited within the spreadsheet interface.

Item	Description
Tables and Table Types	All table types are listed first, followed by all individual tables. If **[write filter enabled]** is **False** for a table or table type, this means that the user or role's write access permissions are the same as their read permissions. In this case, the other write access permissions in the spreadsheet can be ignored, because they do not apply. For example, the following user has full read and write access to the GL table type, because **[full read access]** is **True** and **[write filter enabled]** is **False**. Even though **[full write access]** displays **False**, it does not matter because the setting does not apply.  If **[write filter enabled]** is **True**, then the **[full write access]** permission and the **[write filter]** permission determine the user's level of write permissions.

Security tools

Axiom Financial Planning provides security tools to control and monitor user access to Axiom Financial Planning.

Viewing the list of logged in users

Administrators can view a list of users who are currently logged into the system. For example, you may want to check to make sure that nobody is logged into the system before performing actions such as system upgrades.

For each user that is currently logged in, the list displays information such as:

- Full name and user name (login name)
- Email address
- Computer where the user is logged in
- Date and time the user logged in
- Date and time of the user's last activity during the session

The list of logged in users is for information purposes only—you can see whether any users are logged in, but you cannot manually log them off and end their sessions.

NOTE: Axiom Financial Planning maintains a log of all login attempts, including failed logins. Currently there is no user interface to view this information, but it can be accessed directly in the system database in the SystemAccess table. For assistance, please contact Axiom Financial Planning Support.

To view the list of logged in users:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Logged in Users**.

  NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Logged in Users**.

The **Currently Logged In Users** dialog opens, listing the users who are logged into this system. You can sort and filter the list using standard Axiom grid functionality.

Orphaned session records

When a user logs off normally, their session record is removed from the **Logged in Users** list. If a user's session ends unexpectedly—for example, due to a software crash or shutting down the computer without logging off—then the session record will be removed from the list after a few minutes, once the session no longer "reports back" to the Axiom Application Server.

NOTE: For Web Client sessions, closing the browser window does not automatically log out the user. In this case, the orphaned Web Client sessions will be automatically removed from the list in a few minutes as described above.

Axiom Financial Planning does not automatically remove any session records based solely on time logged in. As long as the session remains connected and continues to report back to the application server, the session will continue to be listed indefinitely.

Removing session records

If desired, you can manually remove any logged in records by selecting the record in the list and clicking **Remove**. This simply removes the record from the list; it has no impact on any user's session. If a user is actually logged on and you remove their session record, the user will remain logged on.

In most cases this action should not be necessary, because sessions that are truly invalid will be automatically removed from the list in a few minutes as described above.

Enabling password rules

By default, Axiom Financial Planning enforces a basic set of password rules. These rules apply to users assigned to Axiom Prompt authentication.

The built-in password rules are as follows:

- Must be at least 8 characters long

- Must contain at least 1 upper-case letter and at least 1 lower-case letter
- Must contain at least 1 non-alphabetic character (a number or a symbol)

The password rules are only enforced when creating new passwords. If any existing passwords do not meet these rules, those passwords will continue to be valid.

When the password rules are enabled, a **Generate Password** link is available on the **Set Password** dialog so that you can generate a random password that meets these rules. (This feature is not available if the password rules are changed from the built-in rules; see the note below.)

Password rules are enabled or disabled by using the system configuration property **EnablePasswordPolicy**. This setting is **True** by default. If you do not want to apply these rules, you can disable the setting by changing it to **False**, which means that any password is considered valid. You can do this by using the Software Manager, or by using a Save Type 4 report that has been set up to modify the system configuration table. Only administrators can modify system configuration settings.

NOTE: The system configuration settings contain two additional options related to EnablePasswordPolicy. **PasswordRegularExpression** defines the password rules, and **InvalidPasswordMessage** defines the error message displayed if a new password does not meet the rules. Axiom Financial Planning does not currently provide a methodology for clients to change the password rules from the built-in rules, therefore, these two options should not be changed from their default settings. If you have a need to use different password rules, please contact Axiom Financial Planning support for assistance.

Testing user security

Administrators and other users who manage security may need to log into Axiom Financial Planning as other users, in order to test security permissions. For example, you may define a table access filter for a particular security role. In order to test that the filter is providing access to table data as expected, you can log in as a non-admin user who belongs to that role.

Using the Security Management dialog, you can "log in as" another user, for the purposes of testing their security settings.

To log in as a different user:

1. On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Security Manager**.

   NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > Security Manager**.

2. In the **Security Management** dialog, select the user whom you want to log in as. The following limitations apply:
   - Subsystem administrators can only log in as users who belong to their subsystem.
   - If a user is an administrator, subsystem administrators and users with the Administer

Security permission cannot log in as that user.

- The "log in as" feature cannot be used with users who are Axiom Support users.

3. In the lower left-hand corner, click **Log in as selected user**.

A new instance of Axiom Financial Planning is launched, and you are automatically logged in as the selected user—you do not need to input a user name and password. The client version for the instance is whichever client version you are currently using (Excel Client or Windows Client).

Creating a permission report

You can create a report that details the effective security permissions for each user, for a particular file group or for all tables. This report may be useful for auditing purposes and for reviewing permissions to make sure they are set as intended.

The report is created as an Excel file. Once it is created, you can print it, or save it locally or within the Axiom file system as needed.

Only administrators and users with the **Administer Security** permission can create a permission report. Subsystem administrators do not have access to this feature.

File group permission report

The file group permission report is created on a per file group basis. When you create the report, you specify which file group you want to report on.

Each user defined in the system has at least one row in the report:

- If the user is an administrator, then the user has one row with a notation of: **(Admin-Full Access)**.
- If the user has no access to the file group, then the user has one row with a notation of: **(No Access)**.
- If the user has access to all plan files in the file group via a single permission, then the user has one row with a notation of: **All Plan Files**.
- In all other cases, the user has multiple rows in the report—one row for each individual plan file that they have access to. Each row details the user's permissions to that particular plan code, including the access level, calc method permissions, ability to save data, etc.

For example, if a non-admin user with access to the file group has permission to 3 plan files, then there will be 3 rows in the report for that user, one for each plan file.

The permissions displayed in the report are the full effective permissions of the user, taking into account all factors such as admin status, role inheritance, multiple file group permission sets, and subsystem restrictions.

NOTE: Permissions granted by process ownership are not reflected in this report. Users may be temporarily "elevated" to read/write and save data status when they are the assigned owner of an active process task for a particular plan file.

To create a file group permission report:

1. On the **Axiom** tab, in the **Administration** group, click **Manage > Security > File Group Permission Report**.

   NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > File Group Permission Report**.

2. In the **Permission Report** dialog, select the file group for which you want to create the report, and then click **OK**.

The report opens as an Excel spreadsheet file. The file group it was generated for and the current date/time are noted at the top of the report. Excel's auto-filtering is automatically applied to the columns to make it easier to sort and filter the data.

Table permission report

The table permission report details user permissions per table. All tables are included in the report; it is not possible to filter by a particular table or table type.

Each user defined in the system has at least one row in the report:

- If the user has full access to all tables, then the user has one row with a notation of: **(Full access to all tables)**.
- If the user has no access to any tables, then the user has one row with a notation of: **(No access to any tables)**.

  NOTE: It would be a rare situation for a user to have no access to any tables, because by default all users are granted access to document reference tables using the Everyone role.

- In all other cases, the user has multiple rows in the report—one row for each table that they have access to. Each row details the user's read and write permissions to that particular table. If a table is not listed, then the user does not have access to that table.

For example, if a user has access to 5 tables, then there will be 5 rows in the report for that user, one for each table.

The permissions displayed in the report are the full effective permissions of the user, taking into account all factors such as admin status, role inheritance, table type inheritance, and subsystem restrictions.

To create a table permission report:

- On the **Axiom** tab, in the **Administration** group, click **Manage > Security > Table Permission Report**.

  NOTE: In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Security > File Group Permission Report**.

The report opens as an Excel spreadsheet file. The current date/time are noted at the top of the report. Excel's auto-filtering is automatically applied to the columns to make it easier to sort and filter the data.

Security Integration

Axiom Financial Planning can integrate with your organization's existing network security. You can:

- Enable Windows Authentication for user authentication against your Windows domain, including the option to import users from Active Directory.
- Enable LDAP Authentication for user authentication against your LDAP server.
- Enable SAML Authentication for user authentication against a SAML identity provider.
- Enable OpenID Authentication for user authentication against an OpenID provider.

NOTE: This guide discusses how to set up and use security integration features once they have been enabled for your system. For information on enabling the associated system configuration settings, see the *System Administration Guide*.

Using Windows Authentication

You can enable Windows Authentication for a system, to authenticate users based on their Windows domain credentials.

Windows Authentication behavior

When the Axiom Financial Planning login screen displays, users must enter their Windows user name, domain, and password. If the domain is an allowed domain and the Windows user name matches a user name in Axiom Financial Planning, then the credentials are passed to Windows for authentication into Axiom Financial Planning.

If the Windows Authentication configuration for Axiom Financial Planning only allows one domain, then that domain is assumed for authentication and users do not need to specify it when logging in. If multiple domains are allowed, then the domain must be specified in one of the following ways:

- The user must include the domain with their user name, such as: *DomainName**UserName*.
- The user must specify the appropriate domain using the **Domain** selection list on the login screen. This is an optional setting that can be enabled for your installation. For more information, see Domain selection list.

Users must enter their credentials each time they log in, unless they select **Remember me** to store their credentials for future use. For more information, see Remember me.

Setting up Windows Authentication

The following summarizes the setup process for Windows Authentication.

1. Windows Authentication must be enabled for the system.

For on-premise systems, Windows Authentication can be enabled during the Financial Planning Application Server installation. If it was not enabled during the installation, you can configure it later using either of the following options:

- Use the **Configure Authentication Methods** page of the Financial Planning Software Manager. For more information, see the *Installation Guide*.
- Use a Save Type 4 report to modify the applicable system configuration settings (**WindowsAuthEnabled** and **WindowsAuthAllowedDomains**).

When you enable Windows Authentication, you must specify the valid domains for authentication. You can specify multiple domains, separated by commas. You can also choose to enable Active Directory Synchronization if you want to import and synchronize users from Active Directory (for more information, see Synchronizing users with Active Directory).

For cloud systems, Axiom Support will enable Windows Authentication for you as part of the system setup, if that is your chosen authentication method.

2. In security, Axiom Financial Planning users must be set up as follows to support Windows Authentication:
   - The user's Axiom Financial Planning login name must match their Windows login name.
   - The user's **Authentication** method must be set to **Windows User**. This is the default setting for new users if Windows Authentication is enabled for your installation.

   If users are imported from Active Directory, then they will automatically be created with the appropriate login name and authentication type.
3. Cloud systems have the following additional requirements:
   - Installation of the Cloud Integration Service is required to enable the cloud system to communicate with your local Windows domain, to validate user credentials. For information on installing the Cloud Integration Service, see the *Cloud Service Technical Guide* and contact Axiom Support as needed.
   - A remote data connection must be created in Scheduler, with the option **Use for authentication service** enabled.

All users who are assigned to the Windows Authentication method will be authenticated based on their Windows credentials. This is the only way that these users can log in—they cannot log in using an internal Axiom Financial Planning password.

If you need to test the security settings of a Windows Authentication user, you can use the **Log in as selected user** feature to log in to Axiom Financial Planning as that user. For more information, see Testing user security.

Adding or removing domains for Windows Authentication

If the Windows domain names used by your organization for authentication have changed, you must update the list of allowed domains in Axiom Financial Planning. Users can only log into Axiom Financial Planning using Windows Authentication if their domain name matches one of the allowed domain names

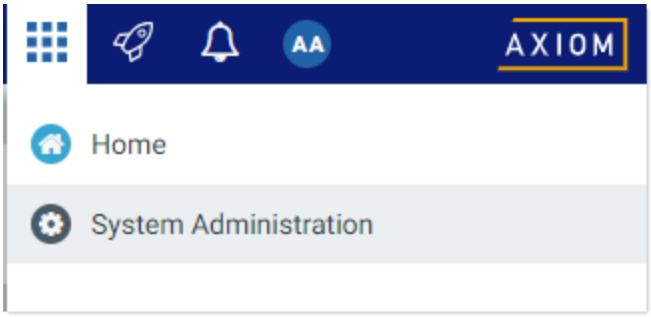
in this list. The list of allowed domains is stored in the system configuration settings (**WindowsAuthAllowedDomains**).

For example, when Windows Authentication was originally configured, you may have been using a domain named CompanyA. After a merger or reorganization, some or all of your users may now be using a domain named CompanyB. If those users need to log in to Axiom Financial Planning, you must add CompanyB to the list of allowed domains. You might leave CompanyA on the domain list if your organization is actively using both domains, or you might remove it if your organization has completely switched to using the CompanyB domain.

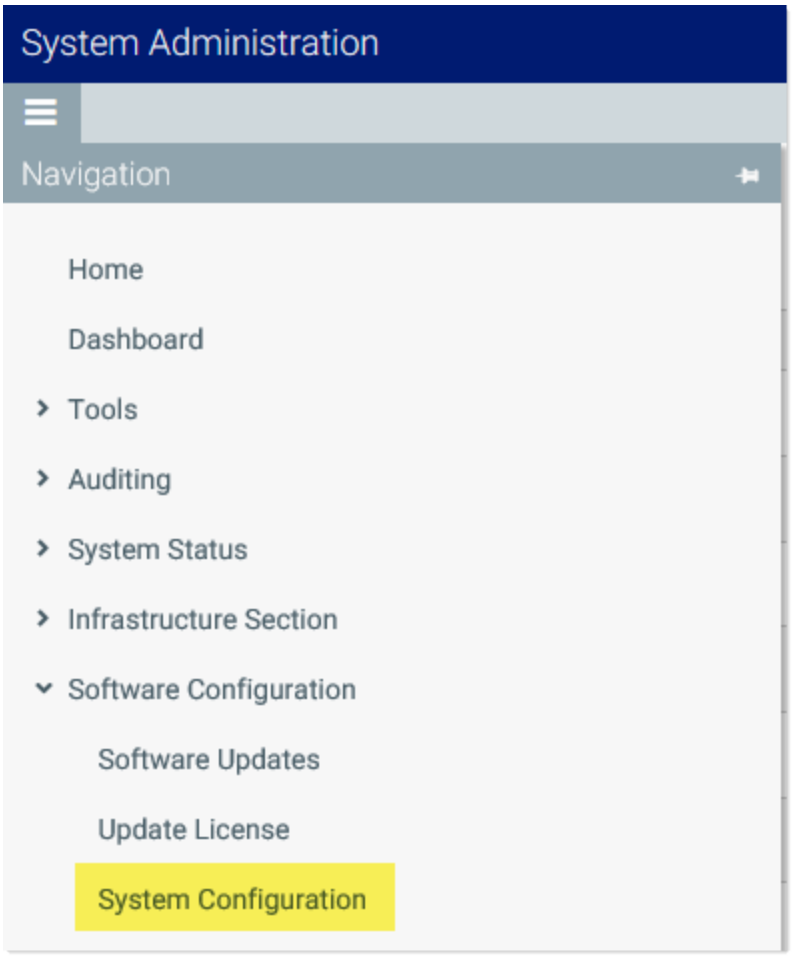
The list of allowed domain names for Windows Authentication can be managed in the Axiom Web Client, on the **System Configuration** page.

To add or remove a domain name for Windows Authentication:

1. In the Web Client, click the menu icon in the Global Navigation Bar. From the Area menu, select **System Administration**.



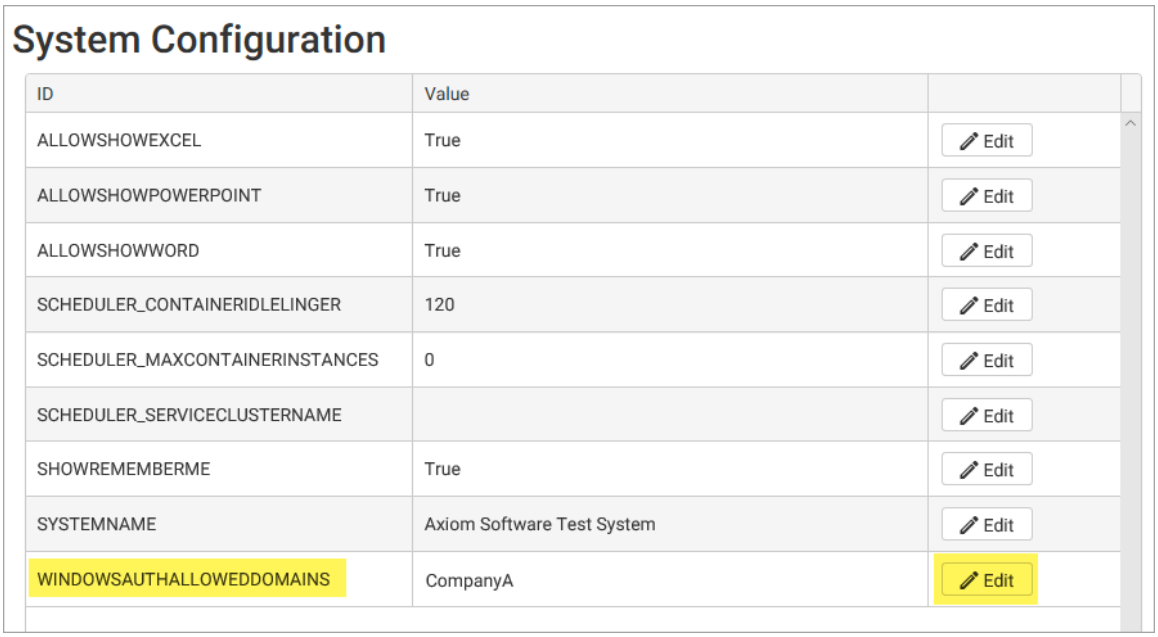
2. From the Navigation panel, select **System Status > System Configuration**.



Alternatively, you can go directly to the System Configuration page as follows:

Example On-Premise URL	`http://ServerName/Axiom/Admin/SystemConfiguration` Where *ServerName* is the name of the Axiom Application Server, and Axiom is the default name of the virtual directory.
Example Cloud System URL	`https://ClientName.axiom.cloud/Admin/SystemConfiguration` Where *ClientName* is the name of your Axiom Cloud Service system.

3. On the **System Configuration** page, locate the row for **WINDOWSAUTHALLOWEDDOMAINS**, and then click **Edit**.



When you click the Edit button, the Value field on the row becomes editable.

4. Modify the list of domains as needed to add or remove domain names. Multiple domain names must be separated with commas.

   For example, if the list is currently CompanyA, and you need to keep CompanyA but add new CompanyB, edit the domain names as follows:

5. Click **Update** to save and apply your changes. The Value field now shows your edited list.

The changed list of domain names takes effect immediately after saving. If you removed a domain name, users in that domain can no longer log in using Windows Authentication. If you added a domain name, users in that domain can now log in using Windows Authentication.

Synchronizing users with Active Directory

You can import users from Active Directory, to automatically create users within Axiom Financial Planning and assign them to the appropriate roles. Subsequent imports can be used to create new users and synchronize previously imported users.

Active Directory synchronization can only be used in conjunction with Windows Authentication. For more information, see Using Windows Authentication.

To set up Active Directory synchronization:

1. Enable Active Directory synchronization for your system.

For on-premise systems, Active Directory synchronization can be enabled during the Axiom Application Server installation. If it was not enabled during the installation, you can configure it later using either of the following options:

- Use the **Configure Authentication Methods** page of the Financial Planning Software Manager. For more information, see the *Installation Guide*.
- Use a Save Type 4 report to modify the applicable system configuration setting (**WindowsAuthUserSyncEnabled**).

For cloud systems, Axiom Support can enable Active Directory synchronization for your system.

2. Create a job in Scheduler with an **Active Directory Import** task, and schedule the job to run periodically as needed for your environment.

   Each import task can import users from a single Active Directory domain into the current Axiom Financial Planning system. The import task specifies the Active Directory domain and groups to import, role mappings, and notification settings. If you need to import from multiple Active Directory domains, then you must create an import task for each domain.

   For more information, see Creating a Scheduler job to import users from Active Directory.

When the Scheduler job is run, new users are created as needed and existing users are synchronized with Active Directory. For more information, see How Active Directory user synchronization works.

Creating a Scheduler job to import users from Active Directory

Once Active Directory synchronization has been enabled for your system, you must create a Scheduler job in order to import users from Active Directory into Axiom Financial Planning.

The Scheduler job must contain an Active Directory Import task. Each import task can import users from a single Active Directory domain into the current Axiom Financial Planning system. The import task specifies the Active Directory domain and groups to import, and role mappings for those groups. When setting up the job, you can configure a scheduling rule so that it runs nightly, weekly, or whatever frequency is appropriate for your organization.

If you need to import users from multiple Active Directory domains, then you must create an import task for each domain. You can create a single Scheduler job with multiple import tasks, or you can separate the import tasks into multiple Scheduler jobs. If all of the import tasks can use the same schedule, then it is easiest to create a single job with multiple tasks.

For Cloud Service systems, the Active Directory Import task can import users from your local Active Directory by use of the Axiom Cloud Integration Service. If you have a remote data connection that is enabled for user authentication, this task will use that connection when the job is executed by Scheduler.

Before you begin

Before creating the job, you should make sure you are prepared with the following information:

- **The name of your Active Directory domain, or the server name that hosts Active Directory.** You

will need to specify one of these to identify the source domain for the import.

- **The user credentials to use to access Active Directory.** You can specify a user name and password, or you can use the credentials of the Axiom service that is performing the process.
- **The groups to import from Active Directory.** You must know the names of the groups that you want to import from Active Directory. All users in the selected groups will be imported into Axiom Financial Planning. If you do not have groups that exactly correspond with the users that you want to create in Axiom Financial Planning, you may need to work with your Information Technology department to create new groups or refine existing groups.
- **The Axiom Financial Planning roles, subsystems, user license types, and authentication types for each imported group.** When users are imported, they can be automatically assigned to one or more roles and subsystems in Axiom Financial Planning, and assigned a user license type and an authentication type. Make sure you know which options to use.

Creating the job

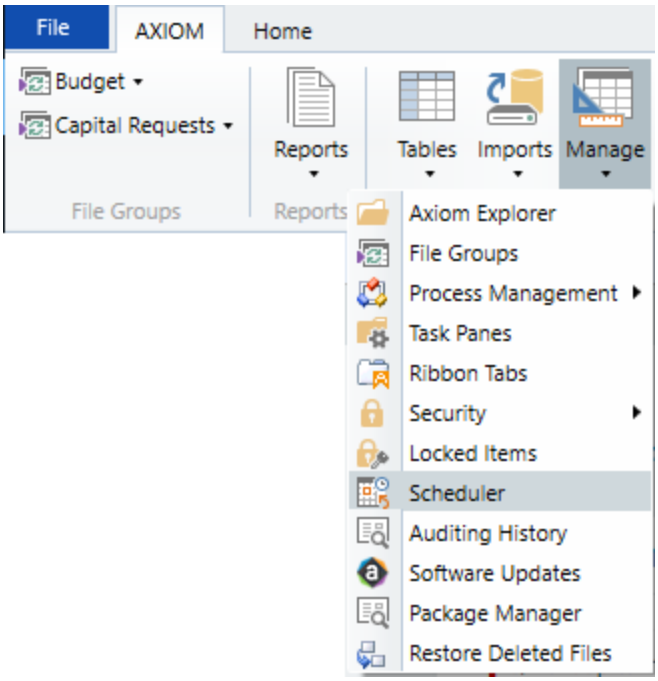
In order to create a Scheduler job, you must be an administrator or have the **Scheduled Jobs User** security permission. Non-admin users must also have read/write access to at least one folder in the Scheduler Jobs Library.

Scheduler jobs can only be created in the Desktop Client. Although you can view the status of existing jobs in the Web Client, you cannot create new jobs in that environment.

IMPORTANT: The Active Directory Import task can only be executed by a user who has permission to create users in security—an administrator, a subsystem administrator, or a user with the **Administer Security** permission. If you plan to schedule the job for automated execution, the job owner must have the required permissions to execute the task. The job owner is the user who last saved the job. Effectively, this means that the job must be created by a user with the required permissions. If the job is created by a user who does not have the required permissions, then the job must be saved by a user with the required permissions in order to re-set the job owner. You can see the current job owner for the job in the **Job Variables** section of the job properties.

To create an Active Directory Import job in Scheduler:

1. On the **Axiom** tab, in the **Administration** group, click **Manage > Scheduler**.

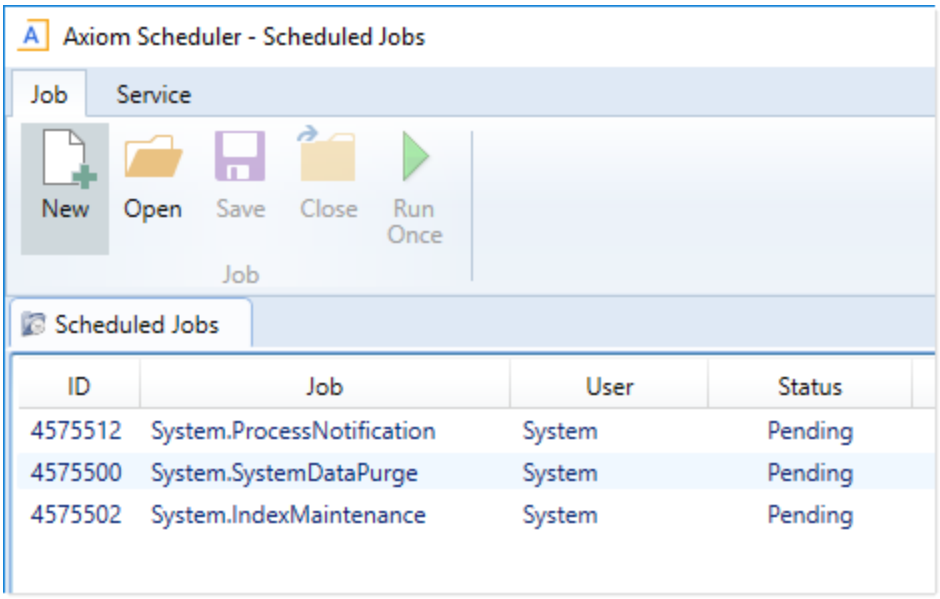


Scheduler on default Axiom ribbon tab

In systems with installed products, this feature may be located on the **Admin** tab. In the **System Management** group, click **Scheduler**.

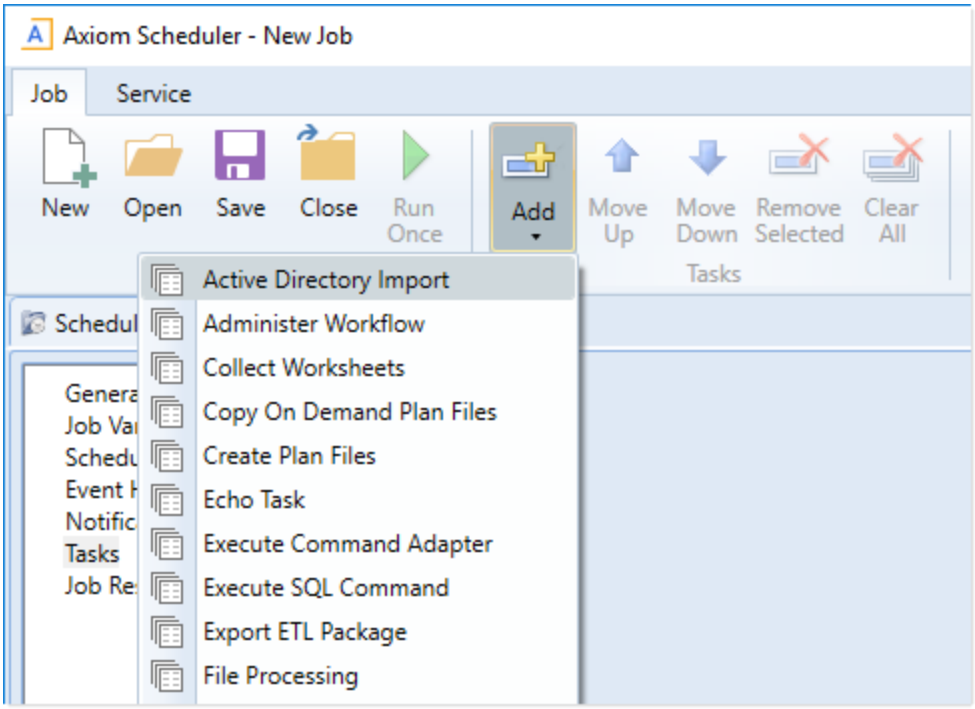
Scheduler on Admin tab (example product ribbon)

2. In the **Scheduler** dialog, click **New**.



A new job is opened in the dialog, with a tab name of **New Job**.

3. Click **Add** > **Active Directory Import** to add the task to the new job.

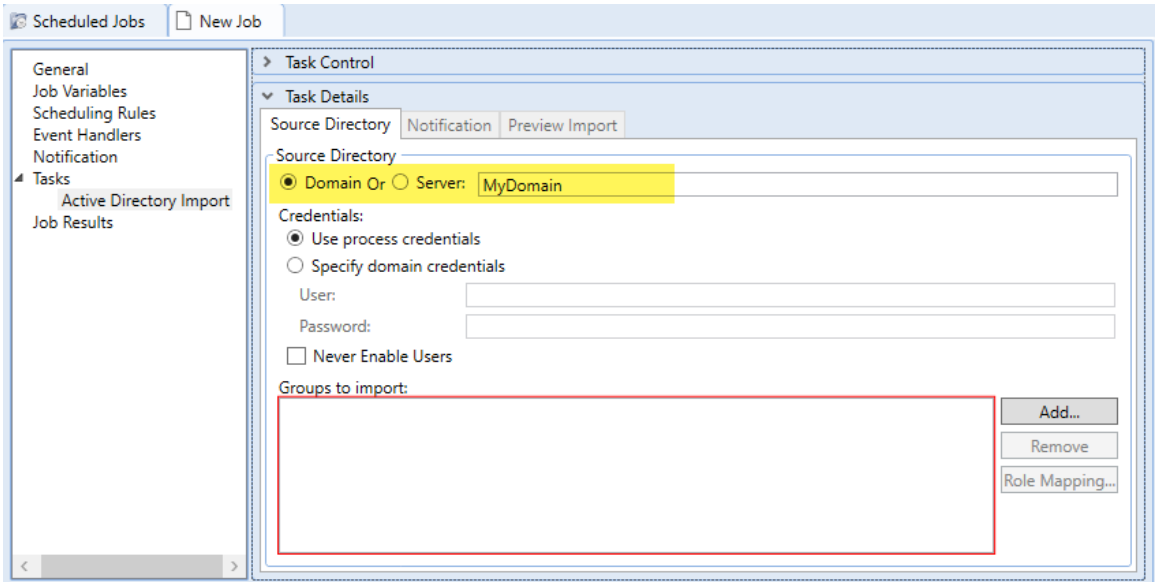


The task is added to the job, and you can now configure the task properties. In the **Task Details** section, the task has three tabs: **Source Directory**, **Notification**, and **Preview Import**.

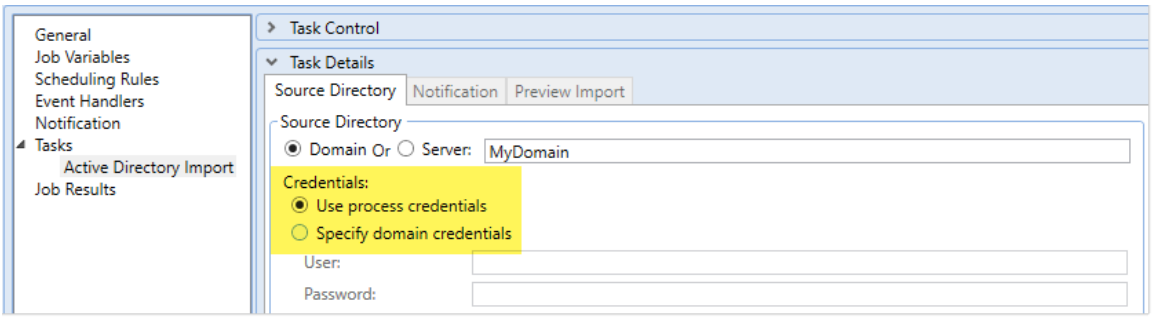
4. On the **Source Directory** tab of the Task Details, select either **Domain** or **Server** to specify the source domain for the import.
    - If you select Domain, enter the name of the domain.
    - If you select Server, enter the name of the domain controller server.

    The server option is available in case you are not currently logged into the source domain, and your current domain does not have access to the source domain. In this case, you must use domain credentials in order to access the source domain.

    Only one domain can be selected per import task. If you want to import users from multiple domains into an Axiom Financial Planning system, then you must create multiple import tasks.

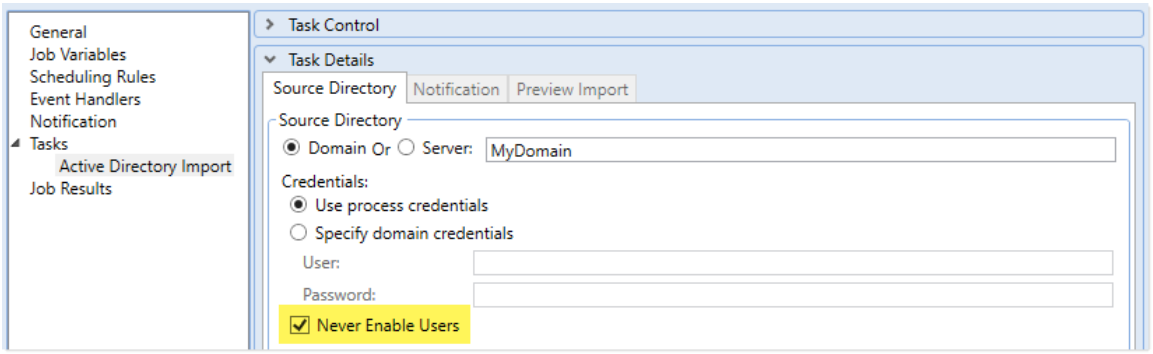


5. For **Credentials**, specify the user credentials to use when accessing Active Directory for the import. Select one of the following:
    - **Use process credentials**: (Default) Use the credentials of the network service account for Axiom Scheduler Server (on-premise installations) or Axiom Cloud Integration Service (Cloud Service systems).
    - **Specify domain credentials**: Enter the credentials of a specified domain **User** and **Password**. This option is required if you identified the source domain using the server name instead of the domain name.

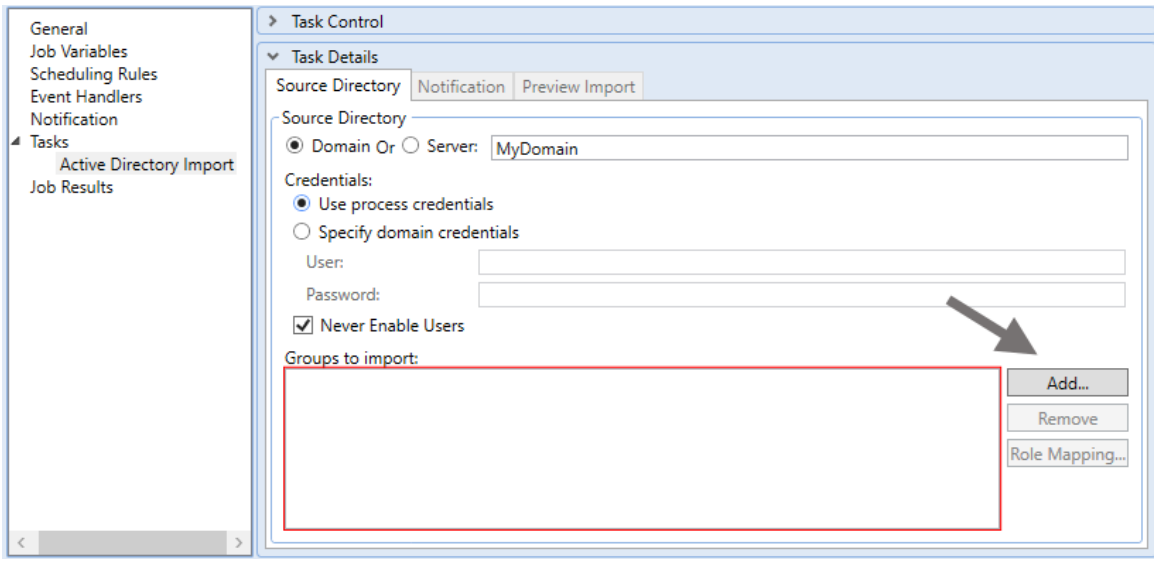


6. If you do not want new and synchronized users to be automatically enabled by the import, select **Never Enable Users**. This option works as follows:
    - If unchecked (default), then newly imported users are enabled as part of the import. Additionally, any existing imported users who have been changed to disabled are re-enabled.
    - If checked, then newly imported users are not enabled as part of the import. A security administrator must modify the security settings after the import is complete to enable the new users. Existing imported users retain their current enabled status.

    We recommend enabling this option because in most cases it is necessary for a security administrator to make further changes to security settings before the user account is fully ready for use. Additionally, if your system uses subsystems, any newly imported users will not be able to log in anyway, since the import does not assign users to a subsystem.

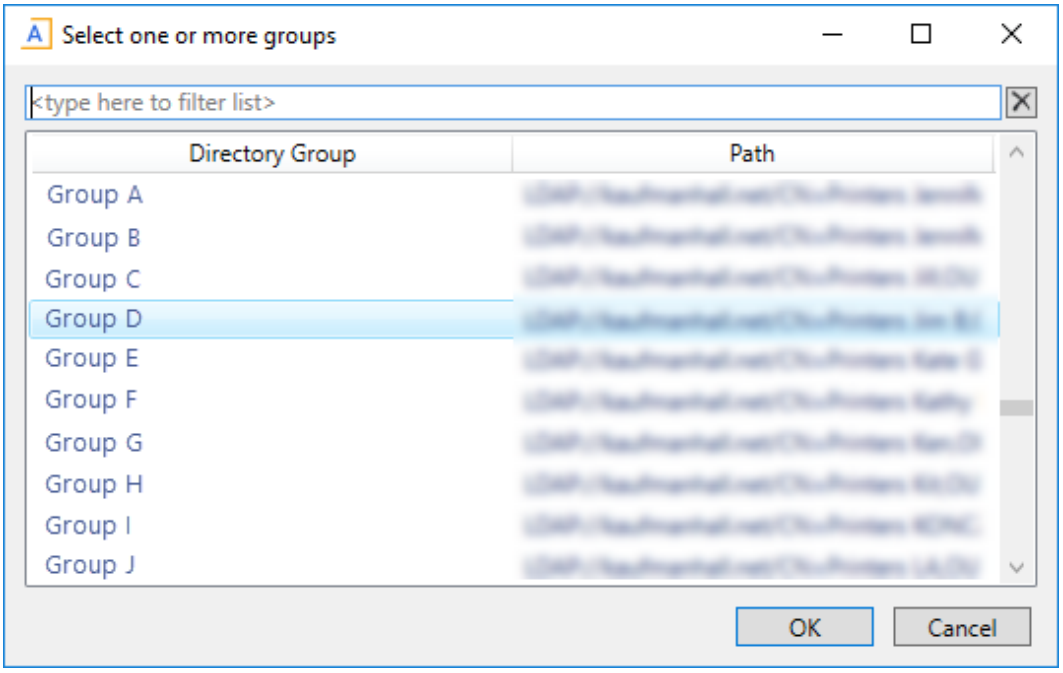


7. In the **Groups to import** section, click **Add** to select one or more groups to import.



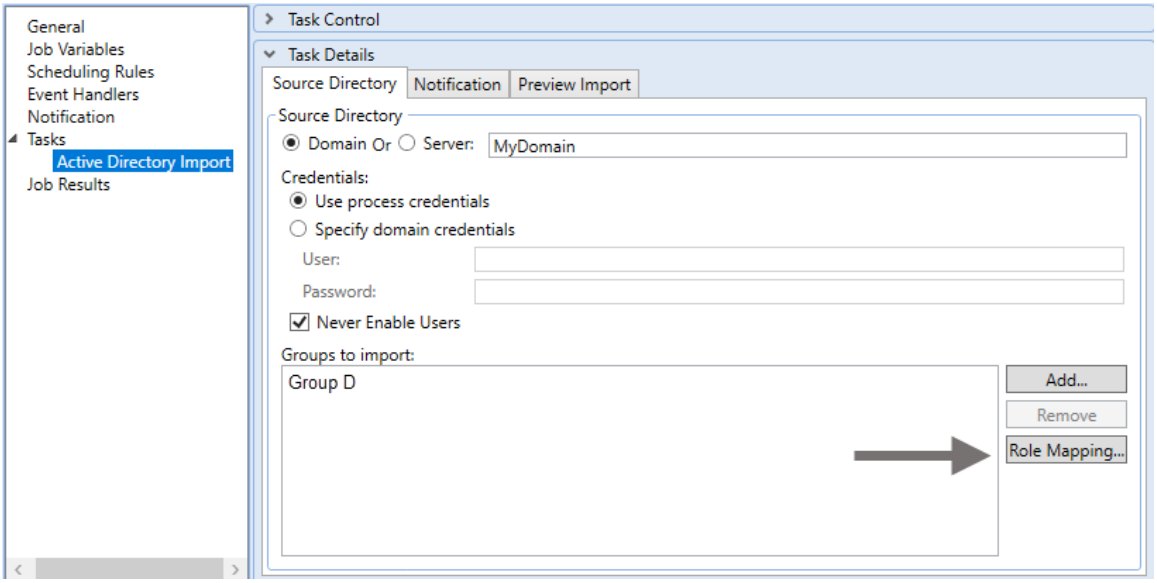
The **Select Groups** dialog opens, displaying a list of groups from the source domain.

- Select the group or groups that you want to add, and then click **OK**. You can use the search box at the top of the dialog to find a group by name. You can use the SHIFT or CTRL keys to select multiple groups in the list.

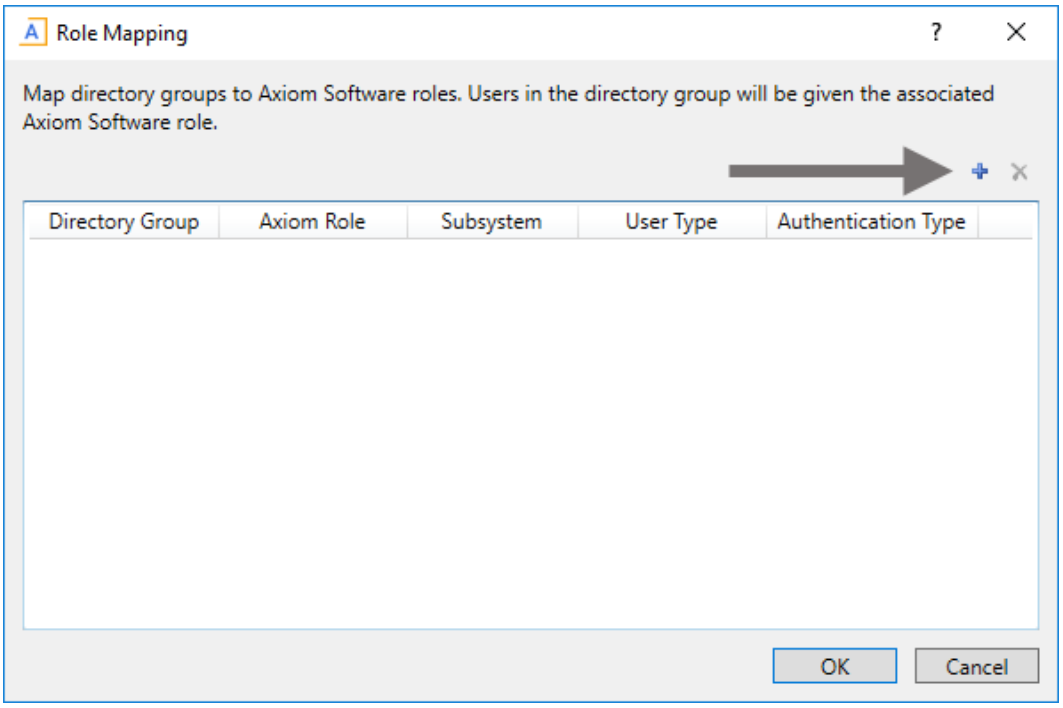


- The selected group(s) display in the **Groups to import** box. If you have added a group by mistake, you can select it and click **Remove**.

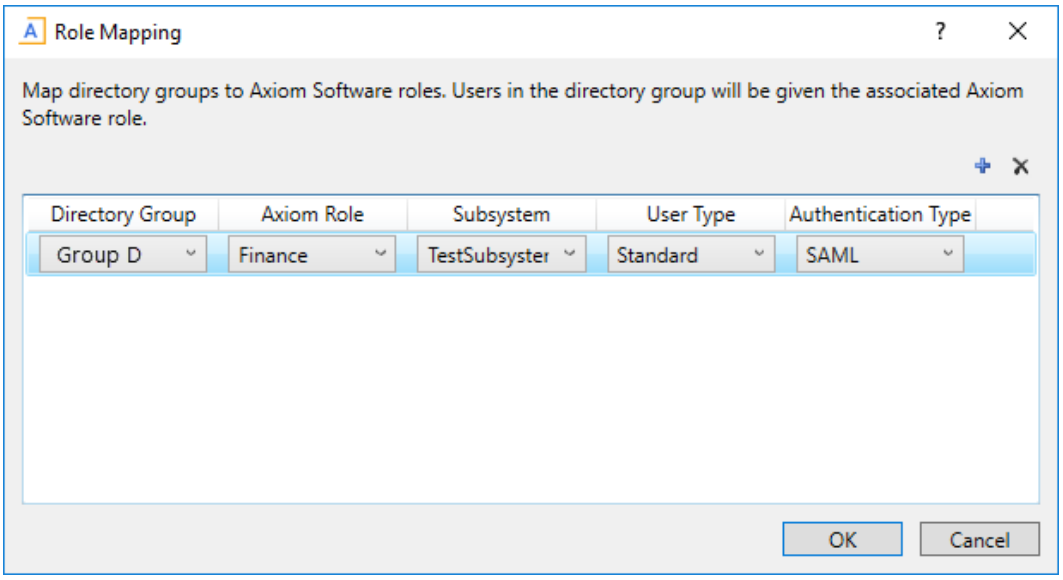
8. In the **Groups to import** section, click **Role Mapping** to define the role mappings for each selected group:



- In the **Role Mapping** dialog, click the **Add mapping** icon ✚ in the top right to add a mapping row to the dialog.



- In the mapping row, select a **Directory Group** to map, then select the following:
  - The **Axiom Role** that you want the users to belong to. You can select **None** if you do not want the users to be assigned to a role.
  - The **Subsystem** that you want the users to belong to. This option is only present if subsystems are enabled for your system.
  - The **User Type** for the users. This means license type, such as a **Standard** license or a **Viewer** license.
  - The **Authentication Type** for the users, **Windows User** or **SAML**. If you want to use a different authentication type, then you must update the users after importing to assign them to the desired authentication type. You may be able to create a Save Type 4 report to Axiom.Principals to update the users, and process that report within the same Scheduler job, after the Active Directory import task is performed.



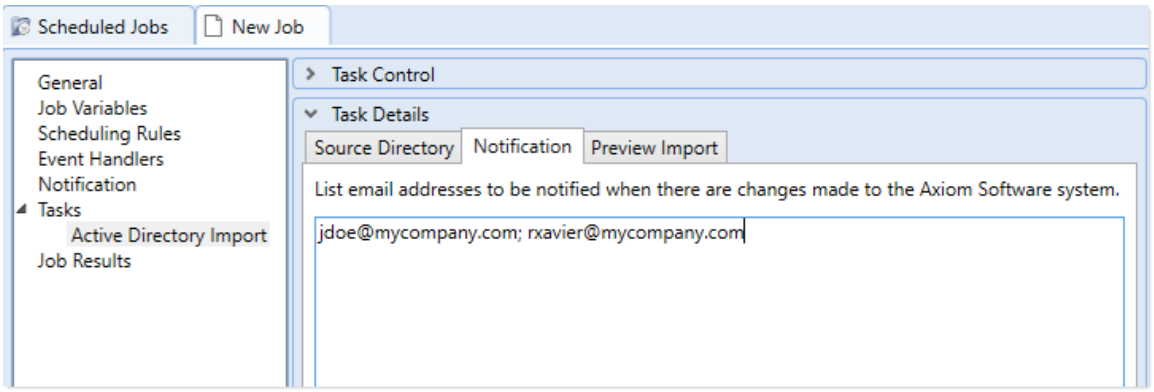
- Repeat these steps for each group to be imported. If you want the users in a group to belong to more than one role and/or subsystem, you can create multiple mapping rows for that group. If you need to remove a mapping row, select it and then click the **Remove mapping** icon ✕ in the top right of the dialog.
- When you are finished defining mappings, click **OK** to return to the Scheduler task properties.

The defined role mappings do not display in the **Groups to import** box. If you want to review or edit the role mappings, click **Role Mapping**.

NOTES:

- If a group has multiple mapping rows to assign the users to multiple roles and/or subsystems, then the specified user type and authentication type should be the same on each row. If the user type or authentication type is different, then the entry on the last processed mapping will be used.
- If a group has no defined role mappings, then the users will not be assigned to any roles or subsystems. If the import creates new users without role mappings, the assigned user type is Standard and the assigned authentication type is Windows User.

9. On the **Notification** tab of the Task Details, enter one or more email addresses to send a notification when users have been added or synchronized due to running the Active Directory Import task. Separate multiple addresses with a semi-colon.

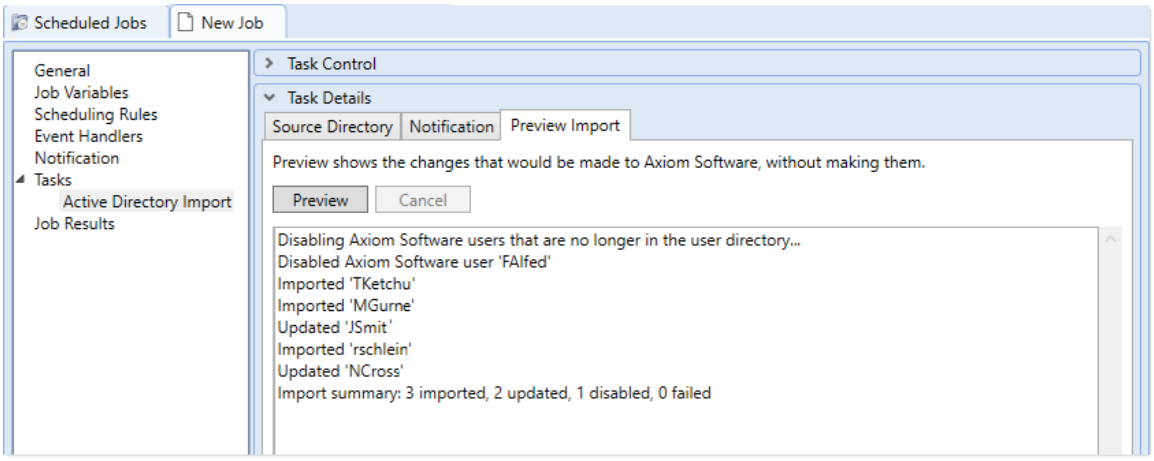


When the import task is run, if any users are created or modified in the Axiom Financial Planning system, an email notification will be sent to the addresses specified here. The email summarizes the changes made. This email notification is independent of any job-level notification settings (which notify based on overall job completion or failure).

We recommend setting up this task-level notification to send emails to the security administrator (s) responsible for maintaining the security settings in Axiom Financial Planning, so that he or she can define security settings for newly added users, validate changes made to existing users, and perform any other follow-up tasks.

10. On the **Preview Import** tab of the Task Details, click **Preview** to see the changes that will be made to Axiom Financial Planning Security when the Active Directory Import task is run.

    The preview feature is intended to help you verify that you have set up the task correctly. If the reported changes are not as you expect, then you can review and adjust the task settings as needed. No changes are made to security when preview is run.

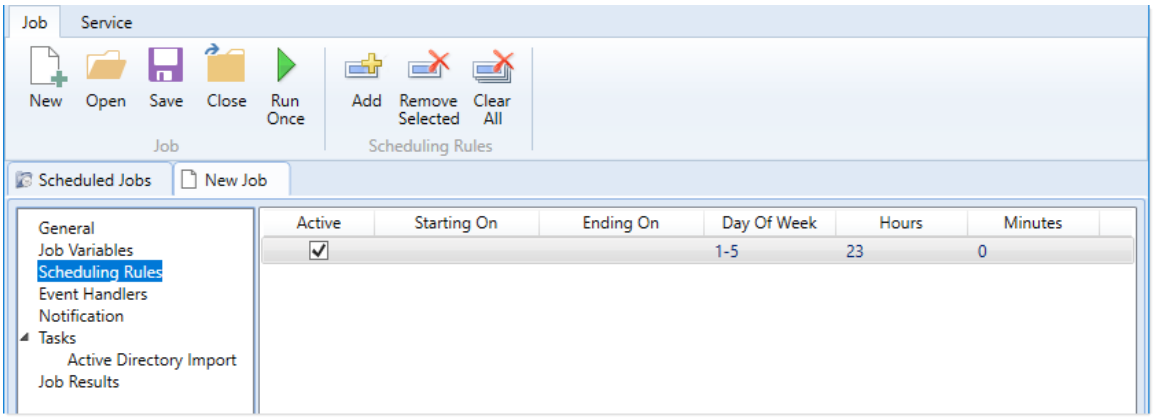


    This completes the settings for the Active Directory Import task. However, there are a few general job properties that should also be reviewed and completed as needed.

11. In the left-hand pane, click **Scheduling Rules**. Using this section, you can define a scheduling rule

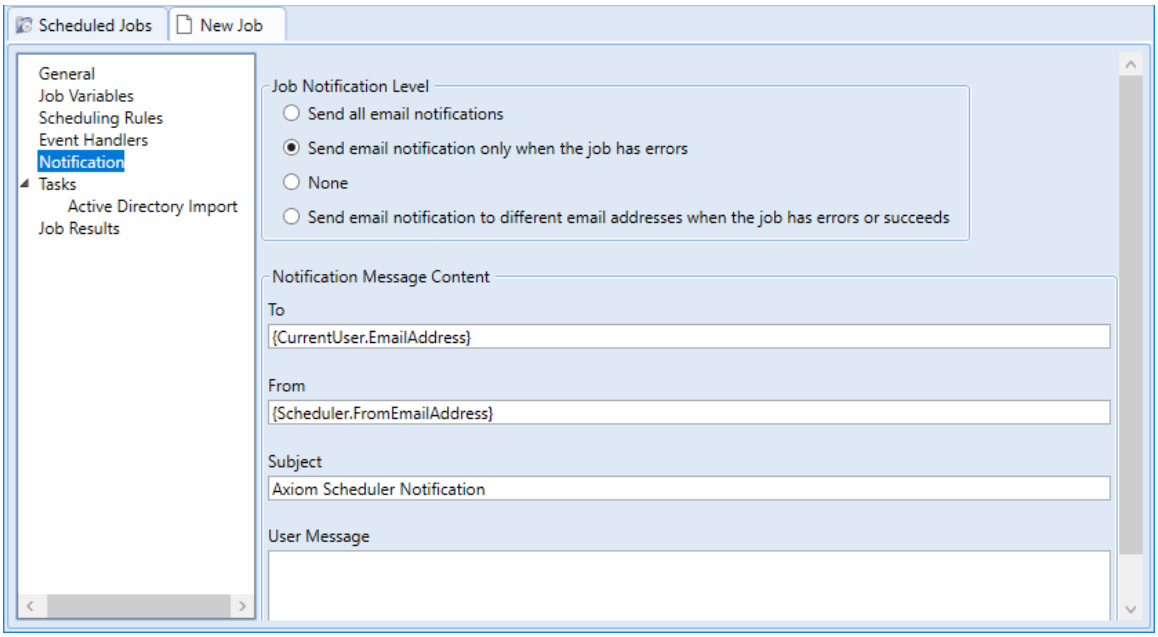
so that the job runs automatically as needed. Typically, organizations want the Active Directory Import task to run regularly so that users are kept in sync.

Click **Add** to add a scheduling rule to the job, and then complete the rule as needed based on your desired schedule. In the following example, this job will run Monday through Friday at 11:00PM.



12. In the left-hand pane, click **Notification**. Using this section, you can configure the notification settings for the overall Scheduler job. The job-level notifications are intended to inform interested parties when the job completes successfully or has errors. These notifications do not contain any information about user changes to Axiom Financial Planning Security—to inform someone about specific user changes, you must use the task-level notification settings as described in step 9.

    By default, jobs are configured to send a notification whenever the job is run (**Send all email notifications**). You can change the **Job Notification Level** as needed, and you can modify the recipients, subject, and message. In the following example, a notification is only sent when the job has errors.



13. Complete any other job or task properties as needed. In most cases, the default settings are sufficient.
14. Click **Save**. You can define a name for the job and save it to the desired location in the Scheduler Jobs Library.

Once you save the job with an active scheduling rule, the job is immediately added to the schedule to await the first scheduled execution time. You can see this scheduled instance on the **Scheduled Jobs** tab.

You can also run the job manually as needed by opening the job and clicking **Run Once**. Note that when using Run Once, the job runs as the current user instead of the job owner, so you must have the required permissions to perform the import.

For more information on what happens when the Active Directory Import task is run, see How Active Directory user synchronization works.

How Active Directory user synchronization works

This topic describes how new users are created and how existing users are updated when an Active Directory Import job runs in Scheduler.

NOTE: The Active Directory domain name is always used to determine matching users for purposes of the Active Directory import. If a user name matches but the domain does not, that user is not considered to be a matching user.

Creating new users via Active Directory import

For each unique user name in the import, Axiom Financial Planning looks for a matching user name in Axiom Financial Planning Security. If no match is found, then a new user is created. If a match is found, then the user synchronization behavior applies as detailed in the following section.

New users are created with the following user properties:

- Login (from Active Directory)
- Domain (from Active Directory)
- First name (from Active Directory)
- Last name (from Active Directory)
- Email address (from Active Directory)
- License Type (from Scheduler task settings)
- Authentication (from Scheduler task settings)
- Enabled (from Scheduler task settings)
- Assigned Roles (from Scheduler task settings)
- Assigned Subsystems (from Scheduler task settings)
- Directory Sync Enabled (assumed as enabled)

NOTE: The imported user's domain does not display in the Security dialog, but it is stored in the database and can be reported upon by use of an Axiom query to the Axiom.Principals table. The relevant domain also displays before each user name when using Open Security in Spreadsheet. The domain is stored in case of a situation where two users with the same user name are imported from different domains.

Synchronizing users via Active Directory import

If a user name in the Active Directory import matches an existing user name in Axiom Financial Planning security, then that user will be updated ONLY if the **Directory Sync Enabled** check box remains selected for the matching user. Matching users are updated as follows:

- **User Properties**: If the first name, last name, or email address has changed in Active Directory, it is updated in Axiom Financial Planning.
- **User License Type**: If the assigned user license type for the Active Directory group has changed, then the license type is updated in Axiom Financial Planning.
- **Authentication Type**: If the assigned authentication type for the Active Directory group has changed, then the authentication type is updated in Axiom Financial Planning.

- **Role and Subsystem Assignments**: The user's role and subsystem assignments are updated as follows:
    - If a role or subsystem assignment has been added for the Active Directory group, the user is assigned to that role or subsystem.
    - If a role or subsystem assignment has been removed from the Active Directory group, the user is only removed from the role or subsystem if another group is mapped to that same role or subsystem (and the user does not also belong to that other group). If the previously assigned role or subsystem is not present in the mappings at all, then the user is not removed from the role or subsystem.
    - If the user no longer belongs to the Active Directory group, and that group's role or subsystem mappings still exist, then the user is removed from those roles and subsystems (unless the user belongs to another Active Directory group in the import that is mapped to the same roles and subsystems).
- **Disabled Users**: If the user is disabled in Active Directory, then the user is disabled in Axiom Financial Planning. If the user is disabled in Axiom Financial Planning but enabled in Active Directory, then the user will either be re-enabled or left as disabled depending on whether **Never Enable Users** is checked in the Scheduler task settings.

If the **Directory Sync Enabled** check box is cleared for the matching user, then that user will be ignored by the Active Directory synchronization process and left as is.

If the **Directory Sync Enabled** check box is selected for a user and that user does NOT match a user name in the Active Directory import, then the user is disabled. If you still need the user account, you can re-enable the user and clear the Directory Sync Enabled check box so that the user will be ignored by future imports.

NOTES:

- Role mappings are processed in role ID order. If a group has multiple mappings, and the user license type or authentication type does not match on all of the mappings, then users in the group will be assigned to the license type and authentication type associated with the last-processed role.
- If a role mapping uses a subsystem-specific role, users will be assigned to that role regardless of whether they also belong to the associated subsystem. This creates an invalid security configuration that must be corrected after the import.

Editing imported users

Once an imported user has been created in Axiom Financial Planning, you can edit the user's permissions in Security as appropriate.

You can assign the user to additional roles and/or subsystems, and those additional assignments will persist through subsequent imports. However, if the user is part of an import that contains a mapping with those roles or subsystems, and the user is not in the group affected by that mapping, then the user will be removed from those roles or subsystems.

You can edit user properties such as name, email, and authentication type, however, these changes will be overwritten the next time the Active Directory import task is run, assuming that **Directory Sync Enabled** is still checked for the user.

If you do not want the user to be synchronized with Active Directory anymore, but you still want the user to be active in Axiom Financial Planning, then you should clear the **Directory Sync Enabled** check box for the user. Once this option is disabled, the user will be ignored by the import and will be treated like a manually created user.

Treatment of manually created users

If Active Directory Import is enabled for your system, you can still manually create users and exclude them from the Active Directory import and synchronization process by clearing the **Directory Sync Enabled** check box for the user. The user will be ignored by any future Active Directory Import jobs.

If you manually create a user and leave the **Directory Sync Enabled** check box selected, then the user will be treated as follows the next time an Active Directory Import job is run:

- If the user matches a user name in the Active Directory import, then the user will remain active and will be synchronized with Active Directory.
- If the user does not match a user name in the Active Directory import, then the user will be disabled.

Using LDAP Authentication

You can enable LDAP Authentication for Axiom Financial Planning, so that users are authenticated against your LDAP server when launching Axiom Financial Planning.

NOTE: LDAP Authentication is not supported for use with Axiom cloud service systems.

LDAP Authentication behavior

When the Axiom Financial Planning login screen displays, users must enter their LDAP user name (with or without the suffix) and their LDAP password. If the LDAP user name matches a user name in Axiom Financial Planning, then the credentials are passed to LDAP for authentication into Axiom Financial Planning.

If the LDAP Authentication configuration for Axiom Financial Planning only allows one LDAP suffix, then that suffix will be used for all LDAP authentication. The user can include the suffix or not when logging in, and the Axiom user name can contain the suffix or not. Axiom will automatically append the suffix as needed when sending the credentials to LDAP for authentication. However, if multiple suffixes are allowed, then the suffix must be specified using any of the following approaches:

- The user must specify the appropriate suffix using the **Domain** selection list. This is an optional login setting that can be enabled for your installation. For more information, see Domain selection list.
- The user must include the suffix as part of their user name when logging in.
- The user names in Axiom Financial Planning must include the appropriate suffix for each user.

Users must enter their credentials each time they log in, unless they select **Remember me** to store their credentials for future use. For more information, see Remember me.

Setting up LDAP Authentication

The following summarizes the setup process for LDAP Authentication.

To set up LDAP Authentication:

1. LDAP Authentication must be enabled for the system.

   LDAP Authentication can be enabled during the Financial Planning Application Server installation. If it was not enabled during the installation, you can configure it later using the **Configure Authentication Methods** page of the Financial Planning Software Manager. For more information, see the *Installation Guide*.

   When you enable LDAP Authentication, you must specify the connection string to the LDAP server, as well as a user name and password for the connection. You must also specify the allowed suffix(es) for user names.

2. In security, Axiom Financial Planning users must be set up as follows to support LDAP Authentication:
   - The user's Axiom Financial Planning login name must match their LDAP login name.

     The user name can contain the LDAP suffix or not as desired. Note that the user name must include the suffix if there is a naming conflict with another user who is configured with a different authentication type (or with a different LDAP suffix). For example, if you have an Axiom Prompt user jdoe, and you have an LDAP user jdoe, then the LDAP user must include the suffix on their user name to differentiate the two users.

   - The user's **Authentication** method must be set to **LDAP Prompt**. This is the default setting for new users if your installation is enabled for LDAP Authentication.

All users who are assigned to the LDAP authentication type will be authenticated by your designated LDAP directory. This is the only way that these users can log in—they cannot log in using an internal Axiom Financial Planning password.

If you need to test the security settings of an LDAP authentication user, you can use the **Log in as selected user** feature to log in to Axiom Financial Planning as that user. For more information, see Testing user security.

Using SAML Authentication

You can enable SAML Authentication for Axiom Financial Planning, so that users are authenticated based on a designated identity provider (such as Shibboleth or Windows Active Directory Federation Services). This option is only supported for use with Axiom Cloud Service systems.

SAML Authentication behavior

SAML Authentication (Security Assertion Markup Language) is a web-based authentication method. Users access Axiom Financial Planning by going to the Axiom Web Client in a browser. Users must enter their user name and password for their identity provider. Once they are authenticated, if the user name matches a user name in Axiom Financial Planning, then the user can access the Axiom Web Client or install / launch the Axiom Excel Client or Windows Client from the web page.

Users assigned to SAML Authentication can only access Axiom Financial Planning from the web. The Excel Client and Windows Client cannot subsequently be launched using a shortcut on the user's computer; the user must continue to log into the Axiom Web Client in order to start the Desktop Client. When using SAML Authentication, you may want to configure the Financial Planning Application Server installation so that no shortcuts are placed on user computers during the client installation, since users will not be able to use these shortcuts.

Setting up SAML Authentication

The following summarizes the setup process for SAML Authentication.

1. SAML Authentication must be enabled for the system.

   For cloud systems, Axiom Support will enable SAML Authentication for you as part of the system setup, if that is your chosen authentication method.

2. Complete any additional configuration requirements to enable SAML Authentication.

   SAML Authentication requires additional setup steps. These steps differ depending on the designated identity provider. Please contact Axiom Support for assistance in completing the SAML Authentication setup.

3. In security, Axiom Financial Planning users must be set up as follows to support SAML Authentication:

   - The user's Axiom Financial Planning login name must match their login name for the SAML identity provider (with or without an @suffix as appropriate).
   - The user's **Authentication** method must be set to **SAML**.

If you need to test the security settings of a SAML Authentication user, you can use the **Log in as selected user** feature to log in to Axiom Financial Planning as that user. For more information, see Testing user security.

Logging in as an Axiom Prompt user when SAML Authentication is enabled

You can also set up **Axiom Prompt** users when SAML Authentication is enabled, such as to allow Axiom Support to access the system without giving them credentials for the SAML identity provider. These users must go a special area of the web site in order to log in:

`https://ServerName/Axiom/Home/Login`

Where *ServerName* is the name of your Axiom Application Server and Axiom is the name of the virtual directory.

Using OpenID Authentication

You can enable OpenID Authentication for Axiom Financial Planning, so that users are authenticated based on a designated OpenID provider (such as Google OpenID Connect).

OpenID Authentication behavior

OpenID Authentication is a web-based authentication method. Users access Axiom Financial Planning by going to the Axiom Web Client in a browser. Users must enter their user name and password for their OpenID provider. Once they are authenticated, if the user name matches a user name in Axiom Financial Planning, then the user can access the Axiom Web Client or install / launch the Axiom Excel Client or Windows Client from the web page.

Users assigned to OpenID Authentication can only access Axiom Financial Planning from the web. The Excel Client and Windows Client cannot subsequently be launched using a shortcut on the user's computer; the user must continue to log into the Axiom Web Client in order to start the Desktop Client. When using OpenID Authentication, you may want to configure the Axiom Application Server installation so that no shortcuts are placed on user computers during the client installation, since users will not be able to use these shortcuts.

Setting up OpenID Authentication

The following summarizes the setup process for OpenID Authentication.

1. OpenID Authentication must be enabled for the system.

   For on-premise systems, OpenID Authentication can be enabled during the Axiom Application Server installation. If you did not enable it during the original installation, you can use Repair to change the installation to enable it. For more information, see the *Installation Guide*.

   When you enable OpenID Authentication for Axiom Financial Planning, you must specify the Client ID and Client Secret for your OpenID provider.

For cloud systems, Axiom Support will enable OpenID Authentication for you as part of the system setup, if that is your chosen authentication method.

2. Complete any additional configuration requirements to enable OpenID Authentication.

   At minimum, you must configure the OpenID provider with the redirect URI to the Axiom Financial Planning login page (such as `<URLtoAxiom>/openid/login`). Other setup steps may be necessary, depending on your particular configuration. Please contact Axiom Support as needed for assistance in completing the OpenID Authentication setup.

3. In security, Axiom Financial Planning users must be set up as follows to support OpenID Authentication:
   - The user's Axiom Financial Planning login name must match their login name for the OpenID provider, including the @suffix.
   - The user's **Authentication** method must be set to **OpenID**.

If you are an administrator and you need to test the security settings of an OpenID Authentication user, you can use the **Log in as selected user** feature to log in to Axiom Financial Planning as that user. For more information, see Testing user security.

Logging in as an Axiom Prompt user when OpenID Authentication is enabled

You can also set up **Axiom Prompt** users when OpenID Authentication is enabled, such as to allow Axiom Support to access the system without giving them credentials for the OpenID identity provider. These users must go a special area of the web site in order to log in:

`https://ServerName/Axiom/Home/Login`

Where *ServerName* is the name of your Axiom Application Server and Axiom is the name of the virtual directory.

Login behavior options

The following options apply to all authentication types except SAML and OpenID Authentication.

Domain selection list

When a user logs in, Axiom Financial Planning looks for a matching user name within Axiom security and applies the specified authentication type for that user. For LDAP Authentication and Windows Authentication, if only one allowed domain or suffix is specified, that information can be assumed and the user does not need to include it when logging in. If multiple domains or suffixes are specified, then the user must include that information as part of their user name. For example: *DomainName**UserName* for Windows Authentication.

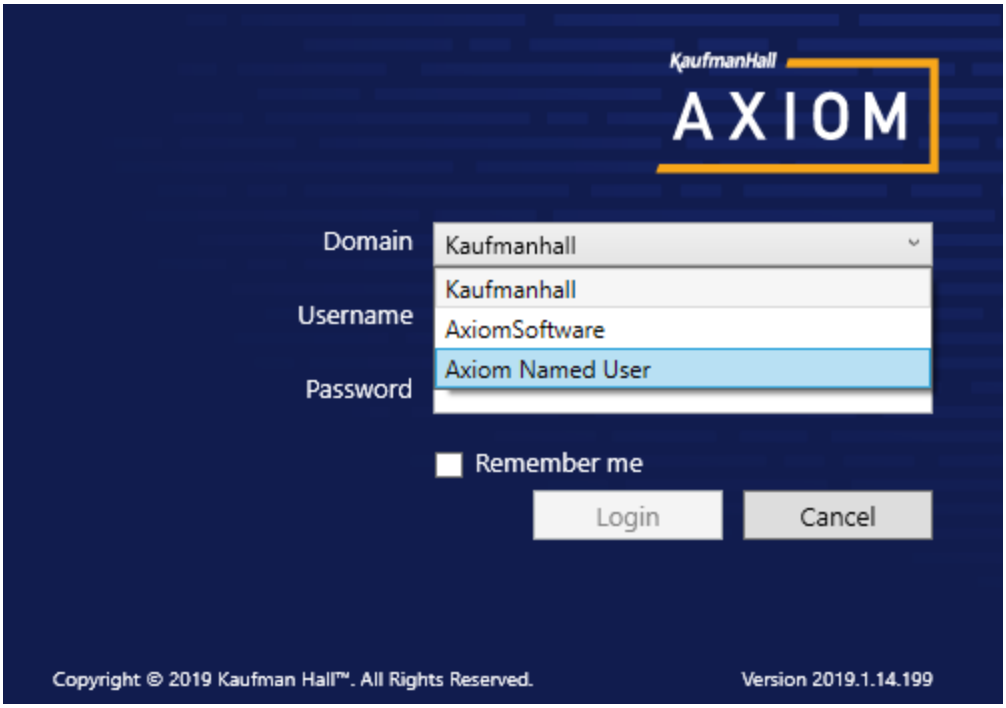
Alternatively, you can configure your system so that all users must specify their authentication type / domain when logging into Axiom Financial Planning, using the **Domain** selection list. The Domain selection list displays the following:

- **Axiom Named User** (for Axiom Prompt login)

- Each allowed Windows Authentication domain (if Windows Authentication is enabled for the installation)
- Each allowed LDAP suffix (if LDAP Authentication is enabled for the installation)

When the Domain selection list is enabled, the user must make the appropriate selection in order to log in. For example, a Windows Authentication user must select their Windows domain name. Because it is specified separately, the domain or suffix does not need to be added to the user name, even when there are multiple allowed domains or suffixes.

The following screenshot shows an example of the Domain selection list. In this example, the installation has enabled Windows Authentication with two allowed domains. The two domain names display on the selection list as well as the choice to log in as an Axiom Named User.



The Domain selection list can be enabled or disabled using the **AuthenticationDomainSelectionListRequired** system configuration setting. By default this is set to False, which means the Domain selection list only displays if your system contains duplicate user names that require the domain to be specified to differentiate those users. If you set this to True, then the Domain selection list displays at all times.

If the Domain selection list is enabled, and if Windows Authentication is enabled for the installation, then by default the user's current domain will be selected in the list (if that domain is one of the allowed domains). Otherwise, the first option in the list is selected by default. Options are ordered as follows: LDAP suffixes, Windows domains, Axiom Named User.

Remember me

Users can optionally select **Remember me** at the login screen to store their Axiom Financial Planning authentication for future use. This information is encrypted and only applies to the current user for the current machine. The next time the user starts Axiom Financial Planning on the current machine, they will not be prompted to log in.

Although all Axiom Financial Planning clients have a Remember Me check box on the login screen, note that the remembered status is stored separately for access to the Web Client versus the Desktop Client. For example, a user can choose Remember Me when logging into the Excel Client, and then that user will not be prompted when subsequently accessing either the Excel Client or the Windows Client. However, if the user attempts to access the Web Client, they will be prompted for credentials (and can then choose to be separately remembered for the Web Client).

NOTE: Logging out of a client will clear the remembered status for that client type. Although the Excel Client and Windows Client do not have an explicit log out feature, logging out of the Word or PowerPoint add-in will clear the remembered status for the Desktop Client (but only if you are not also currently logged into another instance of the Desktop Client).

If you do not want users to have access to the Remember Me option, so that they must log in each time, then you can disable the feature by setting the system configuration setting **ShowRememberMe** to **False**. This will hide the option from the various login screens. Keep in mind that if a user has already used the Remember Me option, hiding the setting will not clear the user's stored credentials. The user will continue to be remembered until they log out and cause their credentials to be cleared.

Filters

This section contains reference information for creating filter criteria statements. Security settings for file groups and tables can use filters to determine access.

Filter criteria syntax

Several areas of Axiom Financial Planning use criteria statements to define a set of data. The syntax for these criteria statement is as follows:

```
Table.Column='Value'
```

- *Table* is the name of the database table.
- *Column* is the name of the column in the database table.
- *Value* is the value in the column.

If the column is String, Date, or DateTime, the value must be placed in single quotation marks as shown above. If the column is Numeric, Integer (all types), Identity, or Boolean, then the quotation marks are omitted.

For example:

- To filter data by regions, the filter criteria statement might be: `DEPT.Region='North'`. This would limit data to only those departments that are assigned to region North in the Region column.
- To filter data by a single department, the filter criteria statement might be: `DEPT.Dept=100`. This would limit data to only department 100.

If the table portion of the syntax is omitted, then the table is assumed based on the current context. For example, if the filter is used in an Axiom query, then the primary table for the Axiom query is assumed. If the current context supports *column-only syntax*, and the specified column is a validated key column, then the lookup table is assumed.

Operators

The criteria statement operator can be one of the following: =, >,<,<>,<=,>=. Greater than or less than statements can only be used with numeric values. For example:

```
ACCT.Acct>1000
```

SQL IN and LIKE syntax can also be used. For example:

```
DEPT.Region IN ('North','South')
```

Compound criteria statements

You can use `AND` and `OR` to combine multiple criteria statements. If you are creating long compound criteria statements with multiple ANDs or ORs, you can use parentheses to group statements and eliminate ambiguity. For example:

```
(DEPT.Region='North' OR DEPT.Region='South') AND (ACCT.Acct=100 OR
ACCT.Acct=200)
```

NOTES:

- When filtering on multiple values in the same column, you must use OR to join the statements, not AND. In the example above, if the statement was instead `DEPT.Region='North' AND DEPT.Region='South'`, that statement would return no data because no single department belongs to both the North and South regions. When you use OR, the statement will return departments that belong to either the North or the South regions.
- Alternatively, you can use the SQL IN syntax to create a compound statement for values in the same column. For example, the statement `DEPT.Region='North' OR DEPT.Region='South'` can also be written as `DEPT.Region IN ('North','South')`. The Filter Wizard uses IN syntax by default.

Using criteria statements in functions

If you are using a criteria statement in a function, such as GetData, you must place the entire criteria statement in double quotation marks. For example:

```
=GetData("Bud1","DEPT.Region='North'","GL1")
```

You can also place the criteria statement in a cell and then use a cell reference in the function. In this case, you do not need to use double quotation marks in the function, unless you are concatenating text and cell reference contents within the function.

Referencing blank values in filters

If a string column contains a blank value, you may want to create a filter that includes or excludes records with these blank values. For SQL Server, the blank value is stored as an empty string. This empty string is indicated with empty quotation marks in the filter. For example: `ACCT.CMAssign=''` or `ACCT.CMAssign<>''`

If you use the Filter Wizard to construct the filter, it will automatically use the appropriate syntax.

Referencing values with apostrophes in filters

If a string column contains a value with an apostrophe (such as O'Connor), then that apostrophe must be escaped with another apostrophe so that it is not read as the closing apostrophe for the filter criteria statement. For example:

`Dept.VP='O'Connor'`

Invalid. This construction does not work because Axiom Financial Planning reads it as Dept.VP='O' and then does not know what to do with the rest of the text.

`Dept.VP='O''Connor'`

Valid. The extra apostrophe tells Axiom Financial Planning that the apostrophe is part of the string value and is not the closing apostrophe.

NOTE: This syntax must use two apostrophe characters in sequence and *not* a double quotation mark. If you create the filter using the Filter Wizard, Axiom Financial Planning will construct the appropriate syntax for you.

Referencing Date or DateTime values in filters

If your locale uses a date format where the first value is the day, filters using that date or date-time value will not process correctly. Instead, the date or date-time value must be in standard format. Standard format is `YYYY-MM-DDTHH:MM:SS` for DateTime and `YYYY-MM-DD` for Date.

If you use the Filter Wizard to construct the filter, it will automatically convert the date or date-time value to the appropriate syntax.

Filter variables

Axiom Financial Planning provides a set of filter variables that can be used in filter criteria statements throughout the software. Currently, these variables allow filtering based on the current user.

For example, you may have a column on a plan code table such as Dept.Owner, which contains user login names. When setting up plan file filters in security, you want each user to have a filter such as `Dept.Owner='UserName'`. Without using variables, you would need to set up each user with a user-level filter such as `Dept.Owner='JDoe'`, `Dept.Owner='RSandstone'`, and so on. With variables, you can instead set up a single role-level filter such as `Dept.Owner='{CurrentUser.LoginName}'`. For each user in the role, this filter will be resolved using that user's login name.

Filter variables can be used in any place that takes a filter criteria statement. For example, you can use the variables to impact data queries in places such as Sheet Filters, Axiom query filters, Web Report data source filters, Quick Filter, and GetData functions. You can also use the variables in utilities such as Process Plan Files and Create Plan Files.

To use a filter variable, place the variable in curly brackets within the filter criteria statement. All other filter rules still apply—for example, if the variable will resolve to a string value such as a user name, the variable must be placed in single quotation marks. The filter must result in a valid filter criteria statement once the variable is resolved to its current value.

Variable	Resolved Value
{CurrentUser.EmailAddress}	The email address of the current user.
{CurrentUser.FirstName}	The first name of the current user.
{CurrentUser.LastName}	The last name of the current user.
{CurrentUser.LoginName}	The login name of the current user.
{CurrentUser.PrincipalID}	The database ID of the current user.
{CurrentUser.QualifiedLoginName}	The qualified login name of the current user (domain\username). If the user does not have a defined domain, the regular login name is used.

Setting up home pages for Axiom Financial Planning

When a user logs into Axiom Financial Planning, a home page opens automatically. This home page can be customized for your installation. Additionally, you can designate alternate home pages for different users, as well as use different home pages for each Axiom Financial Planning client.

Home page priority order

When a user logs into an Axiom Financial Planning client, their home page is determined using the following priority order. If the first item on the list is defined, then that file is used, otherwise the next item on the list is used, and so on.

Desktop Client (Excel and Windows)

1. Security-assigned home page at the user level
2. Security-assigned home page for a role the user belongs to (excluding the Everyone role)

   NOTE: If a user belongs to multiple roles, and more than one role has an assigned home page, the home page of the "first" role is used (determined alphabetically by role name).

3. Security-assigned home page for the Everyone role

   Axiom Financial Planning first cycles through items 1-3 looking for a **Desktop Client Home Page** assignment. If no assignment is found, Axiom Financial Planning cycles through items 1-3 again, this time looking for a **Home Page** assignment. If no security home page is found, Axiom Financial Planning continues to the next item.

4. Default home page in the Axiom System directory
   - In the Windows Client, Axiom Financial Planning checks `\Startup\Home\Windows Client` first, then moves on to `\Startup\Home`.
   - In the Desktop Client, Axiom Financial Planning checks `\Startup\Home\Excel Client` first, then moves on to `\Startup\Home`.

If no valid home pages are found for the Desktop Client, a blank spreadsheet is used.

Web Client

1. Product-assigned home page

   This item only applies in systems with installed products. If a product area in the Web Client has a designated home page, that home page takes precedence over all other home page assignments. When the user logs into the Web Client, they see the home page for their default product area.

2. Security-assigned home page at the user level
3. Security-assigned home page for a role the user belongs to (excluding the Everyone role)

   NOTE: If a user belongs to multiple roles, and more than one role has an assigned home page, the home page of the "first" role is used (determined alphabetically by role name).

4. Security-assigned home page for the Everyone role

For the Web Client, only the **Home Page** assignment is considered for items 1-3. The **Desktop Client Home Page** is ignored. The Home Page assignment must be a web-enabled file in order to be used as the Web Client home page. If no valid assignment is present in Security, Axiom Financial Planning continues to the next item.

5. Default home page in the Axiom System directory

   In the Web Client, Axiom Financial Planning checks `\Startup\Home\Web Client` for a web-enabled file, and uses that file as the home page if present. The `\Startup\Home` directory is ignored in this case, even if the file in that directory is web-enabled. If no valid home page is present in the Axiom System directory, Axiom Financial Planning continues to the next item.

6. Default Web Client home page provided by Axiom Software

   This page displays the user's notifications and web favorites. This built-in page is only used as the home page if no other home page assignment is found. For more information, see home page (in Web Client help).

Assigning home pages in Security

You can assign alternate home pages on a per user or role basis within Security. If a home page is assigned in Security, it takes precedence over the default home files in the Startup directory.

The **Startup** tab of the Security Management dialog has two settings to assign a home page to users:

Item	Description
Home Page	This "global" home page is used in all clients, unless a Desktop Client Home Page is also specified. If you want this home page to display in the Web Client, the selected file must be web-enabled (either an Axiom form or a web report). If the file is not web-enabled, then the assignment will be ignored for purposes of the Web Client.
Desktop Client Home Page	This home page is used in the Desktop Client only (Windows Client or Excel Client), overriding the Home Page assignment.

For more information on assigning an alternate home file in Security, see the *Security Guide*.

Using default home files in the Startup folders

You can optionally place default home files in the Startup folders. These files will be used as home pages for users who do not have home page assignments in security.

By default, the Startup folders contain a single system file: `\Axiom\Axiom System\StartUp\Home\Home.xlsx`. You can customize this file for your system as desired, or replace it with a different file. You can also optionally use different Home files on a per client basis.

To define different default Home files, you can place files in the following folders within the Axiom System directory. Each folder should only contain a single file. These files can be named whatever you like (it is not necessary to name them Home.xlsx).

Folder	Description
`\Startup\Home`	The file in this folder is used as the home page when the Desktop Client is launched, if: • The user does not have a specified home page in Security. • The applicable client-specific Home folder is empty. The file in this folder is ignored in the Web Client, even if the file is web-enabled.
`\Startup\Home\Web Client`	The file in this folder is used as the home page when the Web Client is launched, if the user does not have a web-enabled home page in Security. This folder does not contain a file by default. If you want to use a Web Client-specific Home file, you must copy or import a file to this location. Any file saved to this location must be an Axiom form or a web report, or else it will be ignored.
`\Startup\Home\Excel Client`	The file in this folder is used as the Home file when the Excel Client is launched, if the user does not have a web-enabled home page in Security. This folder does not contain a file by default. If you want to use an Excel Client-specific Home file, you must copy or import a file to this location.
`\Startup\Home\Windows Client`	The file in this folder is used as the Home file when the Windows Client is launched, if the user does not have a web-enabled home page in Security. This folder does not contain a file by default. If you want to use a Windows Client-specific Home file, you must copy or import a file to this location.

NOTES:

- Only one file can be used as the home file in each of the `\Startup\Home` folders. If any of the Home folders contain multiple files, the file with the smallest document ID is used.
- If you want to use a form-enabled home file in the Desktop Client, you must assign the file via Security. If you place a form-enabled file in the `\Startup\Home` folders, it will be opened as a spreadsheet file instead of as a form. (The exception to this is the Web Client folder, where the file must be form-enabled and only opens as a form.)

Designing Home files for Axiom Software

Home files are designed using Axiom reports. They can be regular spreadsheet reports, form-enabled reports, or web reports. Your organization may use one Home file for all users, or you may use multiple Home files that are designed for different roles.

Using spreadsheet reports as Home files

You can use almost any Axiom Financial Planning feature in a spreadsheet Home file. For example, you can use Axiom queries and other query methods in the Home file to show current data that refreshes when the file is opened.

The primary goal of the Home file should be to communicate information, not to perform tasks. The Home file can be graphical and use text to communicate information about the planning process to your end users. Some features, such as save-to-database, cannot be performed in spreadsheet Home files.

The default Control Sheet is automatically hidden for any file that is used as the home page. You do not need to manually hide this sheet when designing a spreadsheet Axiom report to be used as a Home file.

NOTE: If a spreadsheet Home file has refresh variables, the refresh variables cannot be displayed when the file is opened. If the file is configured with **Refresh Forms Run Behavior** of **OnManualRefreshAndOpen** or **OnOpenOnly**, the variables will not display and the refresh-on-open query will not be run.

Using Axiom forms as Home files

Many clients use Axiom forms as Home files, because the web presentation is well-suited to the purpose of a home page, regardless of which client you are using. Web pages can present summary information in a more attractive and user-friendly way than a spreadsheet.

Additionally, Axiom forms provide pre-built support for certain information that is commonly included in Home files, such as:

- Announcements
- Current process tasks
- Process summary

Although it is possible to present this information in spreadsheet Home files, it requires developing a custom solution. Axiom forms support standardized, configurable components that are specifically designed to present this information.

When using an Axiom form as the Home file in the Web Client, keep in mind that the Home file is displayed instead of the built-in browse page for Axiom forms. Therefore, all necessary form navigation should either be incorporated in the Home file itself, or included in the navigation panel of the Web Client container.

Editing Home files

You can edit Home files just like any other Axiom report. If you are using the default Home file in the Startup folder, only administrators can edit that file. If you are using custom Home files located in the Reports Library and assigned via Security, access to those files is controlled using normal file security.

If the Home file that you want to edit is currently open as your Home file in the Desktop Client, then you must first close the Home file so that you can open it with read/write permissions.

1. Click the **X** button on the **Home** file tab to close the Home file (or right-click the file tab and click **Close**). Note that you must have at least one other file open before you can close the Home file (otherwise Axiom Financial Planning will close if no files are currently open).
2. Open the file using Axiom Explorer, and edit it as desired. Once you have finished your edits, save and close the file.
3. You can now re-open the file as the Home file by clicking **Show Home** in the Axiom ribbon.

Because you have reopened the Home file, you will see your edits immediately. Other users will see the changes the next time that they log in (or if they close and then reopen the Home file within their current session).

NOTE: If the Home file has been configured as non-closeable in Security, then you will not be able to close it. In this case, you must use Save As to save the Home file with a different name, then make your edits in that file. To replace the existing file with your new file, you should export the new file, then rename it locally to have the same name as the original file, then import it over the original file. This process will retain the document ID of the original file.