



THE
POWER
TO KNOW.

SAS[®] Warranty Analysis 4.31 User's Guide



The correct bibliographic citation for this manual is as follows: SAS Institute Inc. 2011. *SAS® Warranty Analysis 4.31: User's Guide*. Cary, NC: SAS Institute Inc.

SAS® Warranty Analysis 4.31: User's Guide

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SAS Institute Inc., SAS Campus Drive, Cary, North Carolina 27513.

1st electronic book, September 2011

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What's New in SAS Warranty Analysis 4.3

Overview

SAS Warranty Analysis 4.3 has the following changes and enhancements:

- enhancements to analyses
- enhancements to emerging issues
- enhancements to security
- enhancements to projects

Enhancements to Analyses

- Summary tables analysis

Summary tables analysis enables you to specify the attributes by which to summarize data, including combinations of attributes.

- Failure relationship analysis

Failure relationship analysis enables you to discover how labor codes and parts affect each other. The relationships are represented as lines (links) between the labor codes and the parts.

Enhancements to Emerging Issues

- Start dates for new failure codes and part numbers

You can specify a start date for individual values of failure codes and part numbers to reduce false alarms caused by lack of historical data.

Enhancements to Security

- Enhanced access restriction options in Emerging Issues

You can limit user access to specific subsets of data in Emerging Issues output.

- Column-level security

You can limit user access to specific data columns for a data selection, and you can restrict users from seeing the output within those columns.

Enhancements to Projects

- Details templates

You can create and save a list of selected attributes as a template to use in a details table analysis.

- Bi-Weibull analysis

Bi-Weibull analysis more accurately models data sets with two failure codes.

- Reporting variables selected from multiple tables

Details analysis supports selection of reporting variables from multiple tables.

- Reliability analysis for Pareto and other analyses

After you drill into a Pareto or other analysis, you can run a reliability analysis.

- Automatically update all analyses in a data selection (SAS Warranty Analysis 4.31 only)

You can automatically update all of the analyses whenever the warehouse is updated.

Part 1

Overview of SAS Warranty Analysis

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Chapter 1

Welcome

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Welcome to SAS Warranty Analysis

Quality and reliability are the most significant prerequisites for profitability. Warranty data and other types of data about field failures are becoming increasingly important for manufacturers and resellers to analyze and to understand. In most practical situations, warranty information provides the closest representation of how a product operates in customers' hands. However, simply reporting on warranty data is not sufficient. Such reporting is reactive and time-consuming, and it can be misleading. Instead, successful enterprises are proactive with warranty data and use analytics to bring emerging issues to light and to accelerate problem identification and root cause analysis.

SAS Warranty Analysis is an integrated reporting and analysis tool that provides the flexibility and functionality to perform warranty-related problem identification, prioritization, and definition for root cause analysis. The components of SAS Warranty Analysis are the results of more than 30 years of experience helping leading manufacturers take full advantage of the data that they collect. SAS Warranty Analysis provides the foundation for incorporation of multiple data types (for example, call center, customer survey, and end-of-line audit data) to produce a more comprehensive representation of a product's field performance.

SAS Warranty Analysis empowers you to report on and analyze your warranty data. With SAS Warranty Analysis, you can easily create and save specific filtering criteria to apply to any of the base analyses in the solution. These criteria, called data selections, include product attributes, such as production and sales dates, and claim event attributes, such as claim dates. Analysis results are not static; you can interact with your results in a number of ways. The feature-rich set of analytics ensures not only that you have a clear view of the warranty-related events that have occurred, but also that you have a better understanding of the underlying causes.

Here are a few of the goals that you can accomplish using SAS Warranty Analysis:

- You can integrate customer, supplier, and organizational data with warranty data in one convenient location.
- You can create and automate an early warning process.
- You can perform statistical analyses to investigate the root cause of warranty issues.
- You can efficiently and effectively communicate key metrics, goals, and performance measures throughout the organization.

Using SAS Warranty Analysis, you can easily create and save specific data-selection criteria to apply to any of the base analyses. These data-selection criteria (called data selection definitions) include both product attributes (for example, production, repair, and sales dates) and event attributes (for example, claim dates).

You can interact with analysis results in various ways, including the following:

- You can dynamically filter the results for many of the analyses.
- You can drill into the subset of information for an individual bar on a Pareto chart to see a trend chart.
- You can then get a list of customer comments related to a spike on the trend chart.

The feature-rich set of analytics provides a clear view of not only what happened but also why it might have happened.

The purpose of this document is to provide an understanding of the key features of SAS Warranty Analysis.

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Getting Started

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Overview of SAS Warranty Analysis Menus, Toolbars, and Task Panes

Introduction

After you log on to SAS Warranty Analysis, the main application window appears. By default, the Projects workspace is selected, but no project is displayed.

The SAS Warranty Analysis application includes the main application window with its own menu and toolbar, a workspaces pane, and a tasks pane. In addition, there are five distinct workspaces, each with its own menus, toolbars, and work areas. This section provides instructions for using the main menu and toolbar, as well as general information about using the application.

The items on the main menu bar (**File**, **Workspaces**, **Tools**, and **Help**) display drop-down lists of commands that are not specific to individual workspaces.


The main toolbar and the **Workspaces** pane both enable you to move quickly to the different workspaces by clicking an icon or shortcut for the workspace that you want to display.

Each unique workspace contains menus, toolbars, and display areas that enable you to accomplish related tasks efficiently.

Summary of Navigation Methods

To access the Projects workspace, use any of the following methods:

- Select **Workspaces** ⇨ **Projects** on the main menu.


- Click  on the main toolbar.



Click **Projects** in the **Workspaces** pane.

To access the Data Selections workspace, use any of the following methods:

- Select **Workspaces** ⇨ **Data Selections** on the main menu.

- Click  on the main toolbar.




Data

Click **Selections** in the **Workspaces** pane.

To access the Reports workspace, use any of the following methods:

- Select **Workspaces** ⇨ **Reports** on the main menu.


- Click  on the main toolbar.



Click **Reports** in the **Workspaces** pane.

To access the Emerging Issues workspace, use any of the following methods:

- Select **Workspaces** ⇨ **Emerging Issues** on the main menu.

- Click  on the main toolbar.




Emerging

Click **Issues** in the **Workspaces** pane.

To access the Administration workspace, use any of the following methods:

- Select **Workspaces** ⇨ **Administration** on the main menu.

- Click  on the main toolbar.



Click **Administration** in the **Workspaces** pane.

Summary of Task Access Paths

Each workspace provides a distinct combination of pane menus and pop-up menus, **Tasks** panes, and command links, all of which can be used to start the tasks that are available in a particular workspace.

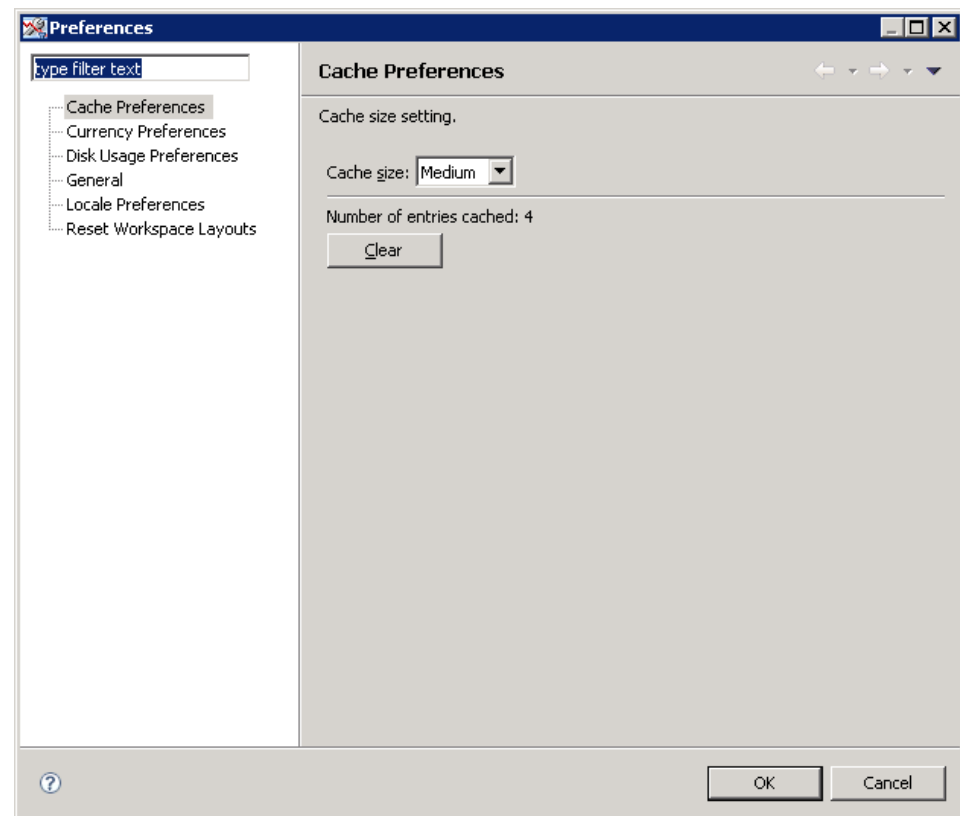
The following list indicates the different ways that you can start a task. However, not every task can be accessed by every method listed.


- Select the task from the pane's menu.
- Click the task in a toolbar.
- Select the task from the pop-up menu. (Click the right mouse button on an item to display the related pop-up menu.)
- Click the task in the **Tasks** pane.
- Click the link for the task in the content display area of the workspace.

Preferences Overview

Introduction

You can set some configuration preferences for SAS Warranty Analysis. To access the preferences, select **File** ⇒ **Preferences**.



Use the filter field (at the top of the list of preferences categories on the left) to filter the preference settings that are displayed in the Preferences dialog box. For example, you can type **C** to view only those items that start with C. Click  to return to the original list of preferences.

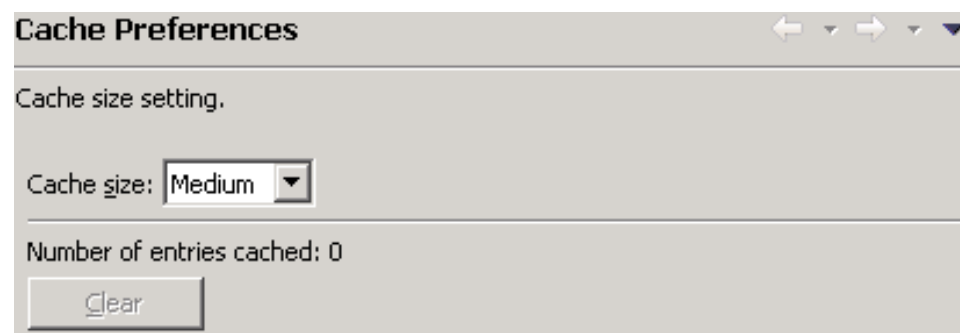
See Also

- “Cache Preferences” on page 8
- “Currency Preferences” on page 8
- “General Preferences” on page 9
- “Locale Preferences” on page 9
- “Reset Workspace Layouts” on page 10

Cache Preferences

The cache size setting determines how much of your computer’s random access memory is allocated to storing the results of analyses. Selecting a larger cache size enables analyses to be viewed faster, but this has the potential of limiting the system resources that are available for other applications or functions. If you need to run several applications simultaneously, select a smaller cache size for SAS Warranty Analysis.

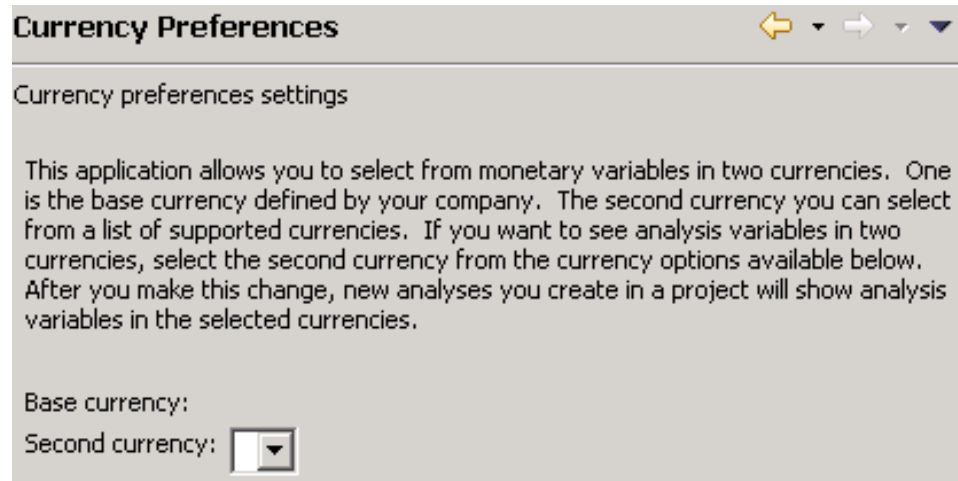
Select **Cache Preferences** to change the cache size, to view the number of entries that are currently cached, and to clear the cache.



Currency Preferences

If your installation of SAS Warranty Analysis supports the use of multiple currencies, then you can select **Currency Preference** to select a second currency to display for selection as a variable for some analyses.

Select the currency from the **Second currency** drop-down list.



Disk Usage Preferences

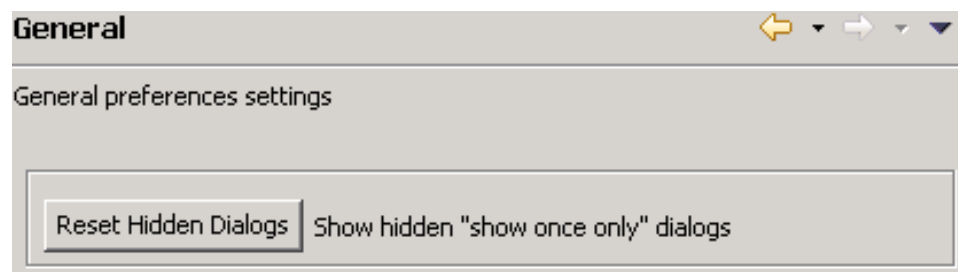
The disk usage preferences control whether data sets are automatically deleted. For information about this preference, see the information in the dialog box.

General Preferences

Select **General** to reset hidden dialog boxes.

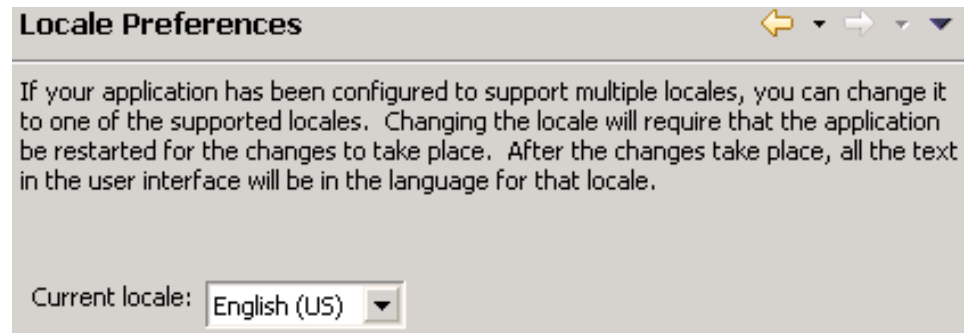
A hidden dialog box is a message that you can prevent from appearing more than once. For example, if you attempt to edit a data selection that has already been used to create an analysis, a message is displayed that warns you that every analysis that was created using the selection will be resubmitted if the data selection is edited. You can mark a check box labeled **Do not show this message again** to deactivate this message. The next time you choose to edit a data selection, the Edit Data Selection dialog box appears immediately, with no warning message. Several message boxes of this type can be accessed and deactivated.

Select **Reset Hidden Dialogs** to activate all message boxes that have previously been deactivated.



Locale Preferences

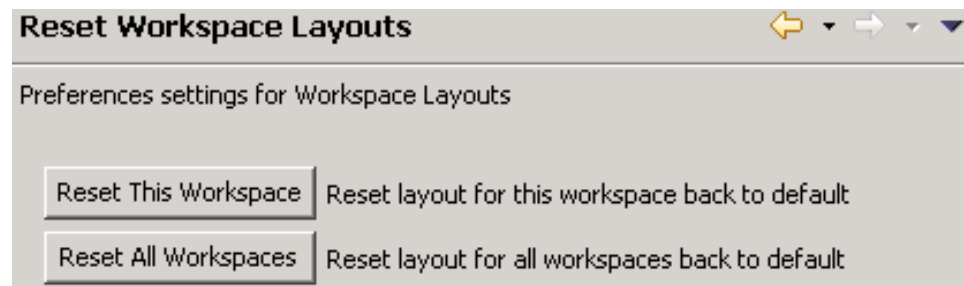
Select **Locale Preferences** to specify your locale. You must shut down and restart the system if you change the locale. After the system restart, all text in the user interface is displayed in the language specific to the selected locale. And, all new analyses are generated in the language for the locale.



Reset Workspace Layouts

If you have resized or otherwise altered the appearance of the workspaces, you can quickly return them to the original settings.

Select **Reset Workspace Layouts** to reset a single workspace or all workspaces to the default layout.



Help Overview

Access Help throughout SAS Warranty Analysis

You can access the online Help for SAS Warranty Analysis in any of the following ways:

- F1 key.

In any view of SAS Warranty Analysis, you can press the F1 key or select **Help** from any pane's menu to access the Help contents that are specific to the active workspace or dialog box.

- Help menu.

You can view the entire Help system by selecting **Help** ⇒ **SAS Warranty Analysis Help**.

- Help buttons.

Many views and dialog boxes have a Help button that you can click to see a Help topic.

- Help links.

Some areas within a window have a Help link that opens the Help topic that pertains to that area.

About the Different Types of Online Help

The following types of online Help are available with the SAS Warranty Analysis solution:

entire Help system

includes all available Help topics, with a table of contents in the left pane and Help content in the right pane.

context-specific Help

includes Help content that is specific to the active workspace or dialog box. Context-specific Help opens in a separate pane within the SAS Warranty Analysis solution.

tooltip Help












presents short, descriptive information about columns, metrics, or fields in a view.





Tooltip Help appears automatically when you position your mouse pointer over an item on your screen, such as an abbreviated column name.

Navigate the Help System

When you open the Help system for SAS Warranty Analysis, the entire contents of the online Help open in a separate window. The Help window displays a table of contents in the left pane and the contents of specific Help topics in the right pane.

The following table describes the functions of the navigation icons that are available in the Help window.

	Refreshes the contents of the left pane; displays the location of the current topic in the table of contents.
	Maximizes the current pane to fill the window.
	Reverts the current pane to its previous size.
	Returns you to the previous Help topic.
	Sends you to the next Help topic.
	Locates the current Help topic in the table of contents.
	Adds the current Help topic to your list of bookmarks.
	Deletes the selected bookmark from the bookmark list.
	Deletes all bookmarks from the bookmark list.
	Prints the current Help topic.
	Displays the table of contents in the left pane.

	Displays search results in the left pane.
	Displays links to related Help topics.
	Displays your list of bookmarks in the left pane.
	Displays the Index.

View Related Topics

Dynamic Help appears in a separate pane within the SAS Warranty Analysis application when you press the F1 key or select **Help** from any pane's menu. The Help that automatically appears is the Related Topics page. You can switch to a different page by selecting one of the links at the bottom of the dynamic **Help** pane.

The Related Topics page has an **About** area with a link to the Help topic for the active workspace. This page also contains a **Dynamic Help** area that lists other similar topics.

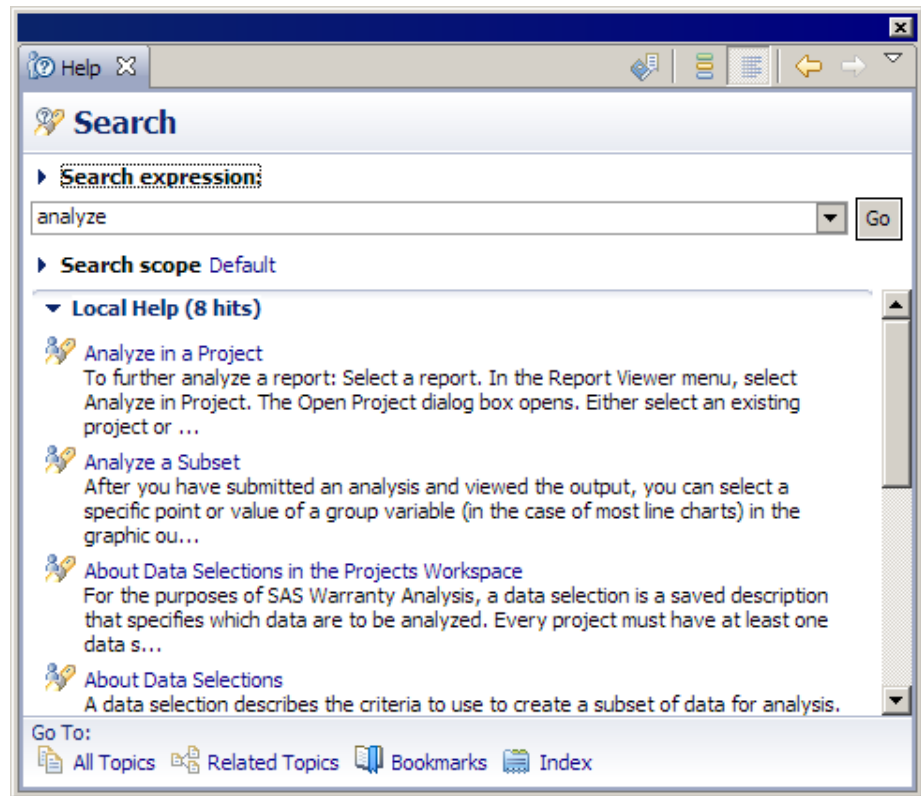
Search Help Contents

How to Search the Help Contents

To perform a search of the Help contents on the Search page of the dynamic Help pane:

1. Click **Search** at the bottom of the dynamic **Help** pane.
2. Type a term or expression in the search box.
3. Click **Go**.

Topics that meet the search criteria are listed.



Modify Search Settings

To change the scope of the current search, click **Search scope** and check or clear the boxes to indicate which search types to include in the scope of your search.

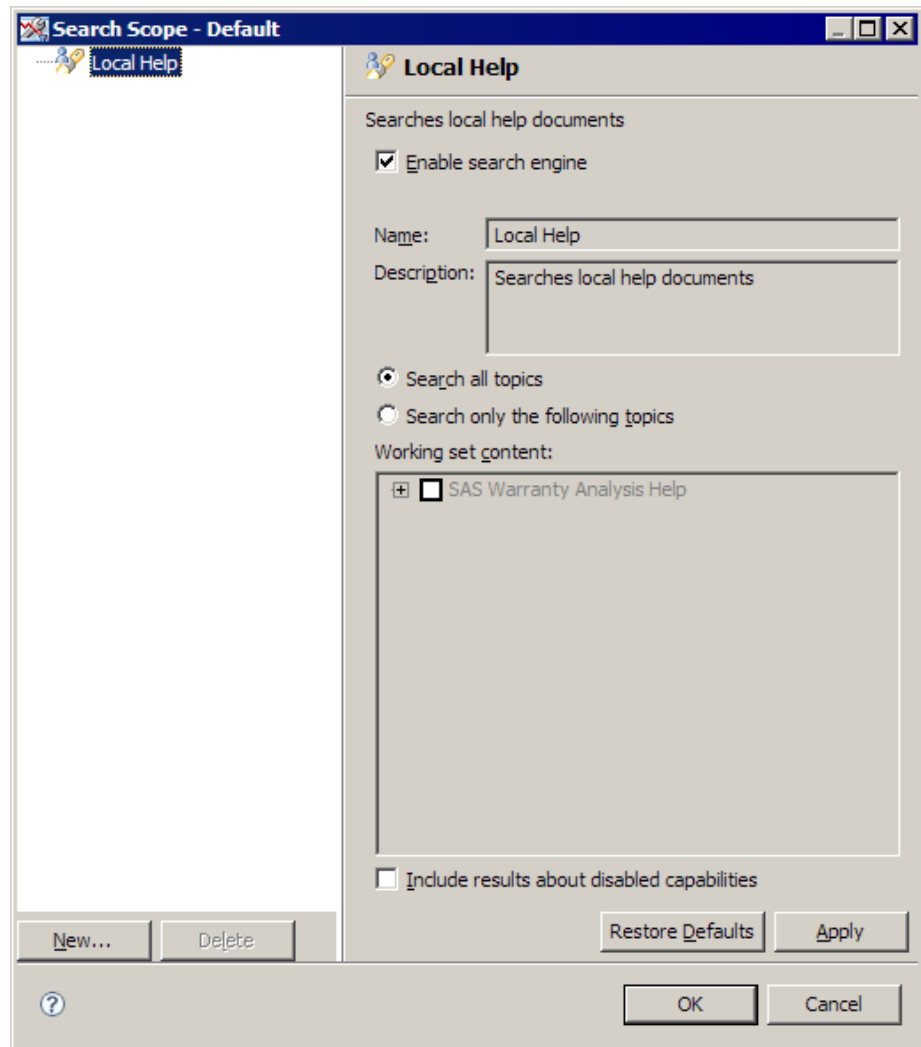
▼ Search scope Default

- ☒ Local Help
Searches local help documents
[Advanced Settings](#)

To modify the settings for search types:

1. Click the **Advanced Settings** link.

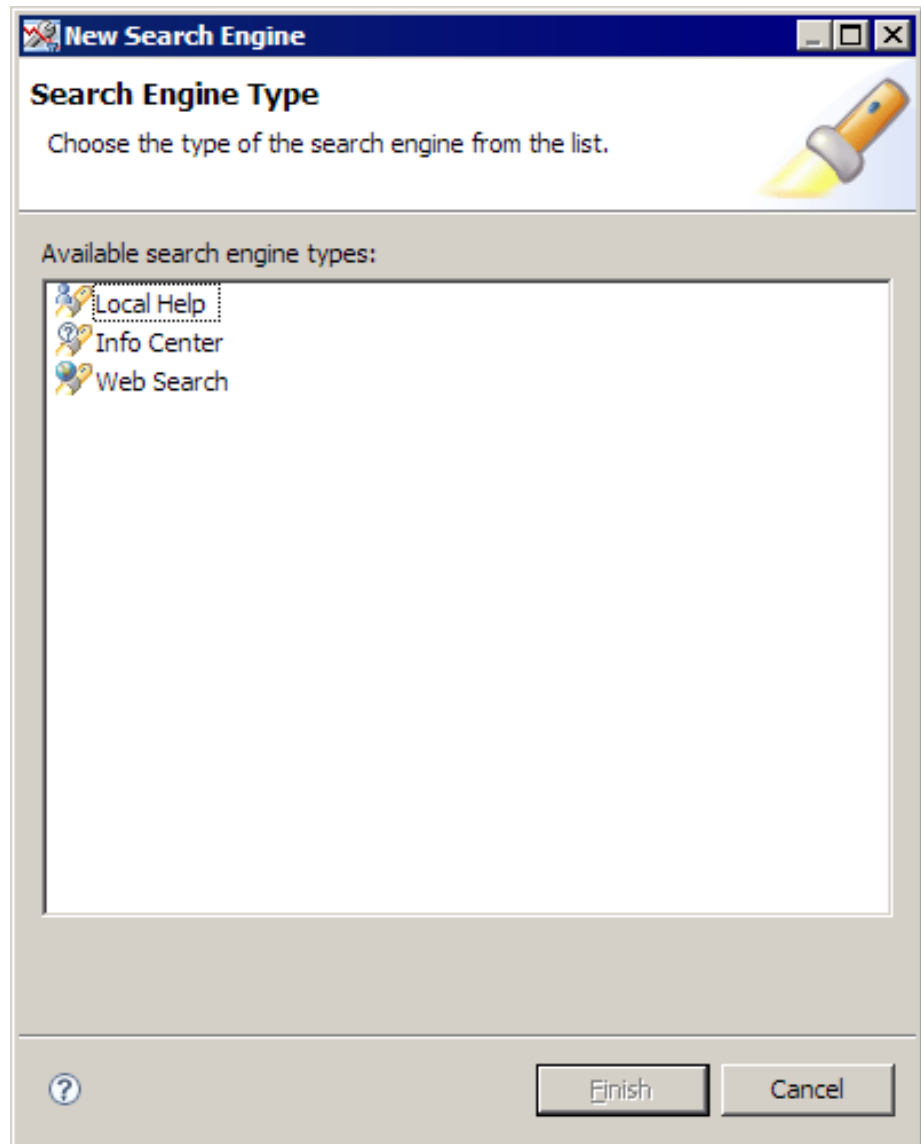
The Search Scope - Default dialog box appears.



2. Select a search type in the left pane.
The settings for the selected search type are displayed.
3. Change settings or click **Restore Defaults** to reset previous changes to default settings.

To add a new search type:

1. Click **New** on the Search Scope - Default dialog box.
The New Search Engine dialog box appears.



2. Select the search engine type for a new search type.
3. Click **Finish**.

The New Search Engine dialog box closes, and the search type is added to the Search Scope - Default dialog box.

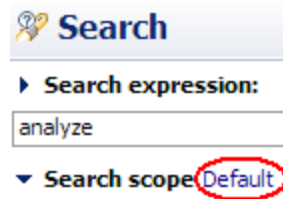
4. Select the new search type in the left pane to define its settings.

To delete a search type:

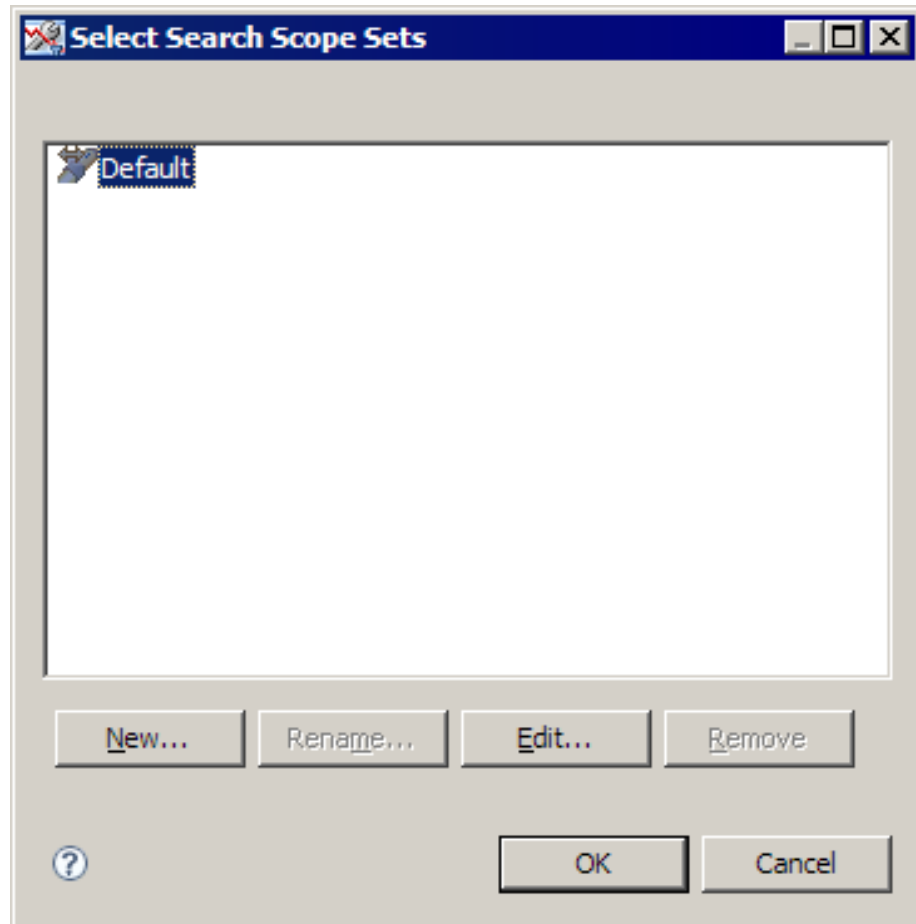
1. On the Search Scope - Default dialog box, select a search type.
2. Click **Delete**.

The selected search type is removed from the list.

To change the search scope set that is currently in use, click the name of the search scope set.



The Select Search Scope Sets dialog box appears.



Use the Select Search Scope Sets dialog box to complete the following tasks:

- To select an alternate search scope set, select the set name.
- To create a new search set, click **New**.
The New Scope Set dialog box appears. Type a name for the scope set.
The new search set appears in the list.
- To modify a search set, select the name of the scope set and click **Edit**. Type your changes.
- To rename a search set, select a scope set and click **Rename**.
The Rename Scope Set dialog box appears.
Type the new name.
- To delete a search set from the list, select the set name and click **Remove**.

View All Topics

View a list of all Help topics in a table-of-contents format by clicking **All Topics** at the bottom of the dynamic Help pane. Click a topic name to view topic contents or to see a list of related subtopics.

View Your Help Bookmarks

View a list of Help topics that you have bookmarked by clicking **Bookmarks** at the bottom of the dynamic Help pane. Click a topic name to view the topic contents.

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Tools

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Tools Overview

Here are the tools that are available:

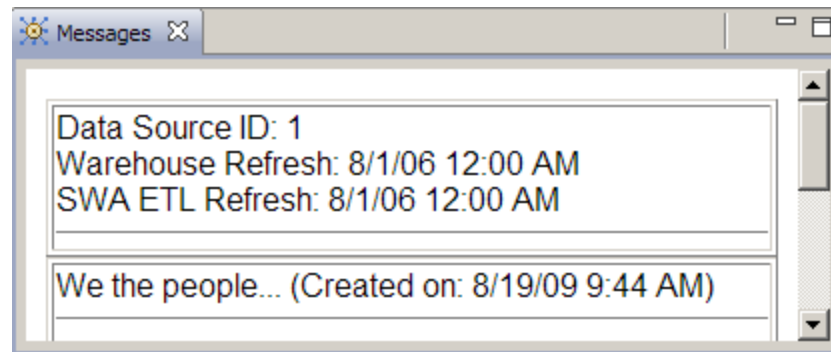
- [“The Messages Utility” on page 19](#)
 - [“The Disk Usage Utility” on page 20](#)
 - [“The Lookup Values Utility” on page 23](#)
 - [“The Job Queue Utility” on page 23](#)
-

The Messages Utility

The Messages utility displays system-generated messages and messages posted by the SAS Warranty Analysis administrator.

To open the Messages utility, select **Tools** ⇒ **Messages** from the main menu.

System-generated messages are displayed in full, while the messages posted by administrators appear as links. Click on a message link to display the full text of the message.



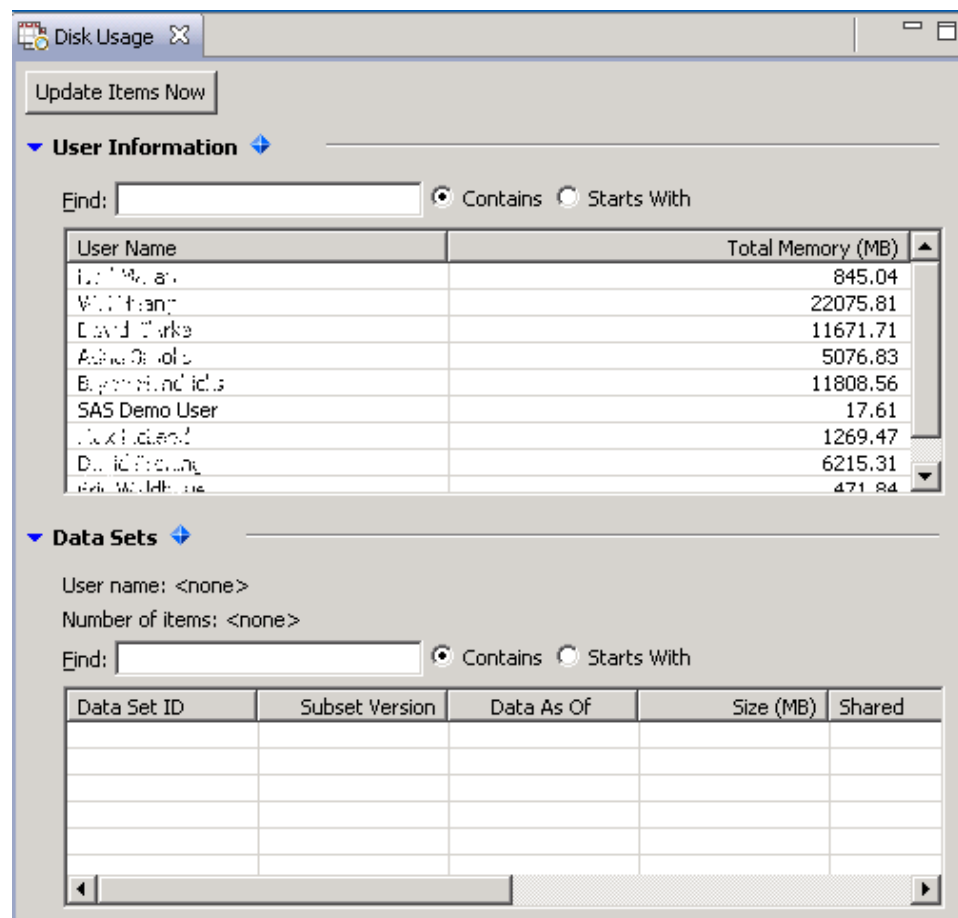
By default, the utility window is displayed in the content display area of the workspace. To reposition the window, drag it to a new location.

The Disk Usage Utility

Overview

The Disk Usage utility displays information about the amount of hard drive space that each user and each data set is currently consuming.

To open the Disk Usage utility, select **Tools** ⇒ **Disk Usage** from the main menu.



By default, the utility window is displayed in the content display area of the workspace. To reposition the window, drag it to a new location.

Click the blue triangle to collapse (▼) or expand (▲) an area of the window. Double-click the blue diamond (◀▶) to fully expand the related area and hide the other area.

To ensure that the information displayed is current, click **Update Items Now**.

Working with Data Sets

To view a user's data sets in the **Data Sets** area, select a user row in the **User Information** area. The user's data sets are shown in the table in the **Data Sets** area.

After you display a user's data sets, you can manage the data sets. Select a data set row in the **Data Sets** area, right-click, and then select a command from the pop-up menu:

- To see more detailed information about the data set, select **Open Disk Usage Details**.

The Disk Usage Details dialog box appears. For more information, see [“Disk Usage Details” on page 22](#).

- To delete the data set, select **Delete Data Set**.

Note: This option might be disabled by your SAS Warranty Analysis administrator.

- To see detailed information about the data selection used by the data set, select **View Data Set Details**.

The Data Selection Summary dialog box appears.

- Select **Sort Ascending** to sort the items in the table by ascending alphanumeric order.
- Select **Sort Descending** to sort the items in the table by descending alphanumeric order.
- Select **Export Table to Spreadsheet** to export the table to a comma-separated value (CSV) file.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

- Select **Customize Columns** to customize the table's columns.

For information, see [“Customize Table Columns” on page 86](#).

Disk Usage Details

Data Selection: Platform (XE) Make (Zeus) ; Primary Labor Code (G-000)

Data Set ID: SFFZX4EJIW

Version: 001

Data As Of: 8/1/06

Size (MB): 84.57

Shared: No

▼ Reports ▴

Number of items: <none>

▼ Projects ▴

Number of items: 1

Find: ☒ Contains ☐ Starts With

Project Name	Description	Analysis Name	Analysis ID	Status	Subset Analysis
DK Test		Enterprise - Analytic Grap...	ANFZX4EIR5	Ready	No

▼ Emerging Issues ▴

Number of items: <none>

? Delete Data Set Cancel Help

To delete the data set, click **Delete Data Set**.

Right-click a data row in the table to display a pop-up menu, where you can select from the following:

- Select **Sort Ascending** to sort the items in the table by ascending alphanumeric order.
- Select **Sort Descending** to sort the items in the table by descending alphanumeric order.
- Select **Export Table to Spreadsheet** to export the table to a comma-separated value (CSV) file.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

- Select **Customize Columns** to customize the table's columns.

For information, see [“Customize Table Columns” on page 86](#).

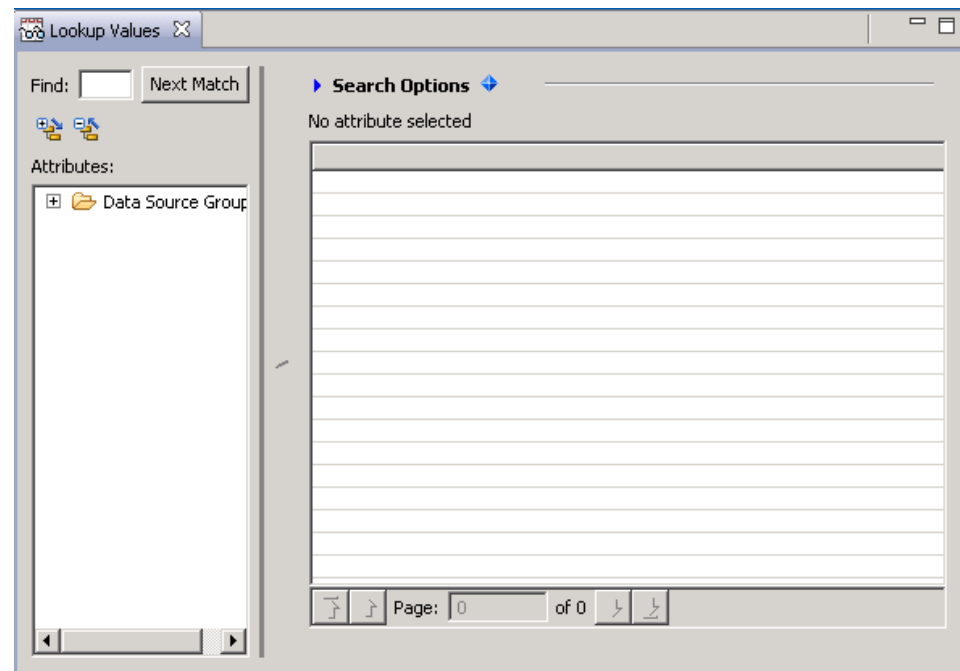
See Also

[“Customize Table Columns” on page 86](#)

The Lookup Values Utility

The Lookup Values utility enables you to search for the product and event data configured for the application and to view the details (for example, values and labels) that are associated with the data.

To open the Lookup Values utility, select **Tools** ⇒ **Lookup Values** from the main menu.



To locate an item in the **Attributes** tree, type a term in the **Find** field and click **Next Match**.

Click the blue triangle to collapse (▼) or expand (►) an area of the window. Double-click the blue diamond (◆) to fully expand the related area and hide the other area.

To fully expand the **Attributes** tree, click . To collapse the **Attributes** tree, click .

To display related details for an item in the **Data Source Group** tree, double-click the item.

By default, the utility window is displayed in the content display area of the workspace. To reposition the window, drag it to a new location.

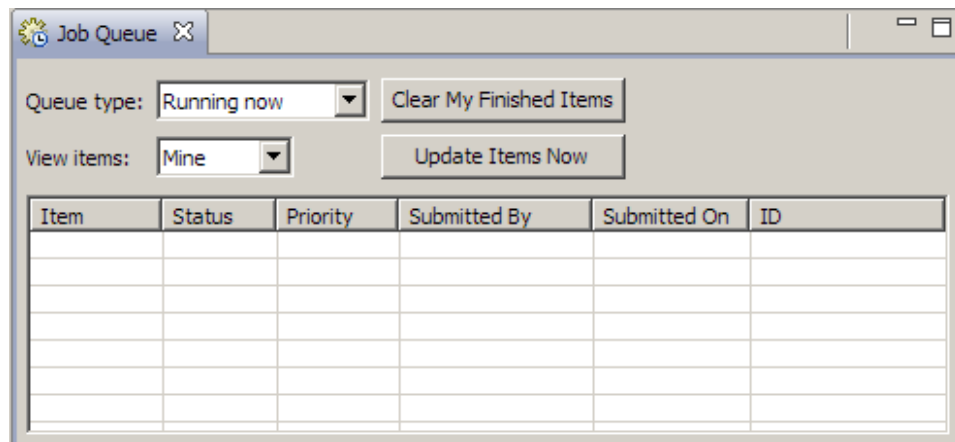
See Also

[“Customize Table Columns” on page 86](#)

The Job Queue Utility

The Job Queue utility displays information about the analyses that you have defined and submitted.

To open the Job Queue utility, select **Tools** ⇒ **Job Queue** from the main menu.



From the **Queue type** drop-down list, select a type of jobs.

From the **View items** drop-down list, select **Mine** to view only your own items, or select **All Users** to view all available items. To remove your own finished items from the display, click **Clear My Finished Items**. To refresh the display with the latest information, click **Update Items Now**.

Right-click anywhere in the table to display a pop-up menu, where you can select from the following:

- Select **Sort Ascending** to sort the items in the table by ascending alphanumeric order.
- Select **Sort Descending** to sort the items in the table by descending alphanumeric order.
- Select **Export to Spreadsheet** to export the table to a comma-separated value (CSV) file.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

- Select **Customize Columns** to customize the table's columns.

For information, see [“Customize Table Columns” on page 86](#).

By default, the Job Queue utility window is displayed in the content display area of the workspace. To reposition the window, drag it to a new location.

Part 2

Projects

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Chapter 4

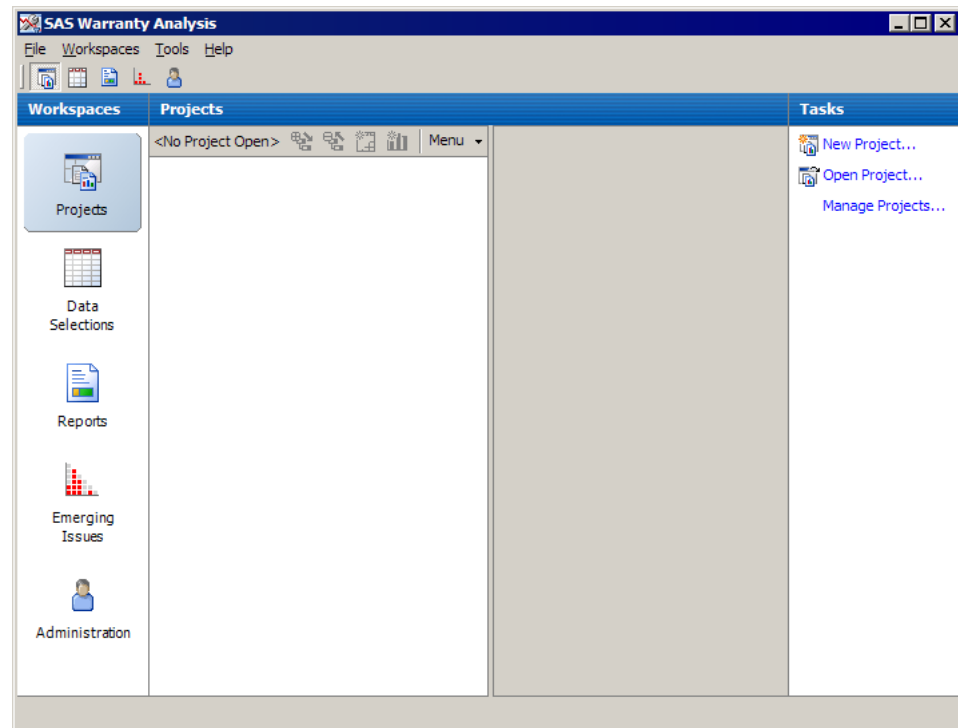
Overview of the Projects Workspace

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The Projects Workspace

The Projects workspace enables you to group and track your analytical activities, and those activities persist in the workspace until you delete them. All work that you conduct in the Projects workspace is visible only to you. You can save and share data selections that you create in a project, and you can save and share analyses as reports. The Projects workspace display area contains a project tree and a project pane where the results and details of analyses are displayed.

When you log on to SAS Warranty Analysis for the first time after the software is installed, the Projects workspace is displayed by default. However, the workspace is empty. The title bar of the project view pane reads **<No Project Open>**, and the content pane is blank. To begin working with SAS Warranty Analysis, you must create a new project.



To access the Projects workspace, use any of the following methods:

- Select **Workspaces** ⇌ **Projects** on the main menu.
- Click  on the main toolbar.
- 
Click **Projects** in the **Workspaces** pane.

Projects

A project is an area where you can group any combination of data selections and analyses. You determine how to group these elements in a way that makes sense to you.

You might choose to organize project elements in any of the following ways:

- all analyses related to a specific field issue (for example, power supply failures on a given model)
- all analyses conducted for a specific person (for example, analyses for Joe)
- analyses to track the validation of fixes (for example, trend charts for all closed issues)

You can create a new project or open a project that already exists. You specify a name and description for each project when you create it. When you select **Open** ⇌ **Project**, a list of the names and descriptions of all of your projects is displayed. After you select a project, its name and any data selections and analyses that it contains are displayed in the Projects workspace.

In a project, you can perform the following tasks:

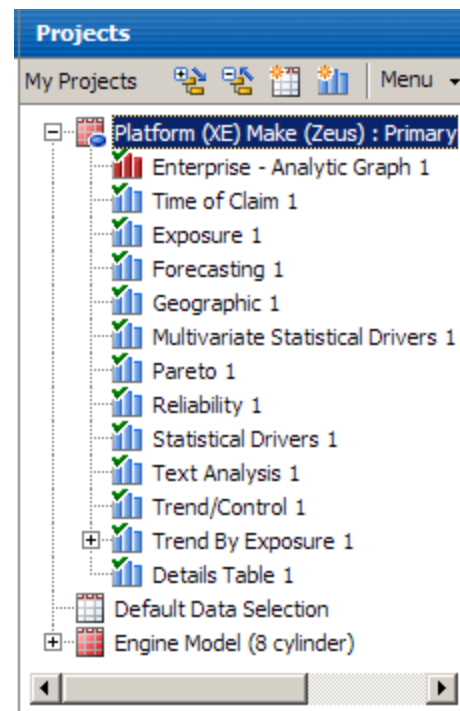
- create and edit data selections (and use the data selections that you create in the Data Selections workspace)

- run multiple analyses against a data selection
- set the analysis options for each analysis that you submit
- drill into the analysis results, and have results persist across sessions
- copy data selections and associated analyses
- delete data selections and associated analyses
- see when a data selection has become outdated, either because the data selection definition has been changed in the Data Selections workspace (if the original one was in the Data Selections workspace) or because the data warehouse has been refreshed
- update data selections and associated analyses when data selections have become outdated
- save a data selection (into the Data Selections workspace) after drilling into an analysis
- save any analysis as a report (into the Reports workspace)
- conduct analyses on the same data referenced by a saved report
- conduct analyses on the same data referenced by an emerging issues alert
- export any analysis as a PDF file
- export most analysis tables to a spreadsheet (for example, Microsoft Excel) or comma-separated value (CSV) format
- zoom into and dynamically filter graphs
- copy graphs to paste into PowerPoint or other external applications

The Projects Workspace Content Display Areas

The Project Tree

The project tree displays the project hierarchy for the selected project.

Figure 4.1 Project Tree

The title of the project that is currently open is displayed in the title bar of the project tree. The project tree toolbar enables the user to quickly select a new data selection for analysis or to select a new analysis to run. The project tree menu displays a list of actions that can be initiated or completed from the project view pane.

When you select a node in the project tree, the project content displays information for the selected node. Depending on which node you select, one or more of the following is displayed in the project content area:

- the **Data Selection Details** pane
For information, see [“The Projects Workspace Data Selection Details Pane”](#) on page 30.
- the **Results** tab
For information, see the Results tab on page 31.
- the **Details** tab
For information, see the Details tab on page 33.
- the **Messages** tab
For information, see the Messages tab on page 34.
- the **Explore Results** pane
For information, see [“The Projects Workspace Explore Results Pane”](#) on page 35.

The Projects Workspace Data Selection Details Pane

When you select a data selection node in the project tree, the **Data Selection Details** pane is displayed in the project content area. The **Data Selection Details** pane contains information about product and event selections. It also contains controls that enable you to work with product and event selections.

Figure 4.2 Data Selection Details Pane

Data Selection Details Menu ▾

Data selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)

Data source: UTF-8 Mart ▾

Data selection date: 9/22/09 4:50:28 PM EDT

Data as of: 8/1/06 12:00:00 AM EDT

Data size (MB): 84.57

Status: Ready

Product selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)

Product type: Products

Attribute	Selections
In Service Date	From: July 16, 2005 To: July 15, 2006
Platform (1)	Desc of XE
Make (1)	Desc of Zeus
Vehicle Assembly Date	From: July 16, 2005 To: July 15, 2006

Event selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)

Event type: Claims

Attribute	Selections
Repair Open Date	From: July 16, 2005 To: July 31, 2006
Primary Labor Code (1)	G-000_DESC

The Projects Workspace Analysis Results Display Area

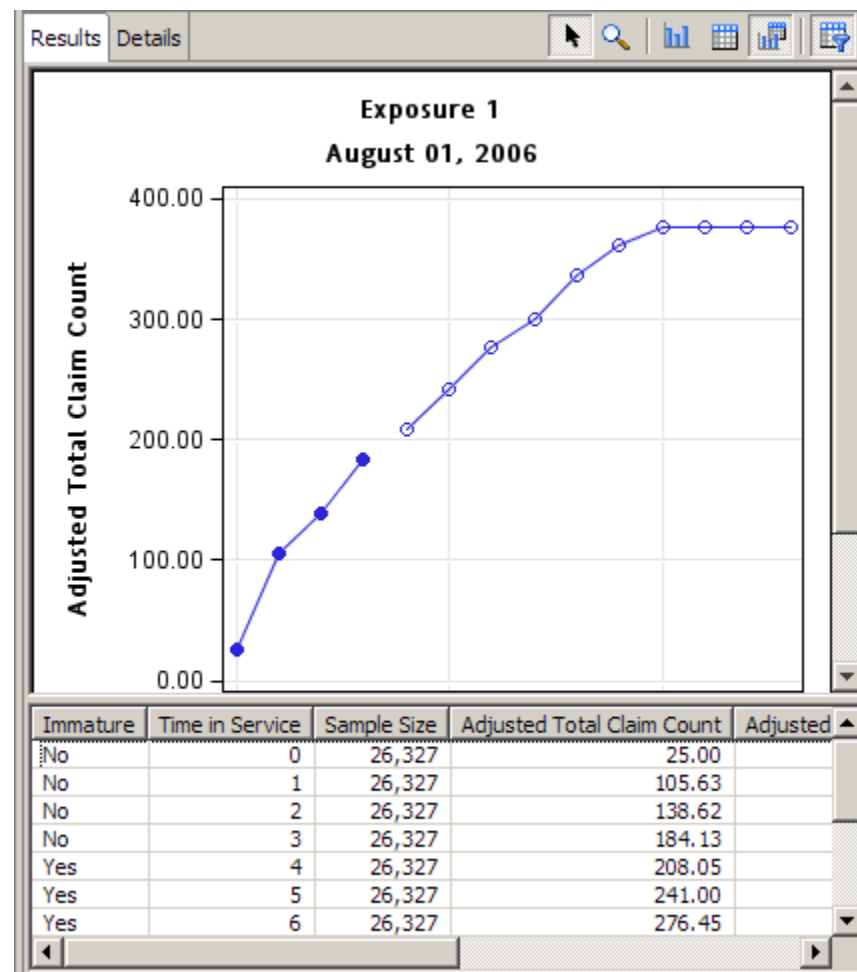
Overview

When you select an analysis node in the project tree, several content tabs are displayed in the project content area. The three primary tabs that usually appear for an analysis node are **Results**, **Details**, and **Messages**. By default, the **Results** tab is displayed initially.

The Results Tab

The **Results** tab contains the graphics and related tables produced by running the selected analysis. You can interact with the displayed information in several ways, including customizing the columns of the table. For more information, see [“Customize Table Columns”](#) on page 86.

Figure 4.3 Results Tab



For non-date, numeric data columns in a table that presents data in pages, a horizontal bar represents the value of each table cell. The length of the bars is relative to the longest bar for all of the values in the data column.

Tables that present data in pages are created by analyses such as the detail table, failure relationship, and text analysis. Here is an example of the bars in cells:

Figure 4.4 Example of Bars in Cells

Claim Status	Claim Status-Description	Time in Service	Sample Size	Adjusted Total Claim Count	
Adjusted	Adjusted_DESC	0	1,756.00	0.00	
Adjusted	Adjusted_DESC	1	1,756.00	0.00	
Adjusted	Adjusted_DESC	2	1,756.00	0.00	
Adjusted	Adjusted_DESC	3	1,756.00	0.00	
Adjusted	Adjusted_DESC	4	1,756.00	0.00	
Adjusted	Adjusted_DESC	5	1,756.00	0.00	
Adjusted	Adjusted_DESC	6	1,756.00	0.00	
Adjusted	Adjusted_DESC	7	1,756.00	0.00	
Adjusted	Adjusted_DESC	8	1,756.00	0.00	
Adjusted	Adjusted_DESC	9	1,756.00	0.00	
Adjusted	Adjusted_DESC	10	1,756.00	0.00	
Adjusted	Adjusted_DESC	11	1,756.00	0.00	
Adjusted	Adjusted_DESC	12	1,756.00	0.00	
Adjusted	Adjusted_DESC	15	1,756.00	0.00	
Adjusted	Adjusted_DESC	18	1,756.00	0.00	
Adjusted	Adjusted_DESC	21	1,756.00	0.00	
Adjusted	Adjusted_DESC	24	1,756.00	0.00	
Adjusted	Adjusted_DESC	36	1,756.00	0.00	
Adjusted	Adjusted_DESC	48	1,756.00	35.00	
Adjusted	Adjusted_DESC	60	1,756.00	40.00	
Approved	Approved_DESC	0	1,756.00	0.00	
Approved	Approved_DESC	1	1,756.00	0.00	
Approved	Approved_DESC	2	1,756.00	0.00	
Approved	Approved_DESC	3	1,756.00	0.00	
Approved	Approved_DESC	4	1,756.00	0.00	
Approved	Approved_DESC	5	1,756.00	0.00	
Approved	Approved_DESC	6	1,756.00	0.00	
Approved	Approved_DESC	7	1,756.00	0.00	
Approved	Approved_DESC	8	1,756.00	0.00	
Approved	Approved_DESC	9	1,756.00	0.00	
Approved	Approved_DESC	10	1,756.00	0.00	
Approved	Approved_DESC	11	1,756.00	0.00	
Approved	Approved_DESC	12	1,756.00	0.00	
Approved	Approved_DESC	15	1,756.00	1.00	
Approved	Approved_DESC	18	1,756.00	1.00	
Approved	Approved_DESC	21	1,756.00	1.00	
Approved	Approved_DESC	24	1,756.00	2.00	
Approved	Approved_DESC	36	1,756.00	5.00	
Approved	Approved_DESC	48	1,756.00	14.00	
Approved	Approved_DESC	60	1,756.00	19.00	
Denied	Denied_DESC	0	1,756.00	0.00	
Denied	Denied_DESC	1	1,756.00	0.00	
Denied	Denied_DESC	2	1,756.00	0.00	
Denied	Denied_DESC	3	1,756.00	0.00	

The Details Tab

When you select an analysis node in the project tree, the **Details** tab displays data selection and analysis details for the selected node, including the components and options that were used when the analysis was created. When you export the analysis to PDF format, the information on the **Details** tab is automatically included.

Figure 4.5 Details Tab

Results **Details**

Analysis name: Exposure 1
 Analysis ID: ANG09YHUEI
 Analysis type: Exposure
 Analysis status: Ready
 Analysis size (MB): 0.39
 Date created: 10/1/09 4:26:00 PM EDT
 Locale: English (US)
 Data as of: 8/1/06 12:00:00 AM EDT
 Data size (MB): 84.57

Data selection details:

Data selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)
 Product selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)

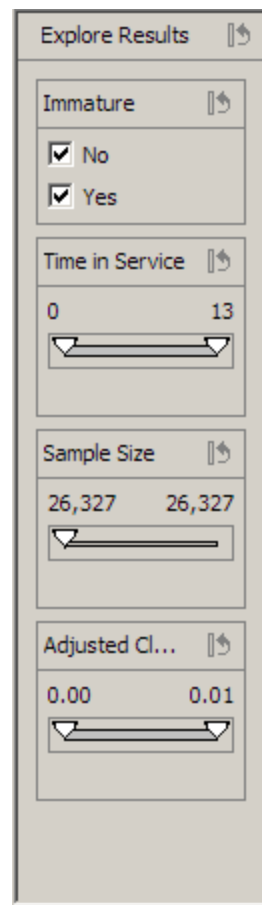
Attribute	Selections
In Service Date	From: July 16, 2005 To: July 15, 2006
Platform (1)	Desc of XE
Make (1)	Desc of Zeus
Vehicle Assembly Date	From: July 16, 2005 To: July 15, 2006

Event selection name: Platform (XE) Make (Zeus) : Primary Labor Code (G-000)

Attribute	Selections
Repair Open Date	From: July 16, 2005 To: July 31, 2006
Primary Labor Code (1)	G-000_DESC

The Messages Tab

When you select an analysis node in the project tree, the **Messages** tab displays messages that have been generated by the system for the selected node.

Figure 4.7 Explore Results Pane

When you select an analysis node in the project tree, the **Explore Results** pane, if it is available, enables you to filter the analysis results dynamically and interactively. The controls on the **Explore Results** pane provide an easy way to filter the data displayed in the graphs and table. For example, slider bars enable you to change the range of a particular variable, and check boxes enable you to hide or show a particular group from the graph and table. For more information, see [“Range Values” on page 88](#) and [“Check Boxes” on page 90](#).

Chapter 5

Working with Projects in the Projects Workspace

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About Projects

SAS Warranty Analysis uses projects to manage a collection of related data, tasks, and analyses. All analyses are defined and submitted in the Projects workspace. Projects enable you to run multiple analyses on a single data selection. You can open and work with only one project at a time. A project includes at least one data selection. You can select from twelve different analyses to submit for the specified data selections. You can then apply additional analyses to the results. This process enables you to pinpoint product attributes that seem to be related to specific failures.

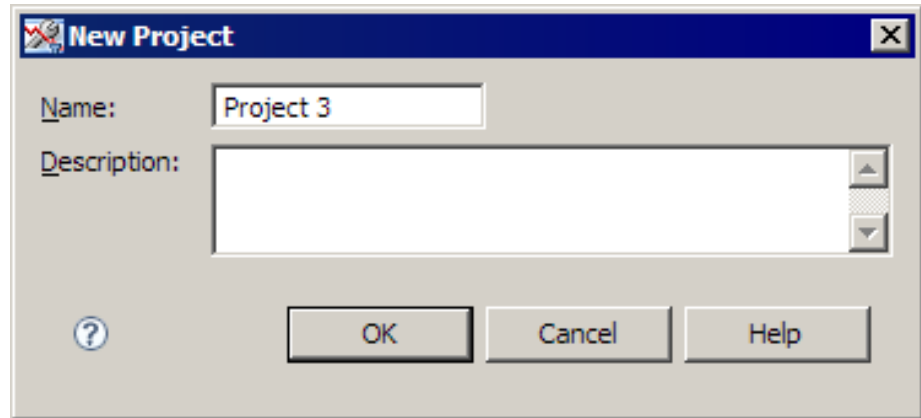
Note: If you use the same user ID to log on to the SAS Warranty Analysis application client on two different PCs simultaneously, then the same project could be opened and altered on each PC. Errors and unpredictable results could occur. To avoid this risk, you should have only one active logon session at any given time.

Create a Project

To create a new project in the Projects workspace:

1. On the project tree menu, select **New** ⇒ **Project**.

The New Project dialog box appears.



2. Specify a valid SAS name for the project.

By default, the name for a new project is Project n, where n is the lowest available integer value (for example, **Project 3**). The project name must be unique. Duplicate names are not allowed.

3. (Optional) Type a description for the project.

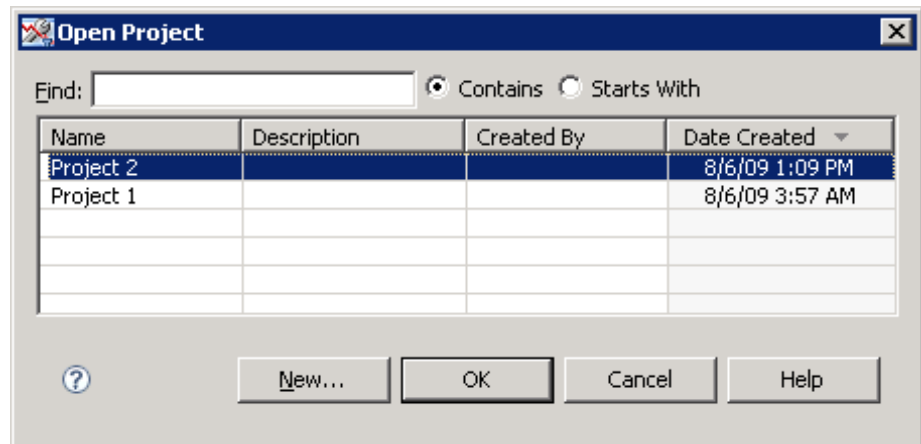
Your new project is now open. To finish defining the new project, you can replace or edit the default data selection. Then you can specify which analyses to run against the data.

Open a Project

To open a project:

1. On the project tree menu, select **Open Project**.

The Open Project dialog box appears.



2. (Optional) Find the project.

For more information, see [“Find Items” on page 192](#).

3. Either select an existing project or select **New** to create a new project.

The project opens in the Projects workspace, and a new top-level data selection node is added to the project tree.

For instructions on creating a new project, see “Create a Project” on page 37.

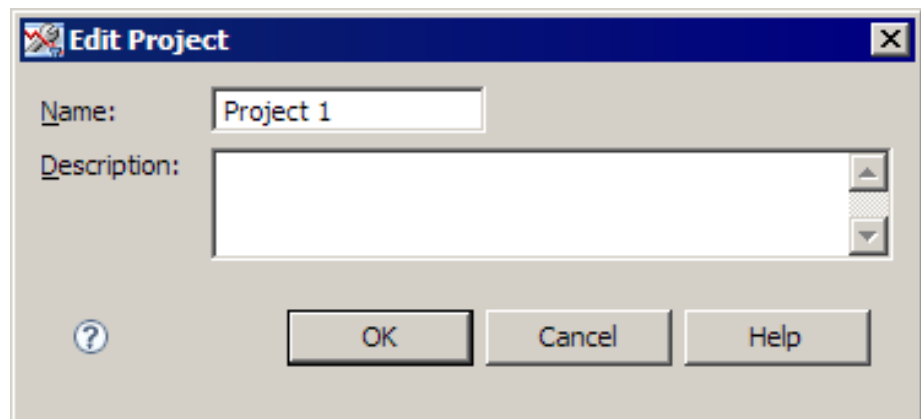
Edit a Project

You edit a project in the Projects workspace (see “The Projects Workspace” on page 27) or in the Manage Projects dialog box (see “Edit a Project” on page 40).

To change the name or description of a project:

1. On the project tree menu, select **Edit Project**.

The Edit Project dialog box appears.



2. Type the changes to the name and the description of the project.

Delete a Project

To delete a project:

1. Select the project in the project tree and select **Delete** ⇒ **Project** on the project tree menu.

A deletion confirmation message opens.

2. Click **Yes** to delete the project and all its content permanently. To keep some of the data selections, save them before you delete the project. Simply select the data node and select **Save Data Selection As** on the project tree menu. To keep an analysis, select the analysis node on the project tree and select **Save As Report** from the project tree menu.

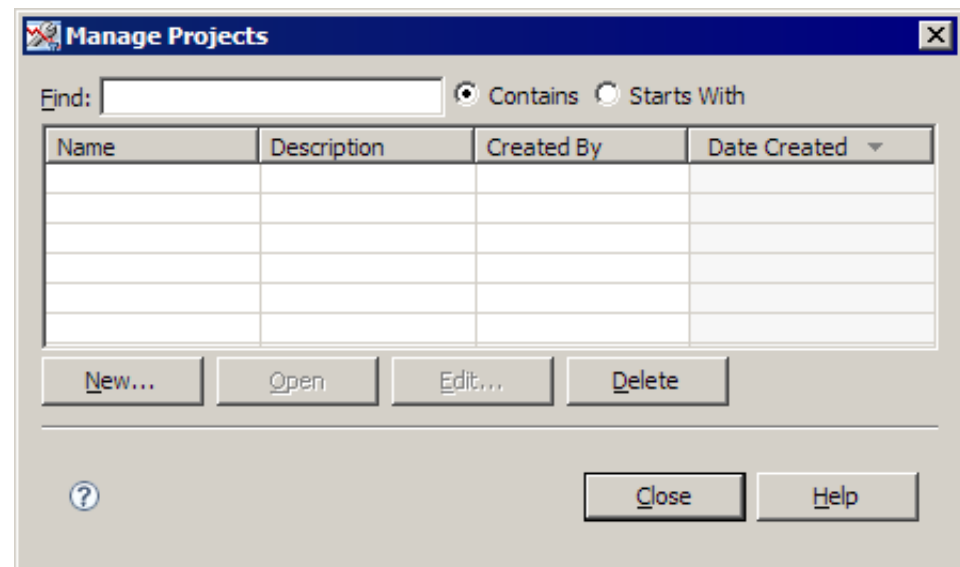
Close a Project

To close a project, select **Close Project** on the project tree menu.

Manage Projects

Overview

To open the Manage Projects dialog box, select **Manage Projects** on the project tree menu.



Create a Project

To create a new project from the Manage Projects dialog box, click **New**.

The New Project dialog box appears. For more information, see [“Create a Project” on page 37](#).

Open a Project

To open a project from the Manage Projects dialog box, select a project, and then click **Open**.

Edit a Project

To edit the name or description of a project from the Manage Projects dialog box, select a project, and then click **Edit Project**.

The Edit Project dialog box appears. For more information, see [“Edit a Project” on page 39](#).

Delete a Project

To delete a project from the Manage Projects dialog box, select a project, and then click **Delete**.

Chapter 6

Working with Data Selections in the Projects Workspace

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About Data Selections in the Projects Workspace

For the purposes of SAS Warranty Analysis, a data selection is a saved description that specifies which data is to be analyzed. Every project must have at least one data selection assigned to it, and each data selection includes at least one product selection and one event selection.

A data selection has the following characteristics:

- It describes the data that you want to analyze.
- It can be used with any analysis.

- It can be reused.
- It can be a copy of a data selection that was created by another user.
- It contains at least a product selection and an event selection.

Your SAS Warranty Analysis administrator defines the product and event data selections that are assigned by default to all new projects.

Create a Data Selection

To create a data selection, select **New** ⇒ **Data Selection** from the project tree menu.

A new data selection node is added to the project tree and is labeled **Default Data Selection**.

After the new data selection node is displayed, you can edit it in any of the following ways:

- You can change the attributes of the product selection or event selection components.
- You can replace the product selection component or the event selection component with a product selection or event selection that you created previously in the Data Selections workspace.
- You can replace the entire data selection node with a simple data selection or a combined data selection that you created previously in the Data Selections workspace.

After you create a new data selection, you can save the data selection to the Data Selections workspace. You must save a data selection before you can save its related analyses as reports.

See Also

[“Save a Data Selection” on page 42](#)

Save a Data Selection

Overview

If you create a new data selection by editing the default data selection in the project, you can save the entire data selection as a simple data selection into the Data Selections workspace. This enables you to save the product and event components as well as the simple data selection that references the product and the event components.

You can also save only the product selection component or save only the event selection component.

Combined data selections cannot be saved in the Projects workspace. Combined data selections can be edited only in the Data Selections workspace. Therefore, there is no need to save them in the Projects workspace.

Note: Only a data selection node that is at the top level of the project tree can be saved as a simple data selection, a product selection, or an event selection. A subset data selection can be saved to the Data Selections workspace only as a subset data selection.

Save a Data Selection as a Simple Data Selection

To save a data selection as a simple data selection:

1. In the project tree, select a top-level data selection node.
2. On the project tree menu, select **Save Data Selection As** ⇒ **Simple Data Selection**.

The Save Simple Data Selection As dialog box appears.

Selection Name	Description	Data Source Group	Selection Type	Created By	Created Date	Shared
Zeus		Data Source Group 1	Simple Data Selection	...	8/7/09 4:41 PM	No

Simple data selection name:

Components:

Product selection name:

Event selection name:

? OK Cancel Help

3. In the **Simple data selection name** field, type a name for the saved data selection.
4. Click in the **Product selection name** field.

The **Product selection name** field and the **Event selection name** field are automatically completed with default names based on the name that you typed in the **Simple data selection name** field.

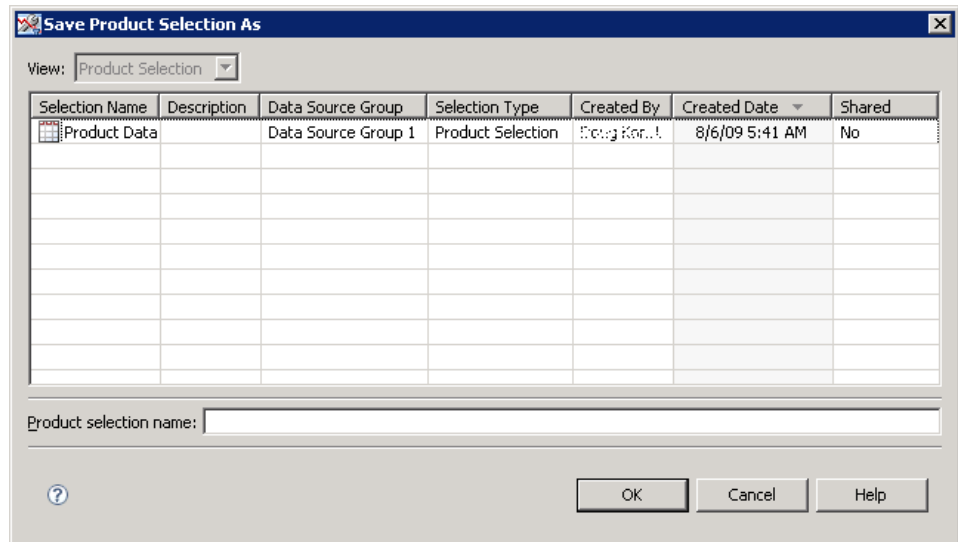
5. You can change the default names of the product selection and the event selection.

Save a Data Selection as a Product Selection

To save a data selection as a product selection:

1. In the project tree, select a top-level data selection node.
2. On the project tree menu, select **Save Data Selection As** ⇒ **Product Selection Only**.

The Save Product Selection As dialog box appears.



The dialog box titled "Save Product Selection As" features a "View:" dropdown set to "Product Selection". Below this is a table with the following data:

Selection Name	Description	Data Source Group	Selection Type	Created By	Created Date	Shared
Product Data		Data Source Group 1	Product Selection	Doug K...	8/6/09 5:41 AM	No

Below the table is a text field labeled "Product selection name:" and a row of buttons: "?", "OK", "Cancel", and "Help".

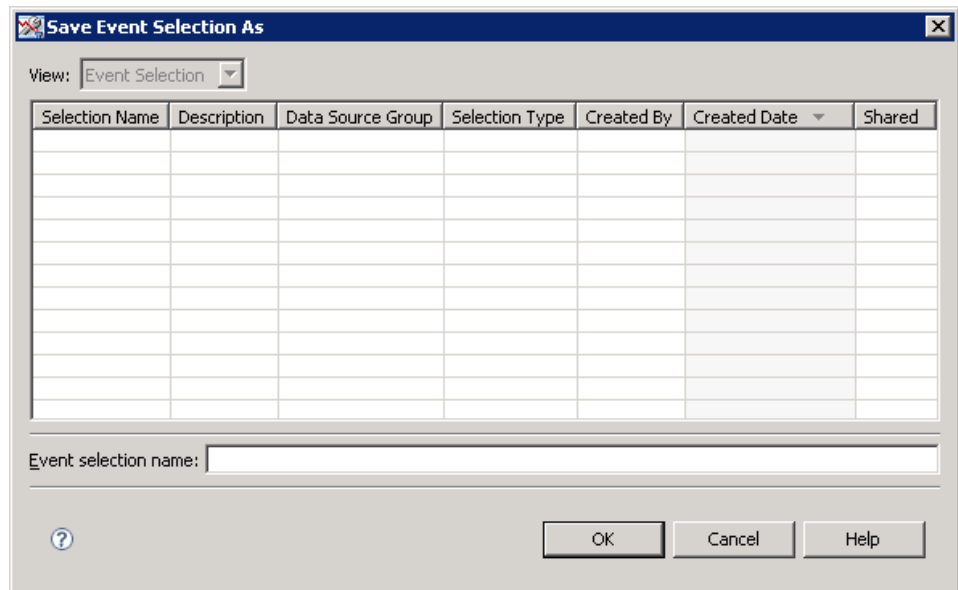
3. In the **Product selection name** field, type a name for the saved data selection.

Save a Data Selection as an Event Selection

To save a data selection as an event selection:

1. In the project tree, select a top-level data selection node.
2. On the project tree menu, select **Save Data Selection As** ⇒ **Event Selection Only**.

The Save Event Selection As dialog box appears.



The dialog box titled "Save Event Selection As" features a "View:" dropdown set to "Event Selection". Below this is an empty table with the following columns:

Selection Name	Description	Data Source Group	Selection Type	Created By	Created Date	Shared

Below the table is a text field labeled "Event selection name:" and a row of buttons: "?", "OK", "Cancel", and "Help".

3. In the **Event selection name** field, type a name for the saved data selection.

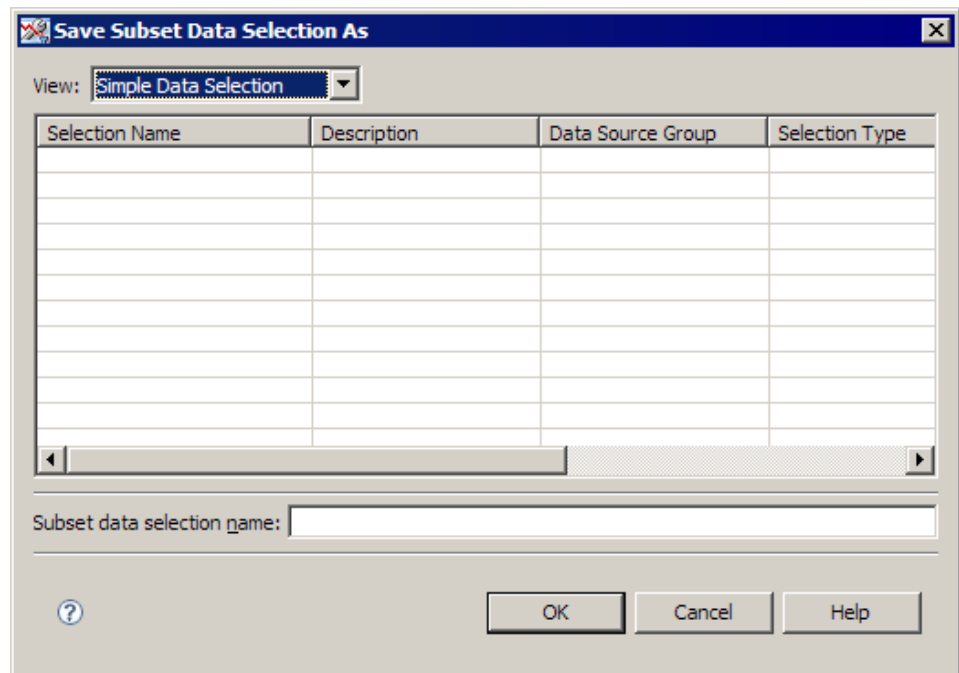
Save a Data Selection as a Subset Data Selection

You create a subset data selection when you analyze either an emerging issue or a report in a project. For more information, see [“Analyze a Report in a Project” on page 130](#) or [“Analyze an Emerging Issues Alert in a Project” on page 145](#).

To save a subset data selection:

1. In the project tree, select a subset data selection node.
2. On the project tree menu, select **Save Data Selection As** ⇒ **Subset Data Selection**.

The Save Subset Data Selection As dialog box appears.



3. In the **Subset data selection name** field, type a name for the saved subset data selection.

Note: Subset data selections can be saved and reused, but they cannot be edited.

Copy a Data Selection

To copy a data selection in the Projects workspace:

1. Select the data selection node in the project tree.
2. Select **Copy Data Selection** on the project tree menu.


Delete a Data Selection

To delete a data selection in the Projects workspace:

1. Select the data selection node in the project tree.
2. Select **Delete Data Selection** on the project tree menu.

Note: A project must have at least one data selection. If a project has only one data selection, the **Delete Data Selection** command is unavailable.

Update a Data Selection

If a data selection becomes outdated (for example, as a result of a recent data warehouse refresh or because the data selection has changed since it was selected in the project), then the data selection is marked as outdated (). You can update the data selection and associated analyses, which means that the latest data warehouse information and the latest data selection definition are used. When you update, you must indicate whether you want to replace the selected data selection node and associated analyses or save them and create a new data selection node and analyses.

To update a data selection in the Projects workspace, complete these steps:

1. In the project tree, select a top-level data selection node.
2. Select **Update Data Selection** on the project tree menu.

An update confirmation message opens.

3. Select an option to replace the selected data selection node and analyses or to create a new data selection node and analyses.

Creating a new data selection node and analyses preserves the data node that was selected in step 2.

4. Click **Update Now** to update the data selection node.
5. To automatically update all of the analyses whenever the warehouse is updated, select the **Auto update** check box in the **Data Selection Details** pane.

Note: Only those data selection nodes that are at the top level of the project tree can be updated. If no data selections are out of date, then **Update Data Selection** is not available.

Detach a Data Selection

To open a separate, detached window that displays the details of a data selection:

1. Select a data selection.
2. On the project tree menu, select **Detach in Window**.

When you detach a data selection, the content in the detached window is identical to the content in the main application window. But, none of the application's menus, tasks, or toolbars are available in the detached window. These separate windows can be tiled or cascaded, and they can be minimized, restored, or maximized. While a detached window is open, the main application window is still active. Detached windows remain open even when you select a different workspace.

Replace a Data Selection

To replace a data selection:

1. In the project tree, select a data selection.
2. On the **Data Selection Details** pane menu, select **Replace Data Selection**.

The Select Data Selection dialog box appears.

3. Complete the steps to select a data selection.

For more information, see [“Select a Data Selection” on page 188](#).

The data selection replaces the selected data selection.

Return to Default Data Selection

If you previously altered or replaced the default data selection and you want to revert to using the original default data selection:

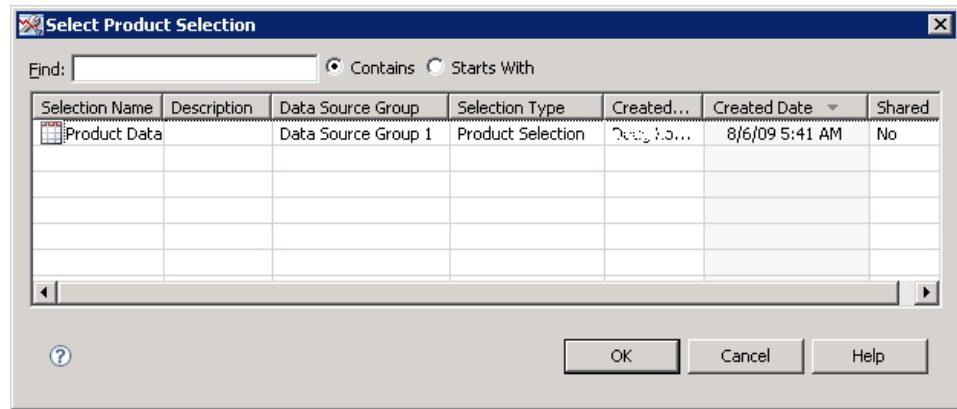
1. In the project tree, select a data selection.
2. From the **Data Selection Details** pane menu, select **Return to Default Data selection**.

Replace a Product Selection

To replace a product selection:

1. In the project tree, select a data selection.
2. From the **Data Selection Details** pane menu, select **Replace Product Selection**.

The Select Product Selection dialog box appears.



3. (Optional) Find the product selection.
For more information, see [“Find Items” on page 192](#).
4. Select a product selection, and click **OK**.
The product selection replaces the selected product selection.

Edit a Product Selection or Event Selection

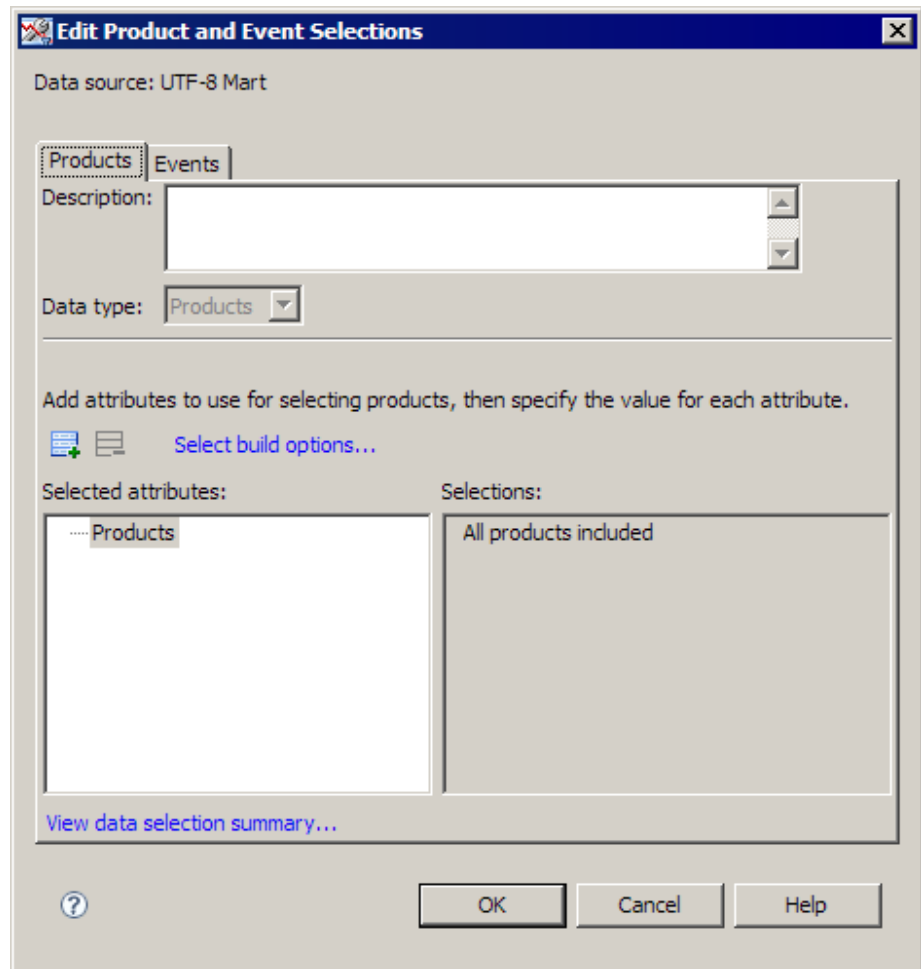
Begin Editing

To edit a product selection or event selection:

1. In the project tree, select a data selection.
2. Select **Edit Product Selection** or **Edit Event Selection** on the **Data Selection Details** pane menu.

If analyses have already been run against the data selection, then the Edit Data Selection confirmation message is displayed. Click **Edit**.


The Edit Product and Event Selections dialog box appears.



3. Click the **Products** or **Events** tab.
4. (Optional) Type a description of the product selection.
5. (Optional) Select the build options and view the data selection summary. For more information, see [“Select Build Options” on page 103](#) and [“View Data Selection Summary” on page 104](#).

Add Attributes to the Product selection

To add attributes to the product selection:

1. Click .
The Select Attributes dialog box appears.
2. Complete the steps to select attributes.
For more information, see [“Select Attributes” on page 187](#).
3. In the **Selected attributes** list, select an event attribute and use the controls in the **Selections** pane to define the attribute. (Various types of controls appear for different attributes.

For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.)


Import Values for an Attribute that Supports Importing Values

To import values for an attribute that supports importing values:

1. In the **Selected attributes** list, select an attribute.
2. In the **Selections** pane, click **Import**.
The Open dialog box appears.
3. Navigate to the comma-separated values file created previously, and open it.

Remove Attributes from the Product Selection

To remove attributes from the product selection:

1. In the **Selected attributes** list, select the attributes.
2. Click .

Either the attribute is removed immediately, or the Select Attributes dialog box appears so that you can remove the attribute. For more information, see [“Select Attributes” on page 187](#).

Change the Definitions of the Product Selection’s Attributes

To change the definitions of the product selection’s attributes, in the **Selected Attributes** pane, select a product attribute. Use the controls in the **Selections** pane to change the attribute’s definition.

See Also

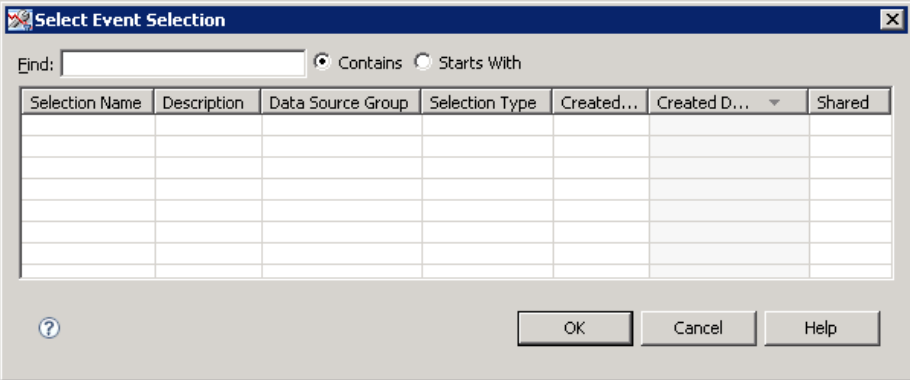
- [“Select Build Options” on page 103](#)
- [“View Data Selection Summary” on page 104](#)

Replace an Event Selection

To replace an event selection:

1. In the project tree, select a data selection.
2. From the **Data Selection Details** pane menu, select **Replace Event Selection**.

The Select Event Selection dialog box appears.



The dialog box titled "Select Event Selection" features a search bar labeled "Find:" with a text input field. Below the search bar are two radio buttons: "Contains" (selected) and "Starts With". A table with seven columns is displayed below the search options. The columns are: "Selection Name", "Description", "Data Source Group", "Selection Type", "Created...", "Created D..." (with a dropdown arrow), and "Shared". The table contains several empty rows. At the bottom left is a help icon (a question mark in a circle). At the bottom right are three buttons: "OK", "Cancel", and "Help".

Selection Name	Description	Data Source Group	Selection Type	Created...	Created D...	Shared

3. (Optional) Find the event selection.

For more information, see [“Find Items” on page 192](#).

4. Select an event selection, and click **OK**.

The event selection replaces the selected event selection.

Part 3

Analyses

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Chapter 7

Analysis Definitions

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About Analyses

In the Projects workspace, you can create and submit analyses, and you can interact with the analysis results and export the output for use outside of SAS Warranty Analysis.

There are twelve base analyses that are available in SAS Warranty Analysis.

The Base Analyses

Details Table

The details table enables you to view and download detailed product or event records. If you have included one or more comment fields in the table, you can select a specific comment and find comments that are similar to the selected comment. In addition, you can perform keyword searches on comment fields and on other character or numeric fields to retrieve specified records only.

Figure 7.1 Example of the Results of a Details Table Analysis

Results Details Messages Menu ▾					
▶ Search Options ◀					
In Service Date	Selling Dealer	Selling Dealer-Description	VIN	VIN-Description	Vehicle ▲
September 1...	00052	Desc of 00052	4...	Desc of 4V4...	A
November 26...	00267	Desc of 00267	4...	Desc of 4V4...	Oc
August 30, 2...	00052	Desc of 00052	4...	Desc of 4V4...	
April 01, 2006	00081	Desc of 00081	4...	Desc of 4V4...	Feb
October 20, ...	00262	Desc of 00262	4...	Desc of 4V4...	Oc
December 10...	00094	Desc of 00094	4...	Desc of 4V4...	Oc
September 1...	00109	Desc of 00109	4...	Desc of 4V4...	A
January 03, ...	00076	Desc of 00076	4...	Desc of 4V4...	Oc
January 10, ...	00125	Desc of 00125	4...	Desc of 4V4...	Dec
October 27, ...	00401	Desc of 00401	4...	Desc of 4V4...	Oc
August 27, 2...	00094	Desc of 00094	4...	Desc of 4V4...	A
January 13, ...	00096	Desc of 00096	4...	Desc of 4V4...	Dec
November 17...	00082	Desc of 00082	4...	Desc of 4V4...	Oc
February 05, ...	00106	Desc of 00106	4...	Desc of 4V4...	Dec
August 02, 2...	00283	Desc of 00283	4...	Desc of 4V4...	
October 28, ...	00049	Desc of 00049	4...	Desc of 4V4...	Sept
September 2...	00106	Desc of 00106	4...	Desc of 4V4...	Sept
August 27, 2...	00109	Desc of 00109	4...	Desc of 4V4...	
November 16...	00026	Desc of 00026	4...	Desc of 4V4...	Nov
October 05, ...	00141	Desc of 00141	4...	Desc of 4V4...	
September 2...	00200	Desc of 00200	4...	Desc of 4V4...	Sept
October 15, ...	00165	Desc of 00165	4...	Desc of 4V4...	Sept
December 22...	00367	Desc of 00367	4...	Desc of 4V4...	Dec
August 31, 2...	00259	Desc of 00259	4...	Desc of 4V4...	A
November 08...	00094	Desc of 00094	4...	Desc of 4V4...	A
December 30...	00386	Desc of 00386	4...	Desc of 4V4...	Dec
May 05, 2006	00082	Desc of 00082	4...	Desc of 4V4...	Ja
August 27, 2...	00094	Desc of 00094	4...	Desc of 4V4...	A
December 23...	00321	Desc of 00321	4...	Desc of 4V4...	Dec
August 12, 2...	00109	Desc of 00109	4...	Desc of 4V4...	
...

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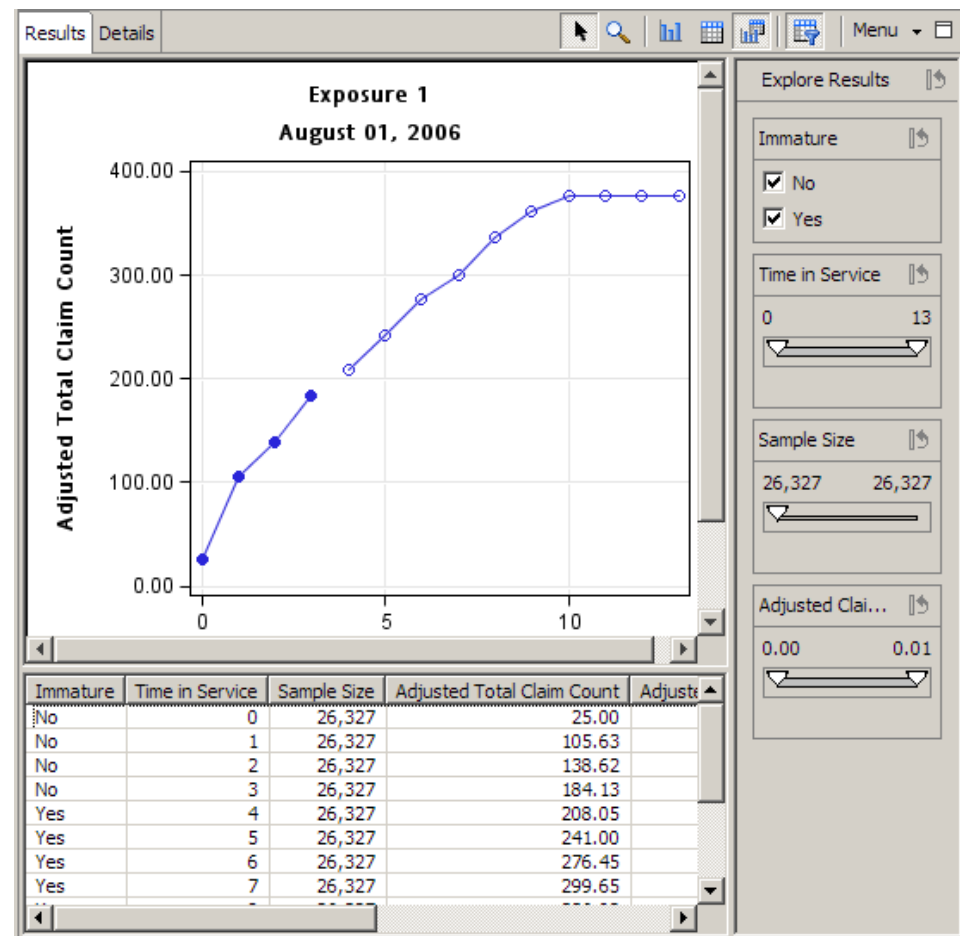
Exposure Analysis

Exposure analysis enables you to view how warranty event activity varies by product exposure or time in service.

The exposure analysis plots time in service (for example, days in service) on the X axis versus a quantitative value, an analysis variable, on the Y axis. In addition, you can specify a group variable to stratify the exposure analysis in order to visually compare warranty activity at different times in service values across a series of strata. Finally, you might be able to view either incremental or cumulative calculated values of the analysis variable for different time-in-service periods.

Exposure analysis can help you assess whether event activity can be attributed to the amount of time in service a unit has accrued.

Note: Immature data points, if enabled, appear as hollow dots. Mature data points appear as filled dots.

Figure 7.2 Example of the Results of a Exposure Analysis

Failure Relationship Analysis

Failure relationship analysis identifies the relationship between types of failures, such as labor codes and part numbers. Understanding such relationships helps you to understand which failures occur together and what their relationship is over time.

The relationships are represented as lines (links) between the labor codes and the parts. To better understand the relationship, you can explore the confidence of each link, specify the rule strength for each rule parameter or change the rule parameters, specify the maximum inter-occurrence time, and drill-down into a sequence analysis.

Figure 7.3 Example of the Results of a Failure Relationship Analysis

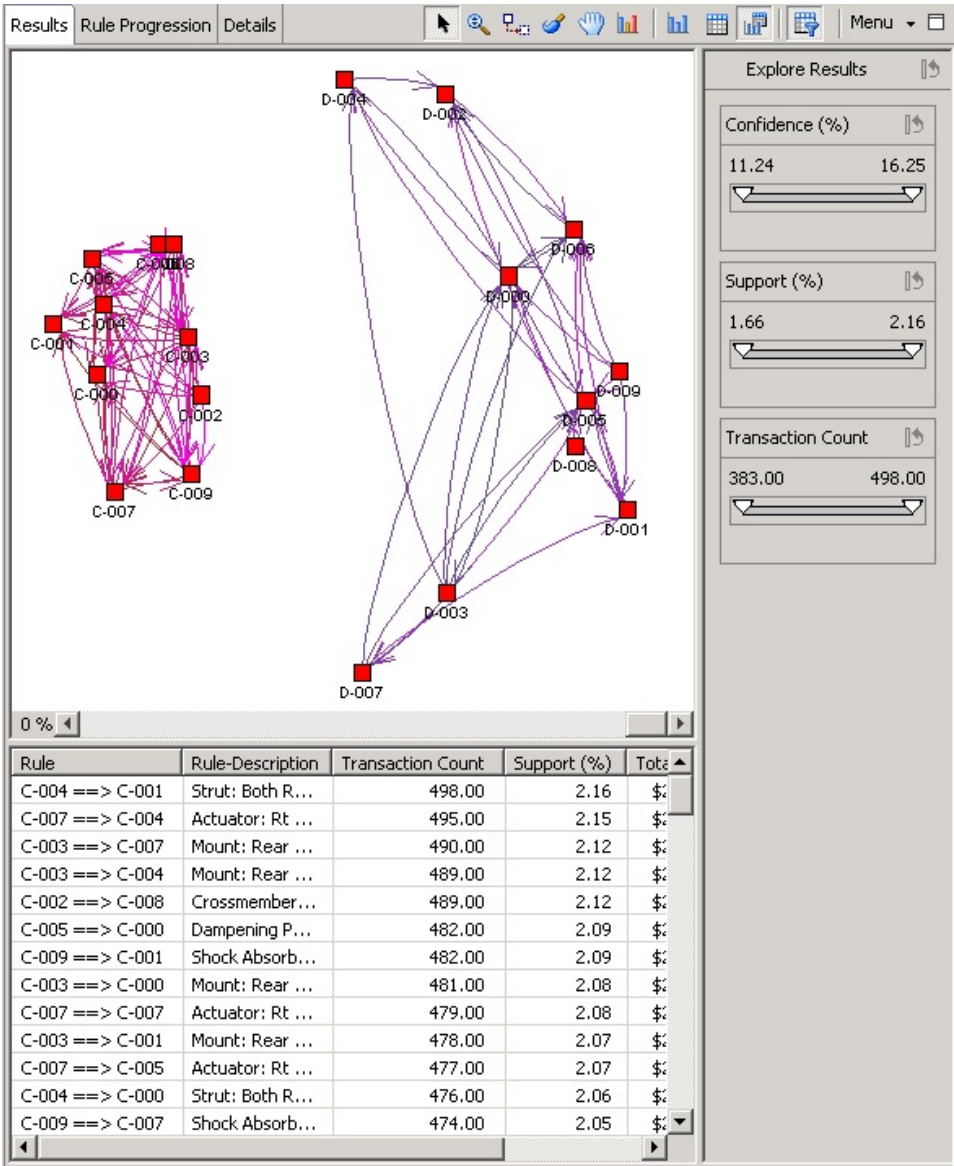


Figure 7.4 Example of Rule Progression in a Failure Relationship Analysis

Results Rule Progression Details Menu ▾				
▼ Rule Progression ▴				
▶ Search Options ▴				
Number of items: 1300				
Rule	Rule-Description	Inter-occurrence Time	Rule Size	Transaction Cour ▲
C-002 ==> C-000	Crossmember Asm: Rr Sus...	1 month	1-1	74.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	2 months	1-1	129.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	3 months	1-1	178.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	4 months	1-1	233.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	5 months	1-1	281.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	6 months	1-1	302.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	7 months	1-1	333.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	8 months	1-1	343.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	9 months	1-1	370.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	10 months	1-1	395.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	11 months	1-1	417.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	12 months	1-1	424.00
C-002 ==> C-000	Crossmember Asm: Rr Sus...	18 months	1-1	458.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	1 month	1-1	80.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	2 months	1-1	137.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	3 months	1-1	183.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	4 months	1-1	238.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	5 months	1-1	283.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	6 months	1-1	329.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	7 months	1-1	348.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	8 months	1-1	364.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	9 months	1-1	385.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	10 months	1-1	405.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	11 months	1-1	418.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	12 months	1-1	429.00
C-002 ==> C-001	Crossmember Asm: Rr Sus...	18 months	1-1	453.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	1 month	1-1	75.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	2 months	1-1	131.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	3 months	1-1	184.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	4 months	1-1	225.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	5 months	1-1	263.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	6 months	1-1	300.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	7 months	1-1	327.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	8 months	1-1	348.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	9 months	1-1	364.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	10 months	1-1	379.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	11 months	1-1	397.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	12 months	1-1	403.00
C-002 ==> C-003	Crossmember Asm: Rr Sus...	18 months	1-1	427.00
C-002 ==> C-004	Crossmember Asm: Rr Sus...	1 month	1-1	61.00
C-002 ==> C-004	Crossmember Asm: Rr Sus...	2 months	1-1	115.00
C-002 ==> C-004	Crossmember Asm: Rr Sus...	3 months	1-1	174.00

For information about the bars in cells, see “The Results Tab” on page 31.

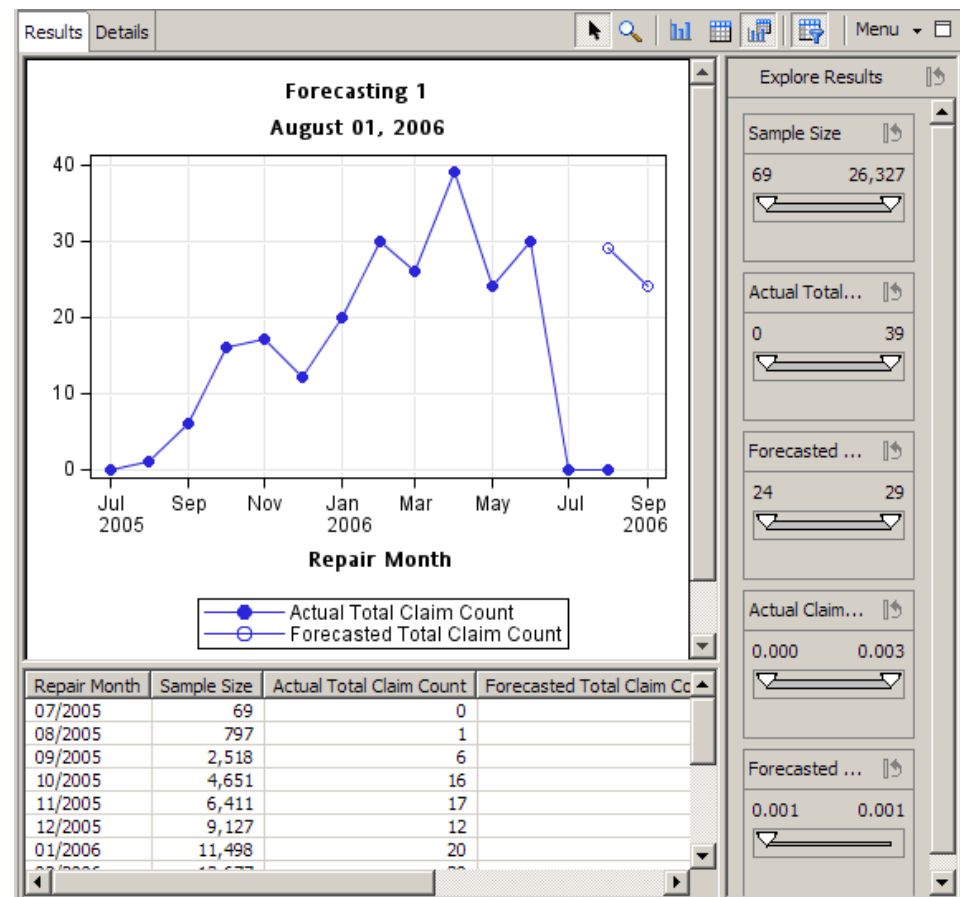
Forecasting Analysis

Using SAS Warranty Analysis to calculate the magnitude of future warranty issues enables you to make projections about upcoming performance problems and to make plans for handling resulting claims.

Forecasting analysis generates forecasts for the next 12 calendar months for event count or event cost related to a particular warranty issue or concern (for example, a labor code or a part number). Forecast analysis takes the following factors into account:

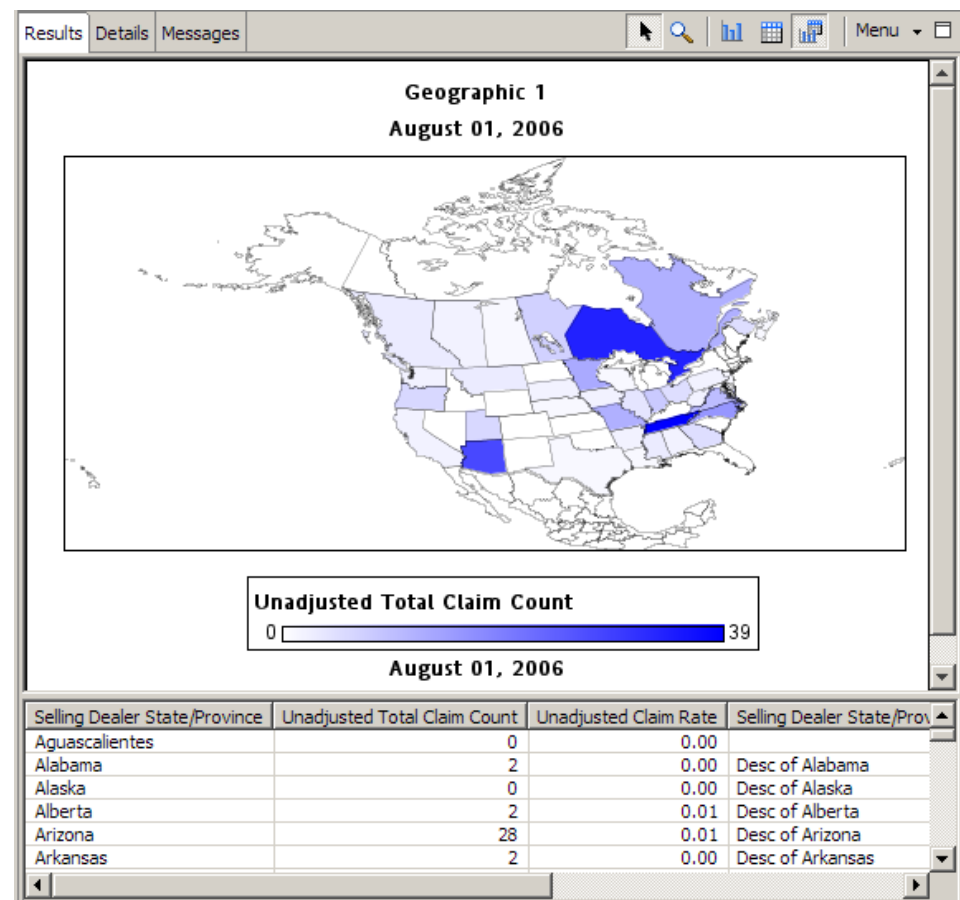
- historic event rates associated with a warranty issue or concern.
- projected event rates for the warranty issue or concern based on a parametric reliability analysis.
- the current age base of the population of products that are being investigated and how the age base of the population will change over future time periods. (The analysis can also consider future sales estimates that you specify.)

Figure 7.5 Example of the Results of a Forecasting Analysis



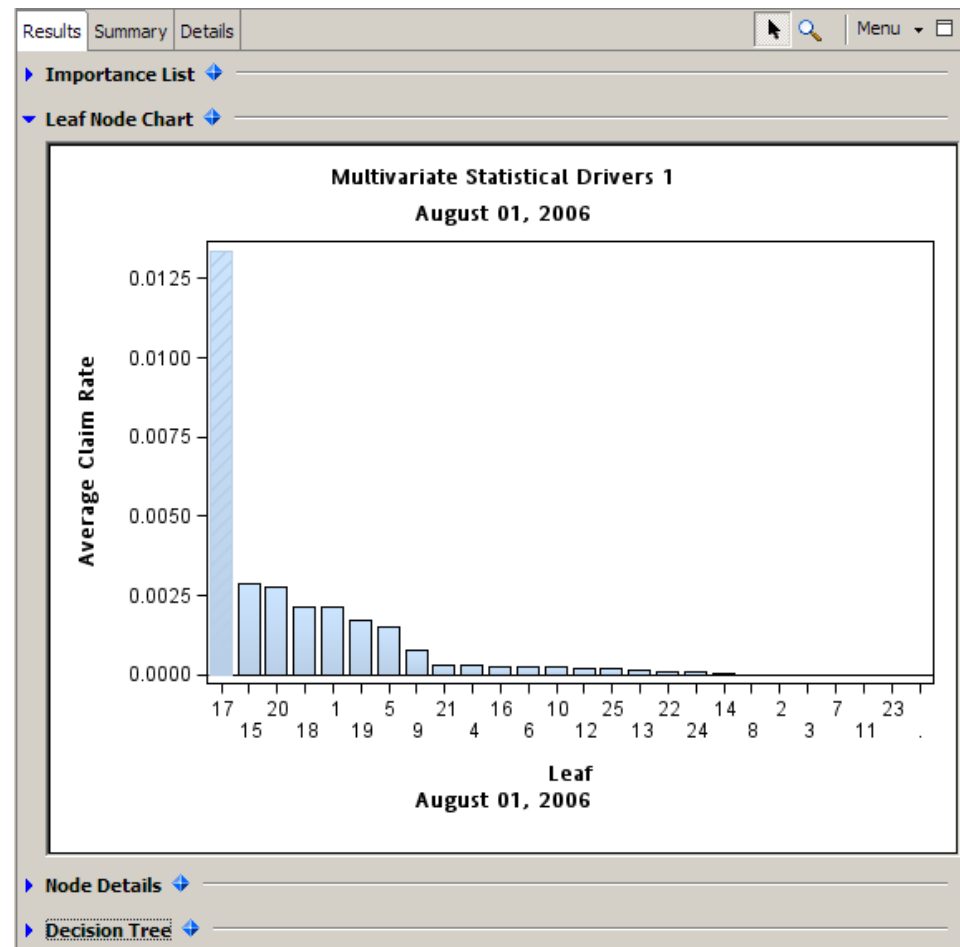
Geographic Analysis

For many products, warranty problems are related to location. It is often beneficial to look at how warranty events are distributed geographically. Using SAS Warranty Analysis, you can perform geographic analysis by plotting a quantitative value, such as total event cost, event count, or event rate on a geographic map of the United States, Canada, and Mexico by state or province. SAS provides various options for customizing geographic mapping.

Figure 7.6 Example of the Results of a Geographic Analysis

Multivariate Statistical Drivers Analysis

Multivariate statistical drivers identify the combinations of attributes that drive failure rates. Individual attributes are scored and ranked based on their importance related to the issue that is being analyzed. All combinations of the attributes are analyzed via a decision tree. The terminal leaves of the decision tree are ranked. Terminal leaves can be selected in the leaf node bar chart and can be further explored through other analyses. Each terminal leaf represents a specific combination of attribute values. The information about the selected terminal leaf is linked and highlighted across the charts and tables. Decision trees can be zoomed to see more detail.

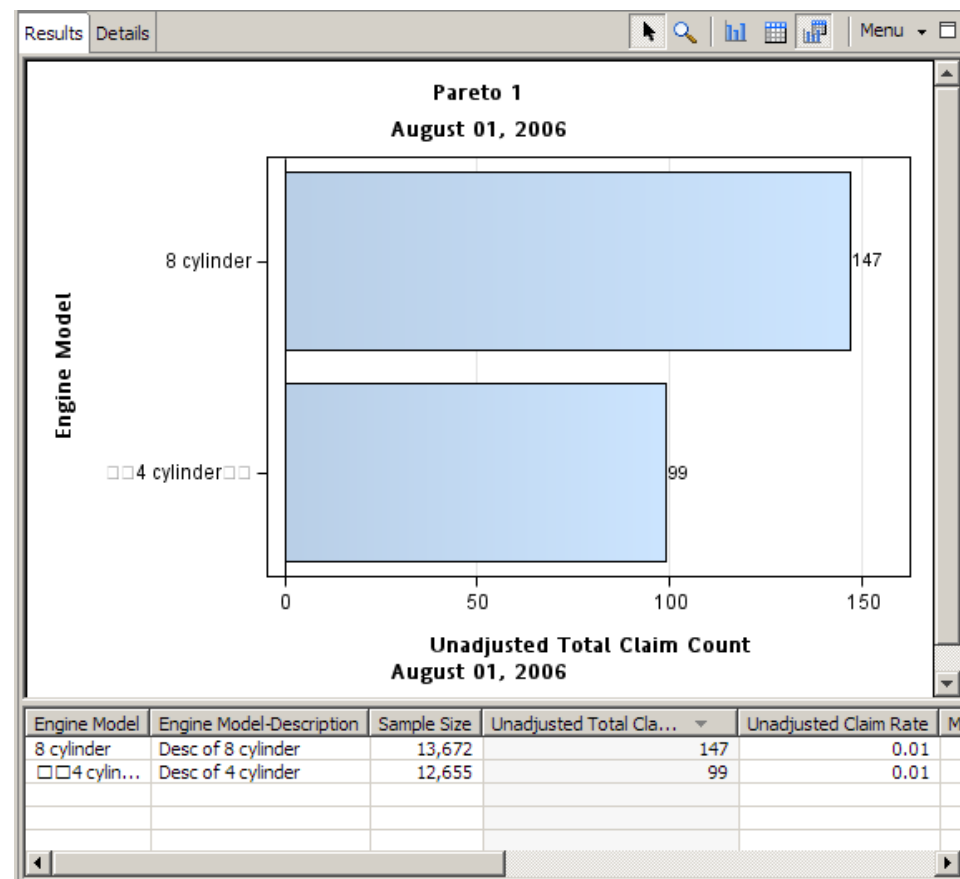
Figure 7.7 Example of the Results of a Multivariate Statistical Drivers Analysis

Pareto Analysis

Overview

A Pareto chart is a bar chart that displays the classification of quality-related problems arranged in decreasing order of importance. The bars indicate the frequency with which each problem occurs. Pareto charts are used to determine which subset of problems should be examined first, or which problem areas deserve the most attention.

Pareto charts can be used to display warranty counts, warranty count rates, warranty costs, and other information. In addition, comparative charts can be created to compare the Pareto frequencies across levels of classification variables. For example, you can view the top 10 problems for a specific product, and then compare how those problems are distributed across two plants and when the product is produced. Pareto charts often provide a good first step in performing warranty data analysis. They are also often generated for management reports.

Figure 7.8 Example of the Results of a Pareto Analysis

Minimum Sample Size

You can select a minimum sample size to include in the Pareto analysis. The minimum sample size specification operates within time-in-service intervals, within values of the reporting and group variables.

For example, assume that you perform a Pareto analysis using the month in which a product was assembled as the group variable. Within each assembly month, there are several month-in-service intervals. For each month-in-service interval (for each product assembly month), SAS Warranty Analysis counts the number of units at risk within that interval. If the number of units at risk is below the specified minimum sample size, then that month-in-service interval is excluded from the analysis for the value of the month in which the product was assembled.

Reliability Analysis

Reliability analysis is used to answer questions about the durability of a product and to characterize how a product functions in the field throughout its life. Product life can be defined by time or by usage (for example, by months or by mileage), and the reliability analysis can be generated in terms of either dimension.

For a specific product, data about items that failed and data about items that did not fail are used to perform a parametric reliability analysis and develop distributions that predict the time when a first failure (or first occurrence of an event) is likely to occur. A lifetime distribution (for example, Weibull, lognormal, and exponential) is fitted to the event and product information. From the fitted distribution, several different kinds of information can

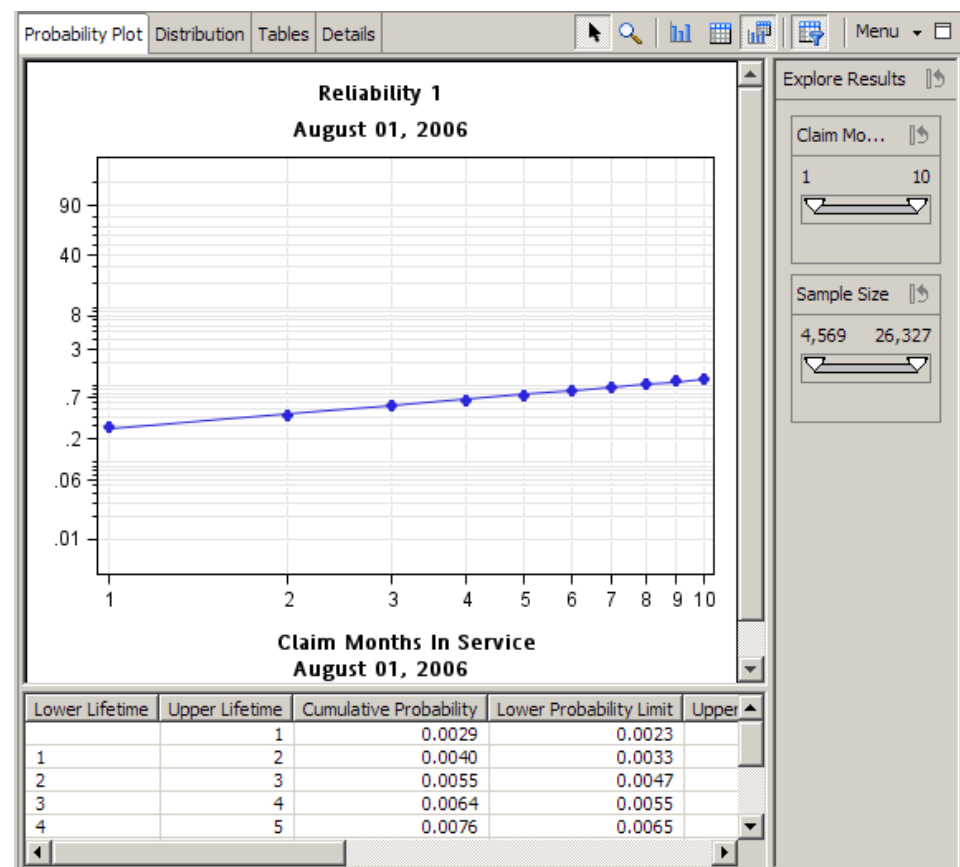
be generated, based on the your requests. For example, the analysis can generate a table of projected values, B-life values, and other plots (for example, hazard, failure, and cumulative failure). In addition, you can specify a group variable to stratify the analysis for comparison purposes.

The distribution most commonly used for reliability analysis is the Weibull distribution. The Weibull distribution can be used in a wide variety of situations. Depending on its shape parameter, the Weibull distribution is equal to or approximates several other distributions. For example:

If...	Then...
shape = 1,	the Weibull distribution is identical to the exponential distribution.
shape = 2,	the Weibull distribution is identical to the Rayleigh distribution.
shape = 2.5,	the Weibull distribution approximates the lognormal distribution.
shape = 3.6,	the Weibull distribution approximates the normal distribution.
shape = 5,	the Weibull distribution approximates the peaked normal distribution.

For this reason, the values of the distribution parameters are displayed on the **Distribution** tab.

Figure 7.9 Example of the Results of a Reliability Analysis

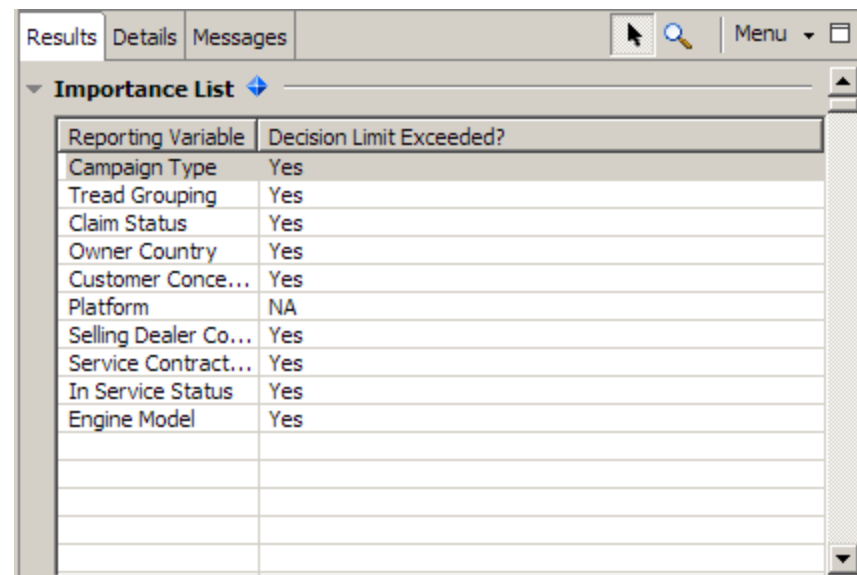


Statistical Drivers Analysis

The statistical drivers analysis enables you to identify factors with values with statistically significant differences in event activities. This enables you to determine which factors might influence the occurrence of events.

A factor is deemed significant if events do not randomly occur across the values of that factor (that is, events occur disproportionately across the different values of the variable). The analysis determines significance by performing an analysis of means (ANOM) on each variable that you select. For each variable that you select, the process flags any value for which the event rate differs significantly from the event rates of the other values.

Figure 7.10 Example of the Results of a Statistical Drivers Analysis

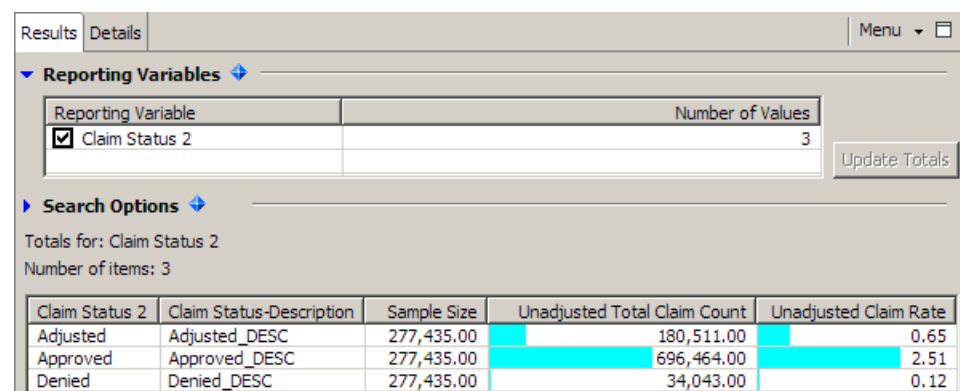


Reporting Variable	Decision Limit Exceeded?
Campaign Type	Yes
Tread Grouping	Yes
Claim Status	Yes
Owner Country	Yes
Customer Conce...	Yes
Platform	NA
Selling Dealer Co...	Yes
Service Contract...	Yes
In Service Status	Yes
Engine Model	Yes

Summary Tables Analysis

Summary tables analysis creates tabular output that enables you to access as many as three reporting variables from one analysis. The output table includes bars in each table cell to indicate relative amounts.

Figure 7.11 Example of the Results of a Summary Tables Analysis



Reporting Variable	Number of Values
<input checked="" type="checkbox"/> Claim Status 2	3

Update Totals

Search Options

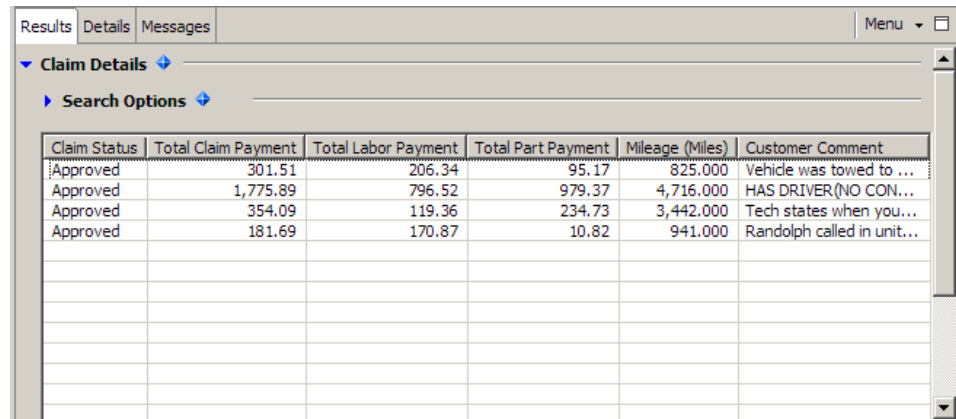
Totals for: Claim Status 2
Number of items: 3

Claim Status 2	Claim Status-Description	Sample Size	Unadjusted Total Claim Count	Unadjusted Claim Rate
Adjusted	Adjusted_DESC	277,435.00	180,511.00	0.65
Approved	Approved_DESC	277,435.00	696,464.00	2.51
Denied	Denied_DESC	277,435.00	34,043.00	0.12

Text Analysis

Text analysis transforms textual data (for example, technician comments or call center comments) into a usable, intelligible format that facilitates clustering comments, profiling comments by using related character or numeric variables, and finding relationships or associations between comments. Text analysis helps you to identify trends and business opportunities, and it generates meaningful insights into warranty issues more efficiently than using structured data alone.

Figure 7.12 Example of the Results of a Text Analysis



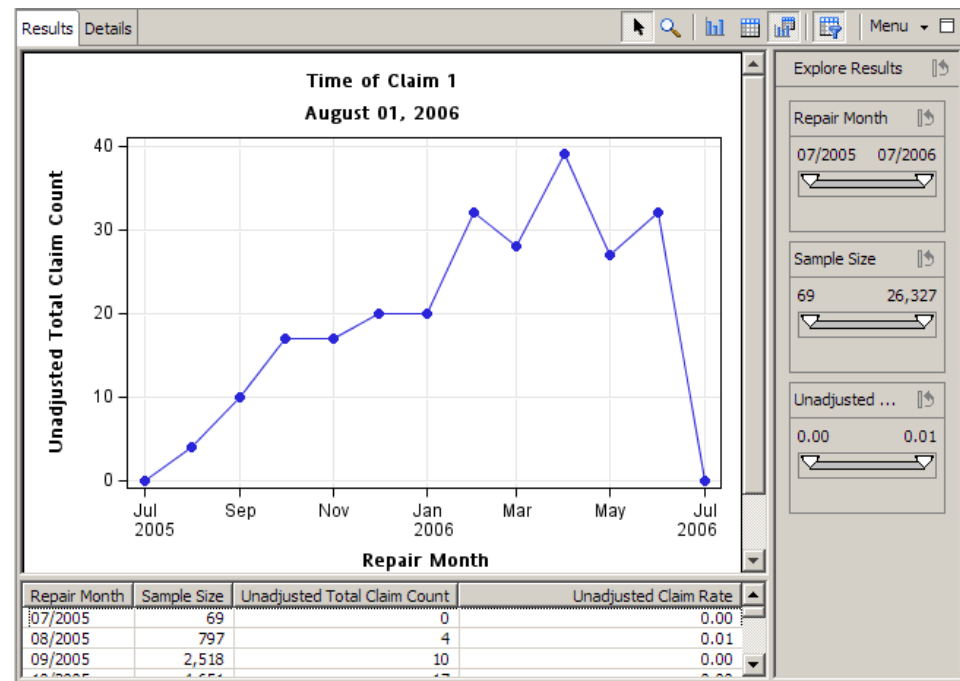
The screenshot shows a software window with tabs for 'Results', 'Details', and 'Messages'. The 'Details' tab is active, displaying 'Claim Details' and 'Search Options'. Below these is a table with the following data:

Claim Status	Total Claim Payment	Total Labor Payment	Total Part Payment	Mileage (Miles)	Customer Comment
Approved	301.51	206.34	95.17	825.000	Vehicle was towed to ...
Approved	1,775.89	796.52	979.37	4,716.000	HAS DRIVER(NO CON...
Approved	354.09	119.36	234.73	3,442.000	Tech states when you...
Approved	181.69	170.87	10.82	941.000	Randolph called in unit...

Time of Claim Analysis

The time of claim analysis enables you to view how a quantitative value, such as total event count or cost, varies with respect to calendar points in time. It plots a calculated quantitative count on the Y axis and past calendar periods (months) on the X axis. The calendar periods might represent times when claims are made, times when claims are paid, or any other calendar date associated with claims. In addition, you can specify a BY variable in order to stratify the analysis by the values of some categorical variable for comparison purposes.

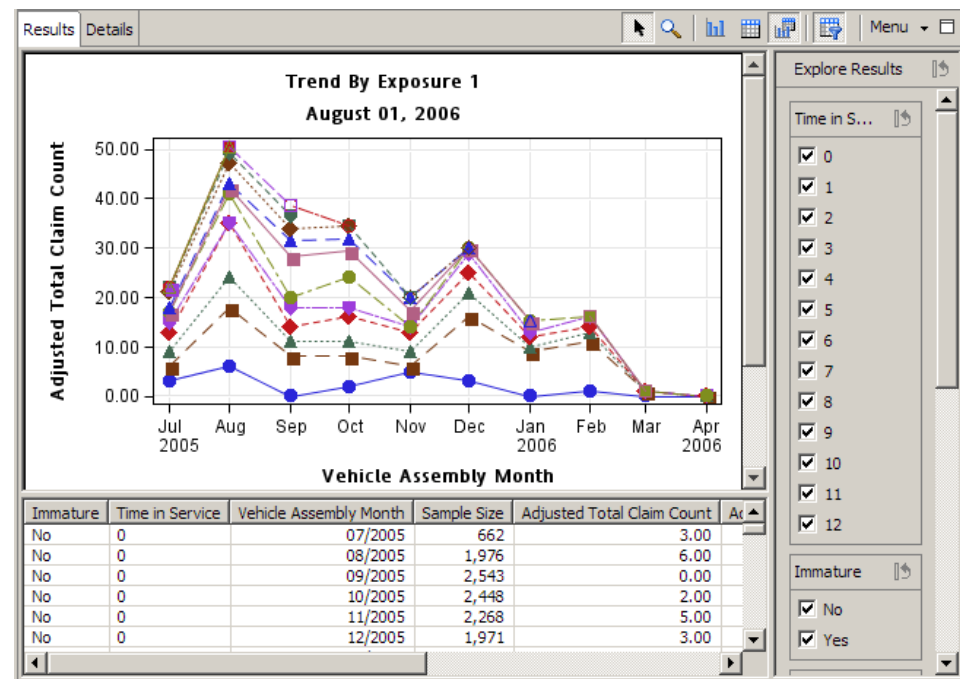
The time of claim analysis can be used to monitor claims activity by calendar periods and to detect seasonal trends in claims activity.

Figure 7.13 Example of the Results of a Time of Claim Analysis

Trend by Exposure Analysis

The trend by exposure analysis enables you to visualize how warranty event activity varies across production periods at various time-in-service values. It plots the cumulative value of an analysis variable, given a time-in-service value, on the Y axis versus production month on the X axis. A separate line is generated for each of several time-in-service values. This analysis combines traits of the trend analysis and the exposure analysis.

Note: Immature data points, if enabled, appear as hollow dots. Mature data points appear as filled dots.

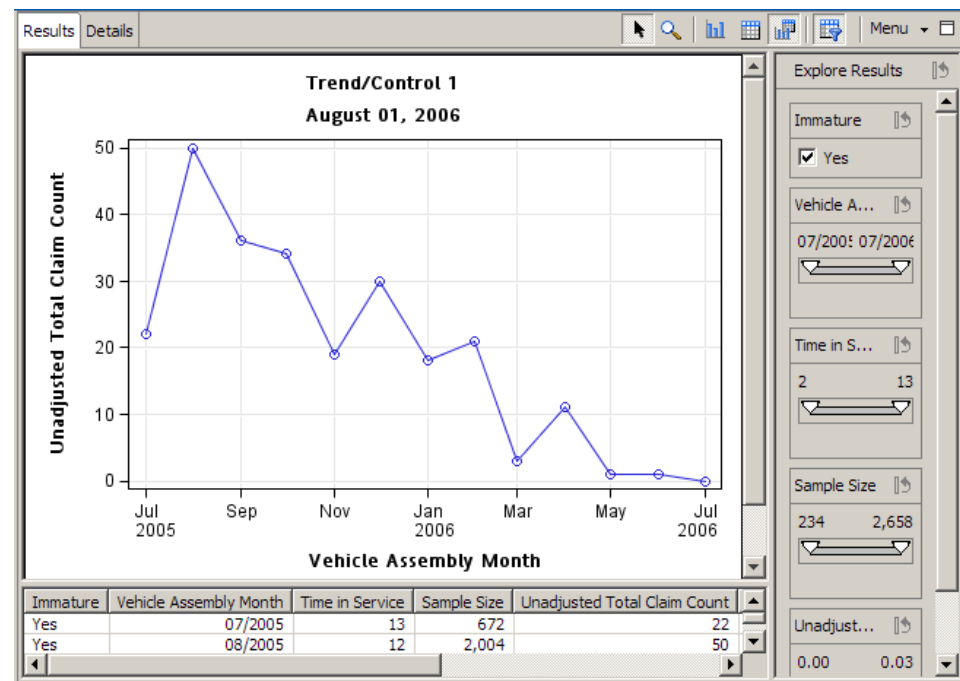
Figure 7.14 Example of the Results of a Trend by Exposure Analysis

Trend/Control Analysis

Trend/Control analysis enables you to view warranty event activity from the time-of-build perspective. Specifically, this analysis enables you to plot an analysis variable (such as total event count or cost, event rate, or event cost per unit) versus a reporting variable that is related to a production time period (such as month of production or week of production). The analysis can be generated with respect to a particular time-in-service period, or it can incorporate all time-in-service periods. Also, a group variable can be specified to stratify the analysis. For example, a trend analysis could be generated for two different models to show how the number of reported incidents per 1000 units at 90 days in service varies across the months when the models were produced.

In addition, you can apply control limits to the trend charts in order to create a control chart of the data. Control charting methodology can be used to distinguish normal variation in warranty event activity from statistically significant trends—that is, the methodology differentiates variation that is the result of an assignable cause from random "noise." The control chart helps you to determine whether the event activity for particular months is statistically different from the activity for other production months, suggesting a need for further investigation.

Note: Immature data points, if enabled, appear as hollow dots. Mature data points appear as filled dots.

Figure 7.15 Example of the Results of a Trend/Control Analysis

Create an Analysis

Overview

To create an analysis:

1. Select the types of analyses.
For more information, see [“Select Analyses” on page 70](#).
2. Accept or change the analysis settings.
For more information, see [“Create an Analysis” on page 70](#).
3. Submit the analyses.
For more information, see [“Submit an Analysis” on page 79](#).

You can submit a single analysis, or you can select multiple analyses and submit them simultaneously. If you select more than one analysis to submit at the same time, it is recommended that you select an analysis other than multivariate statistical drivers, text analysis, or details table to run first.

Select Analyses

You must select analyses when you perform the following tasks:

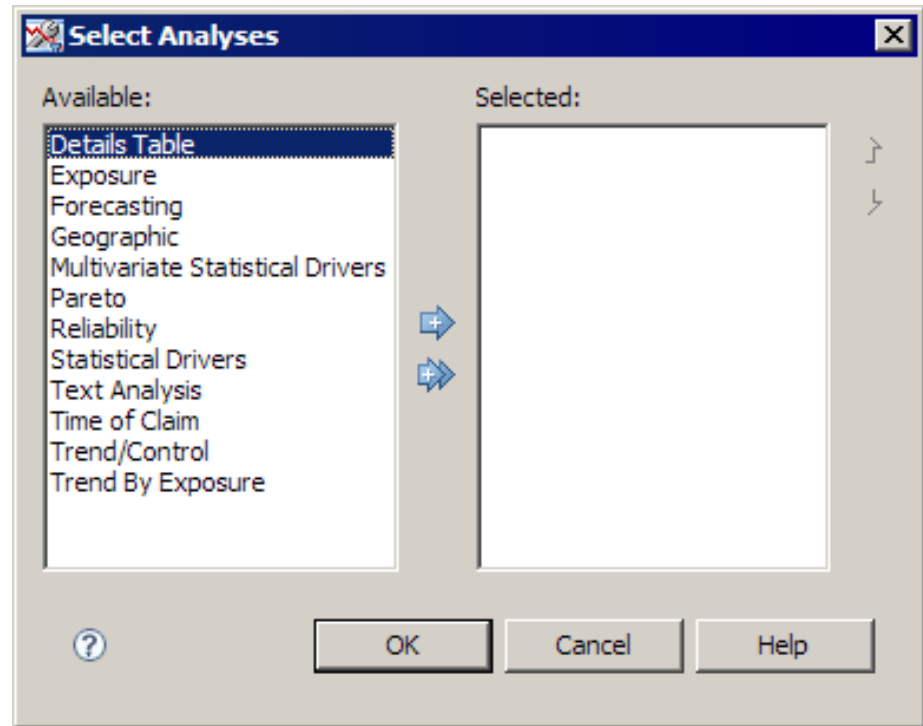
- analyze a subset
For more information, see [“Analyze a Subset” on page 90](#).
- create analyses


For more information, see “Create an Analysis” on page 70.

To select analysis types:

1. From the project tree menu, select **New** ⇒ **Analysis**.

The Select Analyses dialog box appears.



2. In the **Available** list, select one or more analyses, and click  to move the selected analyses to the **Selected** list.

Select Variables or Options for Analyses

You can specify the variables and options for the analyses that you want to perform.

The **Analysis Settings** pane displays the default variables and options for the currently selected analysis type. You can accept the defaults, or you can select alternate settings for the analysis that you are defining.

Note: The variables and options that appear in the **Analysis Settings** section are determined during the installation and configuration of SAS Warranty Analysis. For this reason, the variables and options that you see might not be identical to those described here.

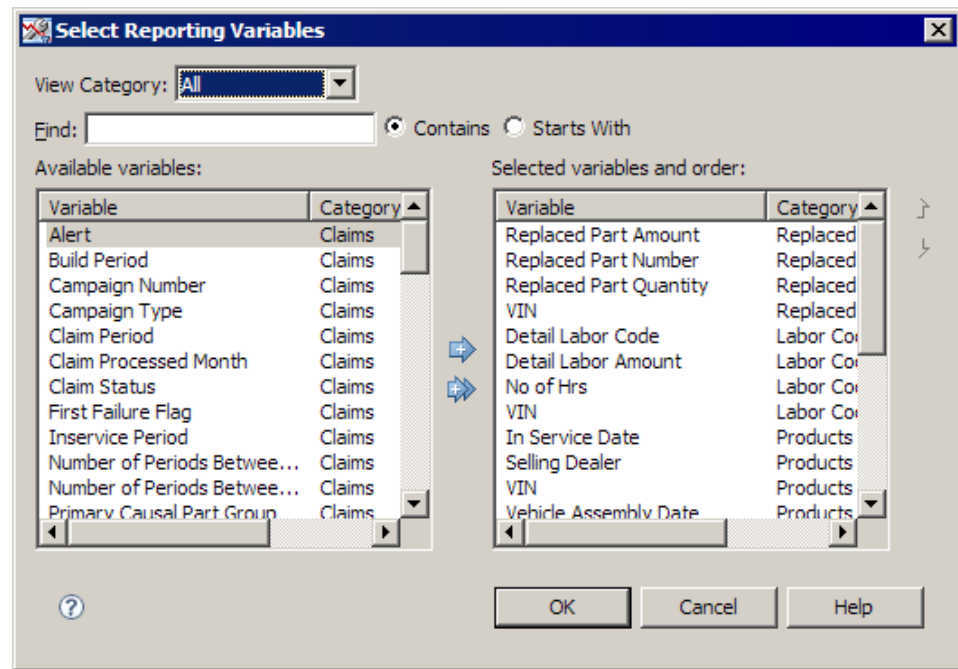
To change analysis settings:

1. For each variable or option, select a value.
For additional instructions, see the following sections:
 - “[Select Multiple Variables or Options](#)” on page 72
 - “[Select an Optional Variable or Option](#)” on page 73
 - “[Select a Required Variable or Option](#)” on page 74
2. Select one of the following options:
 - **Submit Now** to apply the analysis immediately
 - **Submit Later** to submit the analysis for processing later in batch mode
 - **Save Only** to save the revised settings without submitting the analysis

Select Multiple Variables or Options

You can change the default variables or options that appear when you create or edit an analysis. For more information, see “[Create an Analysis](#)” on page 70 and “[Edit an Analysis](#)” on page 77.

Note: The name of the dialog box changes based on the selected variable or option.



The available controls depend on the type of variables or options.

To specify the variables or options:

1. If a **View Category** field appears in the dialog box, select a category from the list to display only variables in the specified category.
2. (Optional) If a **Find** field appears in the dialog box, find the variable.

For more information, see [“Find Items” on page 192](#).

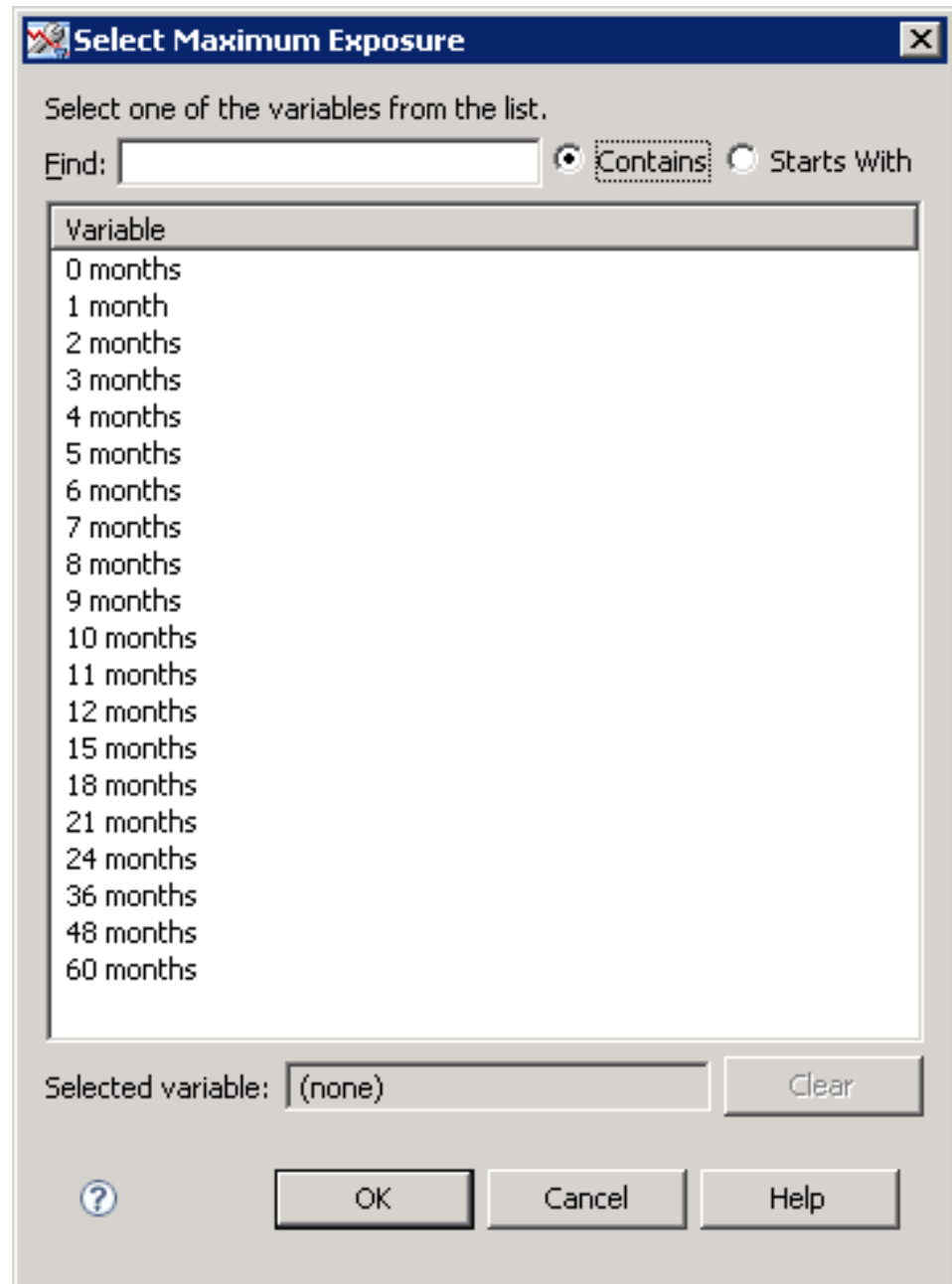
3. Use the **Available variables** and **Selected variables and order** lists to specify which variables to use in the analysis.
4. Move variables between the **Available variables** list and the **Selected variables and order** list by selecting a variable and clicking the arrows between the lists.
5. To change the order of a variable in the **Selected variables and order** list, select a variable and click the up and down arrows.
6. (For a details table analysis only) If you want to create a template of the variables or work with templates, click a link under the **Selected variables and order** list.

By creating a template, you can easily use the same set of reporting variables for multiple analyses.

For more information, see [“Save a List of Variables as a Template” on page 76](#) and [“Select or Manage Variable Templates” on page 76](#).

Select an Optional Variable or Option

You can change the default variables or options that appear when you create or edit an analysis. For more information, see [“Create an Analysis” on page 70](#) and [“Edit an Analysis” on page 77](#).



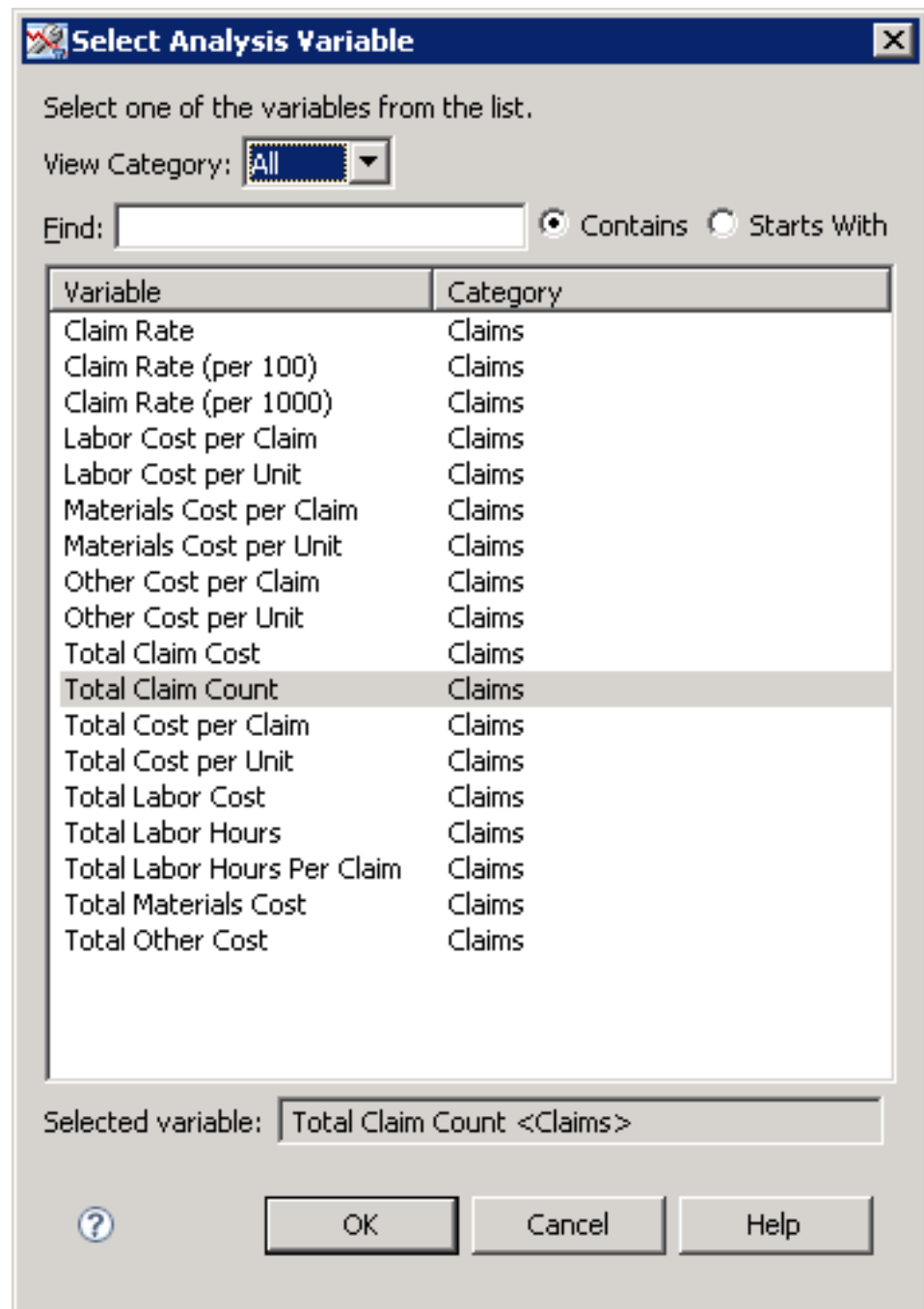
If a **View Category** field appears in the dialog box, select a category from the list to display only variables in the specified category.

If a **Find** field appears in the dialog box, find the variable. For more information, see [“Find Items” on page 192](#).

Click a variable or option to use in the analysis.

Select a Required Variable or Option

You can change the default variables or options that appear when you create or edit an analysis. For more information, see [“Create an Analysis” on page 70](#) and [“Edit an Analysis” on page 77](#).




Select one of the variables from the list.

View Category: All

Find: ☒ Contains ☐ Starts With

Variable	Category
Claim Rate	Claims
Claim Rate (per 100)	Claims
Claim Rate (per 1000)	Claims
Labor Cost per Claim	Claims
Labor Cost per Unit	Claims
Materials Cost per Claim	Claims
Materials Cost per Unit	Claims
Other Cost per Claim	Claims
Other Cost per Unit	Claims
Total Claim Cost	Claims
Total Claim Count	Claims
Total Cost per Claim	Claims
Total Cost per Unit	Claims
Total Labor Cost	Claims
Total Labor Hours	Claims
Total Labor Hours Per Claim	Claims
Total Materials Cost	Claims
Total Other Cost	Claims

Selected variable: Total Claim Count <Claims>

 OK Cancel Help

If a **View Category** field appears in the dialog box, select a category from the list to list only variables in the specified category.

If a **Find** field appears in the dialog box, find the variable. For more information, see [“Find Items” on page 192](#).

Click a variable or option to use in the analysis.

Save a List of Variables as a Template

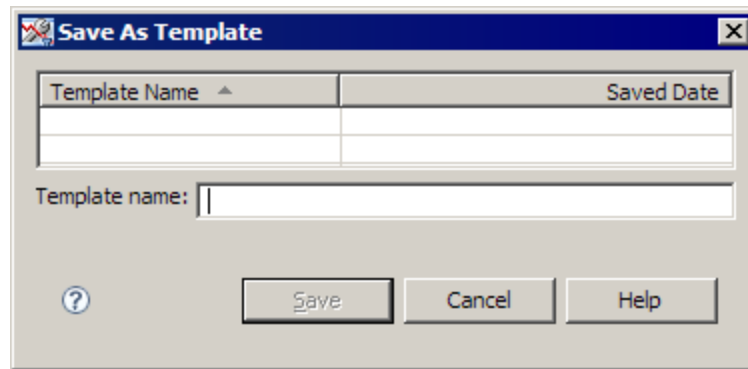
To save a list of variables as a template for later use with a details table analysis:

1. Select multiple reporting variables for analysis.

For more information, see [“Select Multiple Variables or Options”](#) on page 72.

2. Click **Save list and order of variables as a template**.

The Save As Template dialog box appears.



3. Type the name of the template.

Select or Manage Variable Templates

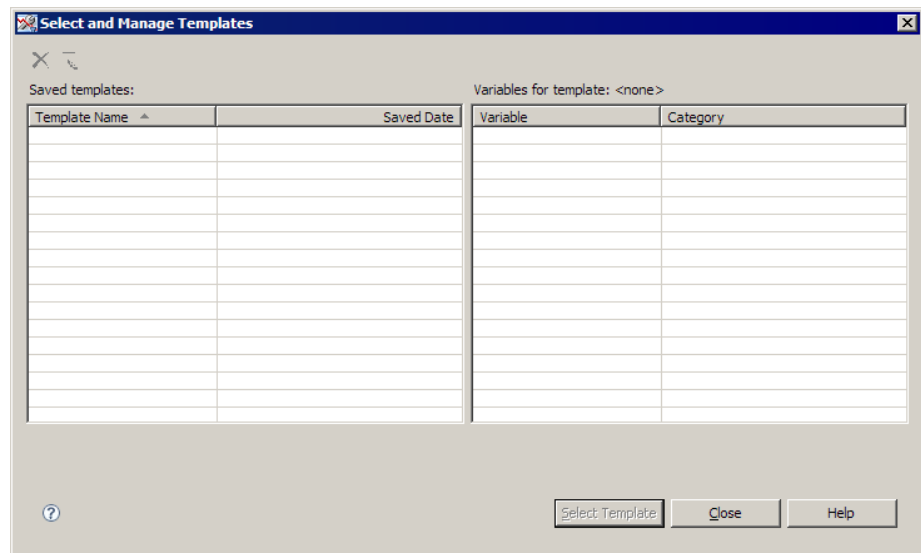
To select a variable template, or to manage variable templates, for use with a details table analysis:



1. Select multiple reporting variables for analysis.

For more information, see [“Select Multiple Variables or Options”](#) on page 72.

2. Click **Select and manage templates**.

The Select and Manage Templates dialog box appears.



3. From the **Saved templates** list, select a template and do one of the following:
 - To use the template in an analysis, click **Select Template**.
 - To delete the template, click .
 - To rename the template, click , and then type the new name in the Rename Template dialog box.

Edit an Analysis

You can change the analysis options of a specified analysis node.

To edit an analysis node:

1. Select an analysis.
2. From the project tree menu, select **Edit Analysis**.

The Edit Analysis dialog box appears.

Edit Analysis

Analysis name: Exposure 1

Variables

Group variable: (none) [Select...](#)

Analysis variable: Total Claim Count <Claims> [Select...](#)

Analysis Options

Exposure type: Time in Service

Calculation method: Adjusted

Apply usage profiles: No

Warranty program usage limitation: (none)

Claims per unit to include: All

Minimum sample size type: (none)

Minimum sample size (greater than zero): (none)

Filtering Options

Include pre-delivery claims: Yes

Locale: English (US)

? OK Cancel Help

3. For each variable or option, select an alternate setting in one of the following ways:
 - Click and select an alternate setting.
 - Click or to scroll through available settings and select one.
 - Click **Select** to open a separate dialog box where you can select additional settings.

See the following sections for additional instructions:

 - [“Select Multiple Variables or Options” on page 72](#)
 - [“Select an Optional Variable or Option” on page 73](#)
 - [“Select a Required Variable or Option” on page 74](#)

The analysis is immediately submitted.

Note: The variables and options that appear in the **Analysis Settings** section are determined during the installation and configuration of SAS Warranty Analysis. For this reason, the variables and options that you see might not be identical to those described here.

Rename an Analysis

To rename an analysis:

1. In the project tree, select an analysis.
2. From the project tree menu, select **Rename Analysis**.

The Rename Analysis dialog box appears.

3. Type a new name.

Note: Renaming the analysis does not change the titles of the output of the renamed analysis.

Copy Analysis Options

You can create a copy of the details of the selected analysis node. Then, you can make changes to the original analysis options, run the altered analysis, and compare it to the original analysis.

To create a copy of an analysis:

1. Select an analysis node.
2. From the project tree menu, select **Copy Analysis Options**.

The copy is created and added to the project tree. **Copy of** is prefixed to the name of the copy to differentiate it from the original analysis node.

Submit an Analysis

To submit an analysis:

1. In the project tree, select an analysis.
2. From the project tree menu, select **Submit Analysis**.

When you create an analysis, you can choose when you want to submit the analysis. For more information, see [“Create an Analysis” on page 70](#).

Delete an Analysis

To delete an analysis node:

1. In the project tree, select an analysis node.
2. From the project tree menu, select **Delete Analysis**.

Chapter 8

Analysis Output

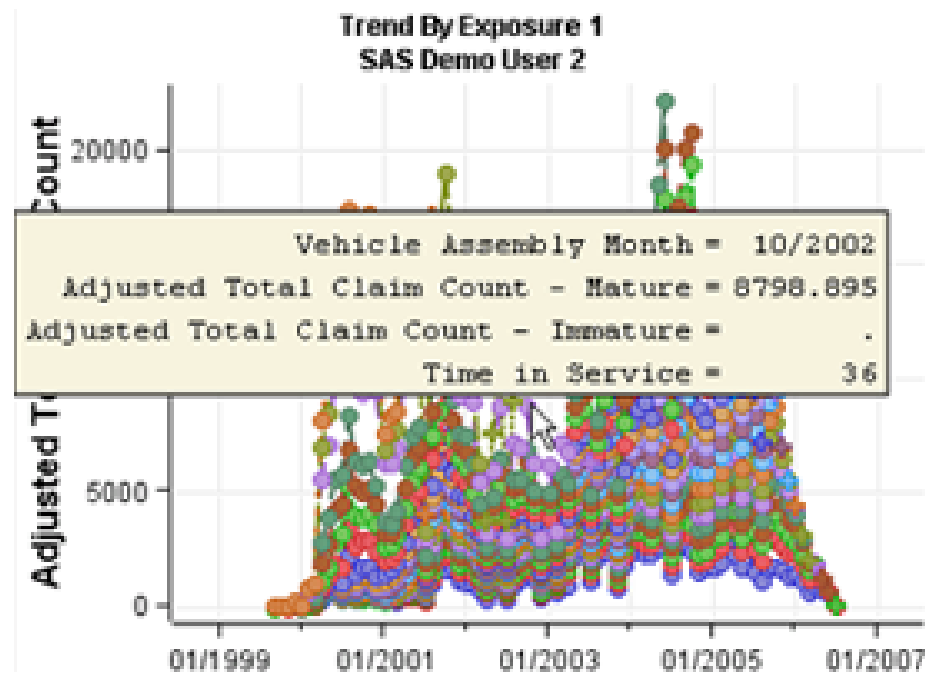
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View Analysis Results

Overview

After you have submitted an analysis, the results are displayed on the **Results** tab in the content display area of the Projects workspace. You can view and interact with the results in a number of ways.

For most graphic results, you can position the mouse pointer over an element in the graphic to display a summary of information about the bar, a plot point, or other selected element.




For table results, you can use the **Search Options** area of the **Results** pane to filter out data columns that contain little or no data. If there is a check box to the right of a data column, select the check box to filter the row.

Note: The check box appears only for data columns that have little or no data.

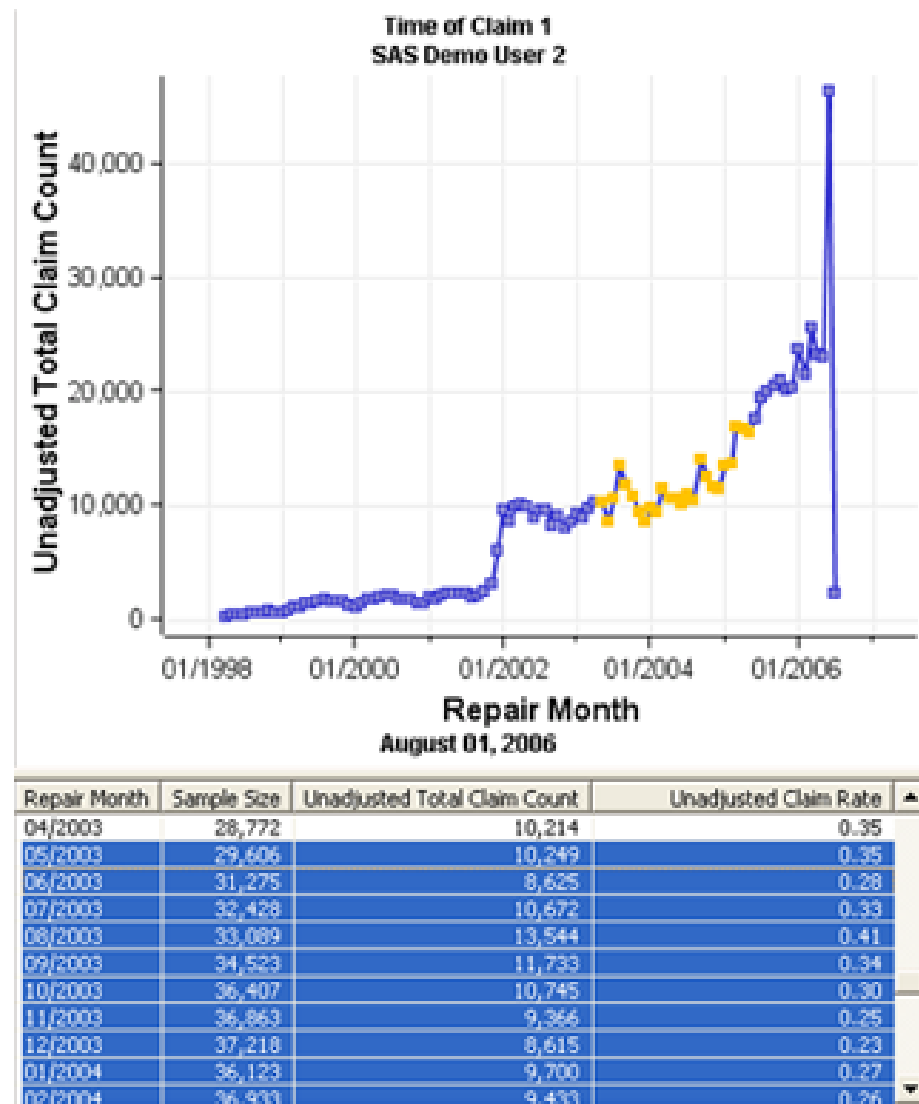
Select Data Points in Results

The results of most analyses include at least one graphic and a summary table. The graphics and the tables are linked so that when you select data points on a graphic, the related information is highlighted in the related table. If you select rows in a table, then the related areas of the graphic are highlighted.

To select points on a graphic:

1. Click  on the Results toolbar.
2. Click a single element of the graphic, or click and drag to select multiple elements.

The related rows in the summary table are highlighted.



Note that you cannot select elements in a magnified graphic. However, you can position the mouse over a graphics element to display a data tip.


To select a single row in a table, click anywhere in the row.

To select multiple contiguous rows, click the first row, hold down the Shift key, and click the last row to include in the selection.


To select multiple noncontiguous rows, press the Control key and click each row to include in the selection.

Adjust the View


View Graph Only

To hide the table and display only the graphic, click  on the Results toolbar.

View Table Only


To hide the graphic and display only the table, click  on the Results toolbar.

View Graph and Table

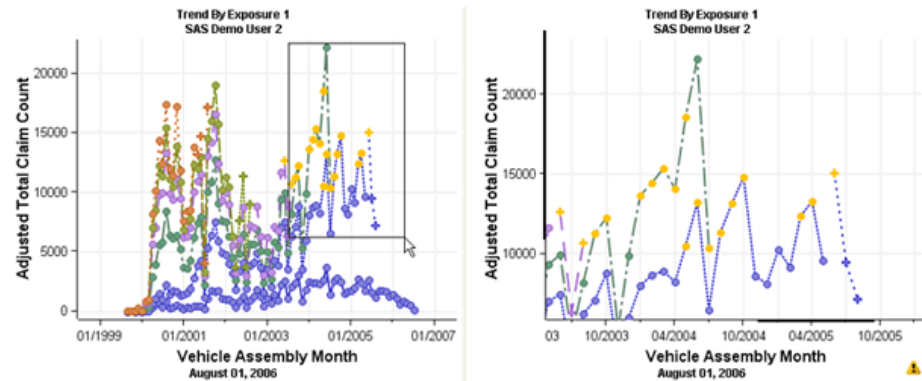
To display both the graphic and the summary table, click  on the Results toolbar.


Magnify Part of a Graphic


To magnify part of a graphic:

1. Click  on the Results toolbar.
2. For an analysis other than a Failure Relationship analysis, drag to draw a rectangle on a section of the graphic.


The area within the rectangle is magnified.




3. For a Failure Relationship analysis, do either of these actions:
 - To magnify the entire graphic, drag across the graphic, from a lower point to an upper point.
 - To zoom part of the graphic:
 1. View a subset of nodes.
For more information, see [“View a Subset of Nodes” on page 85](#).
 2. Click  on the Results toolbar, and then drag across the graphic, from a lower point to an upper point.

To restore the graphic to the normal view, click  at the bottom right of the graphic display.

Adjust the Size of the Content Display Area

To hide the project tree and expand the size of the **Results** tab, click  on the Results toolbar.

To restore the project tree and the original size of the **Results** tab, click  on the Results toolbar.

Create a Copy of a Graphic

To create an additional copy of a graphic, right-click the graphic and select **New Graph** on the pop-up menu.

The copy is added to the display on the **Results** tab.

Close a Graphic

To close a graphic, right-click the graphic and select **Close Graph** on the pop-up menu.

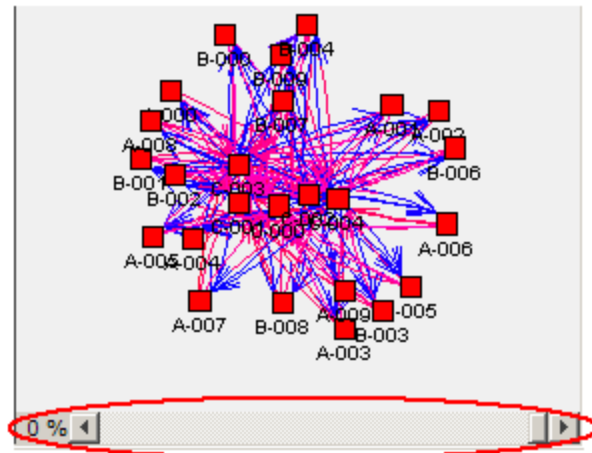
Failure Relationship Analysis

Overview

The failure relationship analysis offers options that are not available in other analyses.

Specify the Rule Strength Parameter

Below the graphic is the threshold slider.




Use the threshold slider to specify the rule strength parameter. The scale of the threshold slider can be absolute or a percentile.

Note: By default, the threshold slider represents the strength of the confidence rule. Your organization can change the threshold slider to represent a different rule strength parameter.

View a Subset of Nodes

To view a subset of nodes:

1. Click  on the Results toolbar.
2. Drag a rectangle to select a subset of nodes, right-click, and then select **Node Options** ⇒ **Subset Nodes**.

The display shows only the selected subset of nodes.

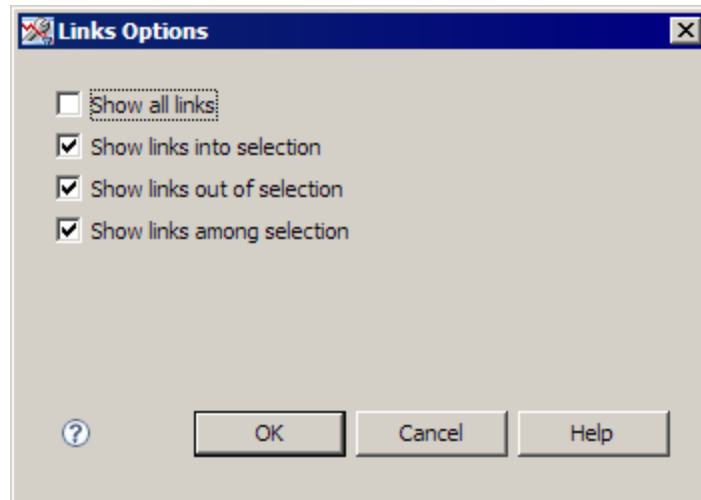
3. To reset the display, right-click and then select **Node Options** ⇒ **Reset Nodes**.

Select the Links between the Nodes

To change which links are displayed between the nodes:

1. Right-click the graphic and then select **Show Links Options**.

The Links Options dialog box appears.



2. Select the links to display.

Detach an Analysis and Display It in a Separate Window

To open a separate window that displays analysis results:

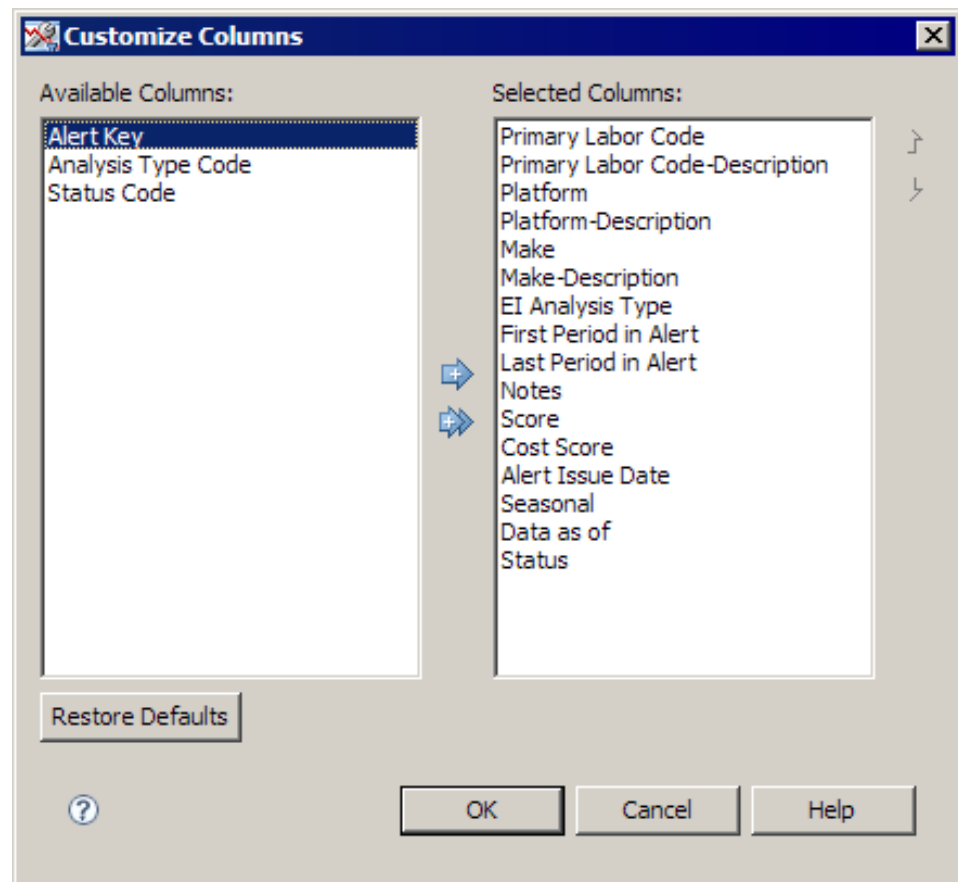
1. Select an analysis.
2. Select **Detach in Window** from the project tree menu.

Sort a Table

To sort a table column, right-click in a column and select **Sort Ascending** or **Sort Descending** on the pop-up menu.

Customize Table Columns

You can select which table columns to display and specify the order in which they are displayed.



To customize a column, right-click anywhere in a table, and select **Customize Columns** from the pop-up menu.

Move items between the **Available Columns** list and the **Selected Columns** list by selecting items and then clicking the arrow buttons between the lists.

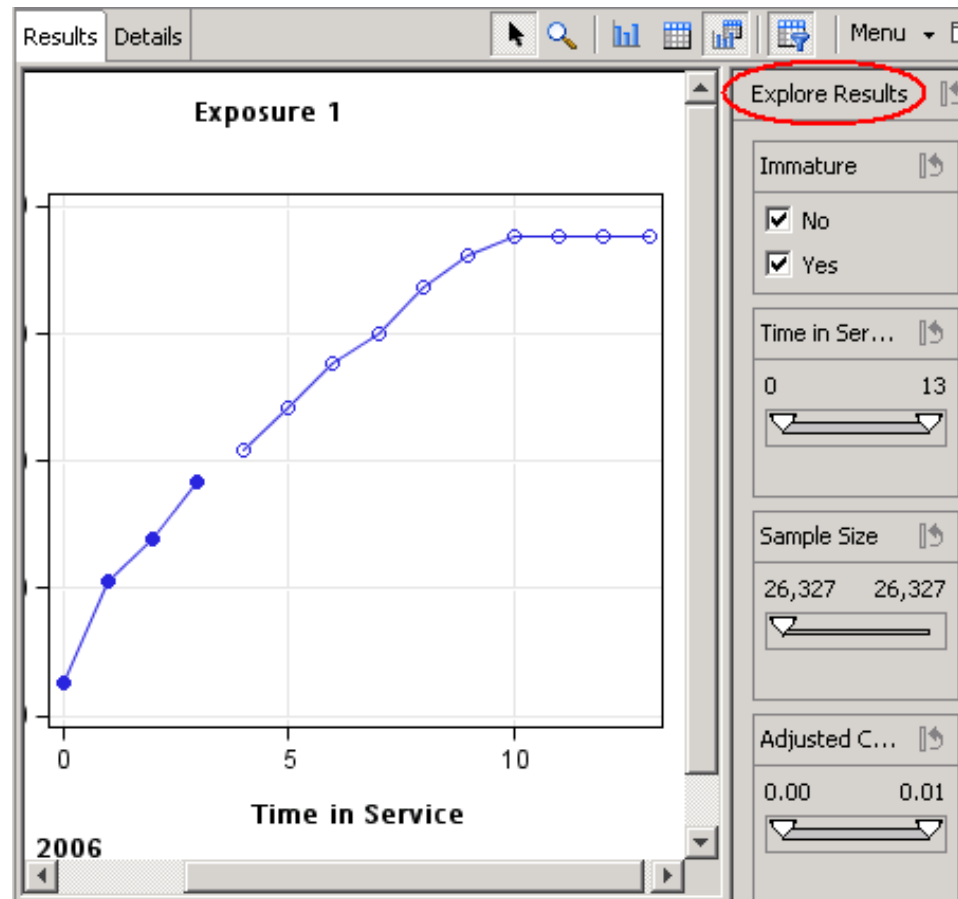
To change the order in which the columns are displayed, select a column name in the **Selected Columns** list and then click the up arrow or the down arrow buttons.

To reset the column selection and placement to the default setting, click **Restore Defaults**.

Explore Results

The Explore Results Pane


After you run certain analysis types, the **Explore Results** pane is available. The **Explore Results** pane enables you to change the values of certain variables and immediately see the impact of the change on the results graph.



The following analysis types provide the **Explore Results** pane:

- Forecasting
- Reliability
- Time of Claim
- Trend by Exposure
- Trend/Control
- Failure Relationship

Show or Hide the Explore Results Pane

To show or hide the **Explore Results** pane, click  on the Results toolbar.

Range Values

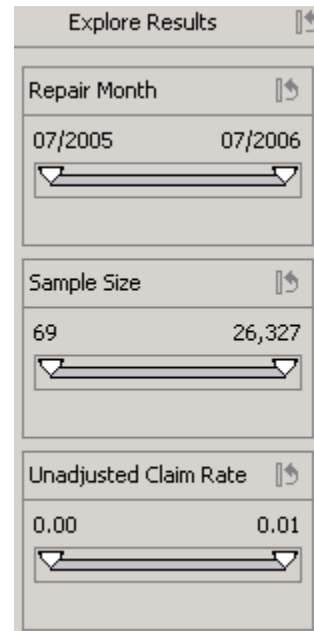
Overview

For some analysis types, you must set a range of values for analysis variables. You set the range values by either using a slider or by typing values.

A slider is useful for setting values up to ten digits, including the digits to the right of the decimal point. For larger numbers, typing values is easier than using the slider.

Range Values Specified by a Slider

Here is an example of three sliders:




To specify a range of values for a variable, move the indicators at each end of the slider. The indicators represent the minimum and maximum values for the corresponding variable. Examples of the variables that use sliders include the following:

- mileage intervals
- unadjusted total claim count
- unadjusted average parts cost per claim
- maximum age in days
- average age in days

You can also double-click a slider to open the Range Editor Properties dialog box, where you can type new range values for the variable. For more information, see [“Range Editor Properties” on page 89](#).

When you change the minimum or maximum values, the graphic image displays the results of the change. The color of the slider also changes to indicate that the default values have been modified.

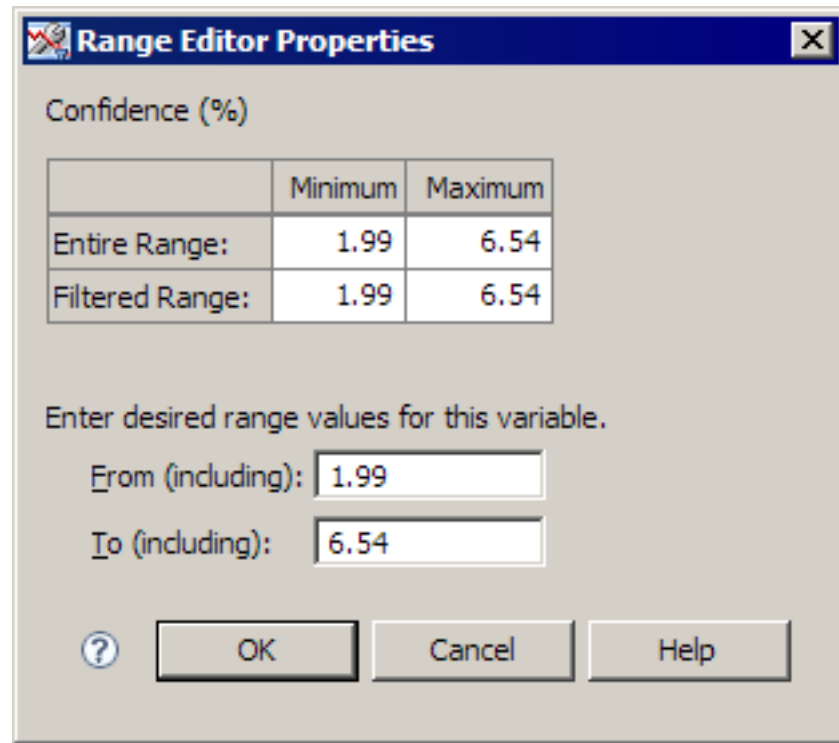
Click  to return the slider to the original value range.

Range Values Specified by Typed Values

For numbers in excess of ten digits, a slider is replaced by text that indicates the minimum and maximum values. To change these values, click **Edit range**, and then type the values in the Range Editor Properties dialog box.

Range Editor Properties

To change the minimum value, the maximum value, or both for a variable, type the minimum possible value in the **From (including)** field. Or type the maximum possible value in the **To (including)** field, respectively.



Range Editor Properties

Confidence (%)

	Minimum	Maximum
Entire Range:	1.99	6.54
Filtered Range:	1.99	6.54

Enter desired range values for this variable.


From (including):

To (including):

Check Boxes

If you have included a group variable in your analysis or if the analysis automatically includes a group variable, then the group variable is represented by check boxes in the **Explore Results** pane.

You can select and clear check boxes to display or hide, respectively, the lines and rows in the table that correspond to the values of the group variable. This is useful when an analysis has many lines in the graph and the graph can be simplified by hiding certain groups. Check a box beside each value to include in an analysis.

Click  to select all check boxes (the default).

Analyze a Subset

After you have submitted an analysis and viewed the output, you can select a specific point or value of a group variable (in the case of most line plots) in the graphic output to further subset the data of the current analysis and perform another one or more of the base analyses.

To analyze a subset:

1. Select one or more points or values in the graphic output, or select one or more rows in the summary table.
2. On the **Results** tab menu, select **Analyze Subset**.

The Select Analyses dialog box appears. For more information, see [“Select Analyses” on page 70](#).

After you select the analyses, the New Analysis dialog box appears. For more information, see [“Select Variables or Options for Analyses” on page 71](#).

3. Select the options and variables for the analysis, and select when to submit the analysis.

Note: When you analyze a subset from a multivariate statistical drivers analysis, you might notice what seem to be superfluous commas in the **Additional Subset Criteria** section of the **Data Selection Details** pane for the subset data. For example, you might see something like this:

- Customer Country = , CANADA, USA
- Customer Country = CANADA, , USA
- Customer Country = CANADA, USA, ,

The extra commas indicate missing values for variables in the subset data. In the example, the subset data contained some records in which the Customer Country variable contained the values CANADA and USA, and other records in which there was no value for the y variable. This missing value is represented by a comma.

Analyze Multiple Points as Separate Data Sets

To analyze multiple points as separate data sets:

1. Select multiple points or values in the graphic output, or select multiple rows in the summary table.
2. On the **Results** tab menu, select **Analyze Separately**.

The Select Analyses dialog box appears. For more information, see [“Select Analyses” on page 70](#).

After you select the analyses, the New Analysis dialog box appears. For more information, see [“Select Variables or Options for Analyses” on page 71](#).

3. Select the options and variables for the analysis, and select when to submit the analysis.

Change the Analysis Variable for a Graphic

To change the analysis variable for a graphic, right-click a graphic, select **Analysis Variable**, and then select a new analysis variable.

The graphic is immediately updated to reflect the change.

Save an Analysis as a Report

Reports are analyses that have been promoted, named, and added to the Reports workspace. Reports must be named. You can view your own reports and reports that other users have shared with you.

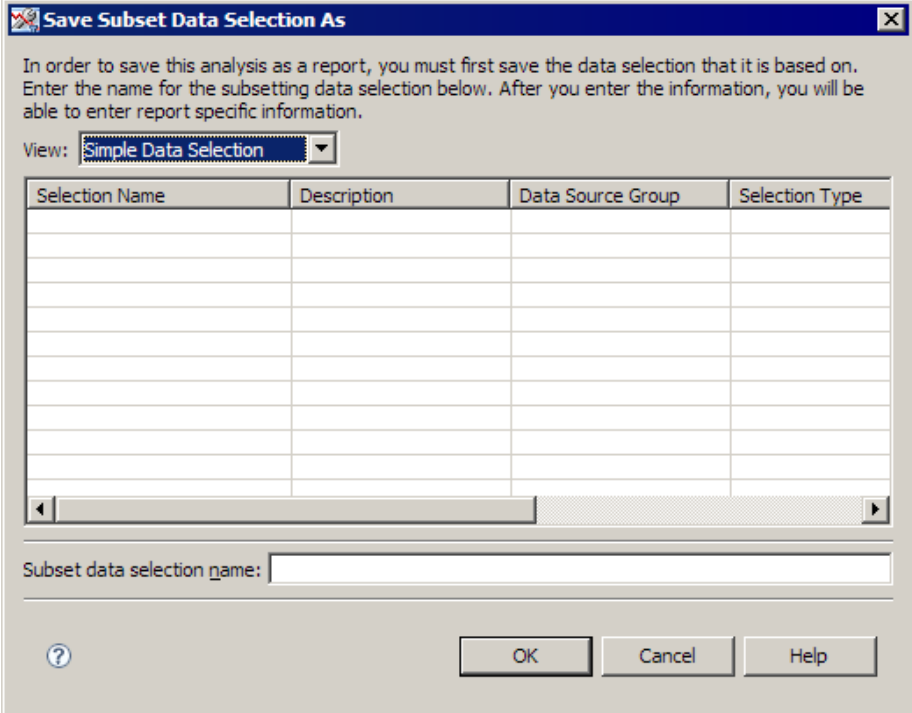
You can create reports only in the Projects workspace and only by using the Save as Report function. Before you can save an analysis as a report, you must save the related data selection. You can save a static version of a completed analysis for archival purposes, or you can share the report with others as a published report. For more information, see [“Save a Data Selection” on page 42](#).

In order to access and work with the reports that you save, you must go to the Reports workspace.

To save an analysis as a report:

1. Select an analysis.
2. From the project tree menu, select **Save as Report**.

If the data selection has not been saved, the Save Simple Data Selection As dialog box or the Save Subset Data Selection As dialog box appears.



The dialog box is titled "Save Subset Data Selection As". It contains the following elements:

- Instructions: "In order to save this analysis as a report, you must first save the data selection that it is based on. Enter the name for the subsetting data selection below. After you enter the information, you will be able to enter report specific information."
- View dropdown: Set to "Simple Data Selection".
- Table with 4 columns: Selection Name, Description, Data Source Group, and Selection Type. The table is currently empty.
- Subset data selection name: A text input field.
- Buttons: A question mark icon, OK, Cancel, and Help.

3. To save the data selection:
 - a. Name the data selection.
 - b. (Optional) For a simple data selection, name the product selection and the event selection.
 - c. Click **OK**.

The New Report dialog box appears. For more information, see [“Create a Report” on page 125](#).

Export an Analysis to PDF

To export an analysis to a PDF file:

1. Select an analysis.
2. On the project tree menu, select **Export to PDF**.

The Export to PDF dialog box appears. For more information, see [“Export Information to a PDF File” on page 190](#).

Export Results Table to Spreadsheet

To export a results table to an external spreadsheet file, on the **Results** tab menu, select **Export Results Table to Spreadsheet**.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

Copy a Graphic to an External Document

To copy a graphic to an external document:

1. Right-click an image.
2. Select **Copy Image** on the pop-up menu.

The image is copied to the Windows clipboard.

3. Paste the image into an external document.

Part 4

Data Selections

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Chapter 9

Overview of the Data Selections Workspace

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About Data Selections

A data selection describes the criteria to use to create a subset of data for analysis. After you create a data selection, you can save it for future reuse.

When you define a data selection, you specify the data to include in a product or event subset (in other words, what to analyze). A data selection is not the physical subset of data.

The following statements are true of data selections:


- They can be used with any analysis.
- They can be reapplied.
- They can be copied from other users.

The Data Selections Workspace

The Data Selections workspace enables you to manage your saved data selections. You can also create new data selections (simple or combined), and you can create new product and event selections from this page.

The Data Selections workspace also provides an easy way for you to view basic information about a data selection without entering edit mode. You can view information such as the data selection name, description, component type, data source, and the date when the data selection was last updated.

You can access the Data Selections workspace in any of the following ways:

- Select **Workspaces** ⇒ **Data Selections** from the main menu.
- Click  in the main toolbar.



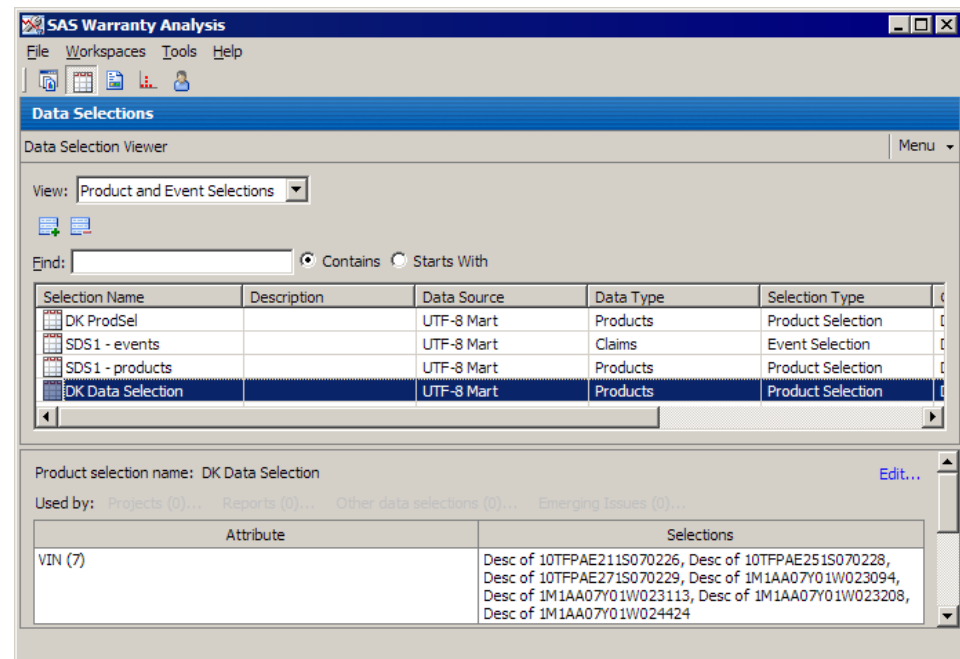
Data

Click **Selections** in the **Workspaces** pane.

The Data Selection Viewer

Overview


The Data Selection Viewer displays a table of data selections that you specify by selecting a type from the **View** list.




You can type search terms in the **Find** field to reduce the number of data selections that are displayed for selection. For more information, see [“Find Items” on page 192](#).

The table’s columns contain the following information for each data selection:

- selection name
- description
- data source group
- data source
- data type
- selection type
- subsetting
- created by
- created date
- share

Click  to delete a data selection of the type that you select from the **View** list.

Click  to create a new data selection of the type that you select from the **View** list:

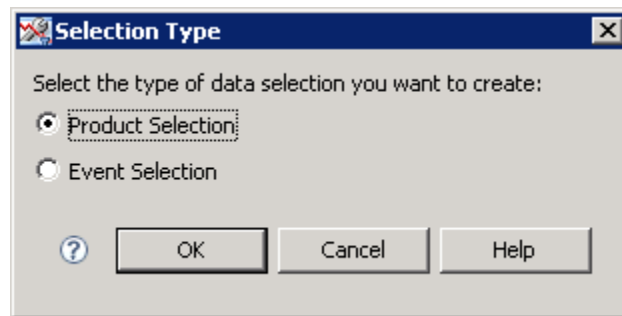
- **Product and Event Selections.** For more information, see [“The Selection Type Dialog Box” on page 99](#).
- **Simple Data Selection.** For more information, see [“Create a Simple Data Selection” on page 106](#).
- **Combined Data Selection.** For more information, see [“Create a Combined Data Selection” on page 107](#).

The lower half of the Data Selection Viewer displays the components that were used to create the data selection.

For example, if you select a simple data selection in the table, the lower part of the Data Selection Viewer displays the names of the product selection and the event selection that make up the simple data selection.

The Selection Type Dialog Box

Choose whether to create a product selection or an event selection.



Select **Product Selection** or **Event Selection**.

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Managing Data Selections

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Create a Product Selection

General Information

To create a product selection:

1. From the **Data Selection Viewer** pane menu, select **New** ⇒ **Product Selection**.

The New Product Selection dialog box appears.

2. In the **Product selection name** field, type a name for the new product selection.
3. (Optional) Type a description of the product selection.
4. In the **Data source** field, select a data source for the product selection from the list. (If only one data source is available, then the list is unavailable.)
5. In the **Data type** field, select a data type for the product selection from the list. If only one data type is available, then the list is unavailable.
6. To add attributes to the product selection:
 - a. Click . The Select Attributes dialog box appears.
 - b. Complete the steps to select attributes. For more information, see “[Select Attributes](#)” on page 187.

- c. In the **Selected attributes** list of the New Product Selection dialog box, select an event attribute and use the controls in the **Selections** pane to define the attribute. (Various types of controls appear for different attributes.)

For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.)

7. (Optional) Select the build options and view the selection summary. For more information, see [“Select Build Options” on page 103](#) and [“View Data Selection Summary” on page 104](#).
8. Click **OK**.
9. To see the new product selection is displayed in the **Data Selection Viewer** pane, select **Product and Event Selections** from the **View** list.

Select Build Options

You can specify build options for a product selection. Build options are available when you edit a product selection. For more information, see [“Begin Editing” on page 48](#).

Select Build Options

▼ **Search Options** ◆

Display items that match the settings below: [Edit search attributes...](#)

Product Build Option Code	Contains any of the words			Apply
Product Build Option Description	Contains any of the words			Clear
Locale	Contains any of the words			

Select all items that match search

Select one or more values from the list below.
Values for build option groups: UTF-8 Mart

Product Build Option Code	Product Build Option Description	Locale
<input type="checkbox"/> 001	Front Tires	en_US
<input type="checkbox"/> 002	Cab Type	en_US
<input type="checkbox"/> 003	Passenger Seat	en_US
<input type="checkbox"/> 004	Windows	en_US
<input type="checkbox"/> 005	Steering	en_US
<input type="checkbox"/> 006	Driver Seating	en_US

Page: 1 of 1

▼ **Items Selected (None)** ◆

Sort Remove Remove All

OK Cancel Help

Click the blue triangle to collapse (▼) or expand (◆) the **Search Options** pane or the **Items Selected** pane.

Double-click the blue diamond (◆) to fully expand either the **Search Options** area or the **Items Selected** area and hide whichever of these areas is not fully expanded.

The **Search Options** area enables you to apply search terms to build-option codes or other values to limit the number of values that are listed for selection. To customize the fields

that appear in the **Search Options** area, click **Edit search attributes**. For information, see “[Edit Search Attributes](#)” on page 191.

To specify search options settings:

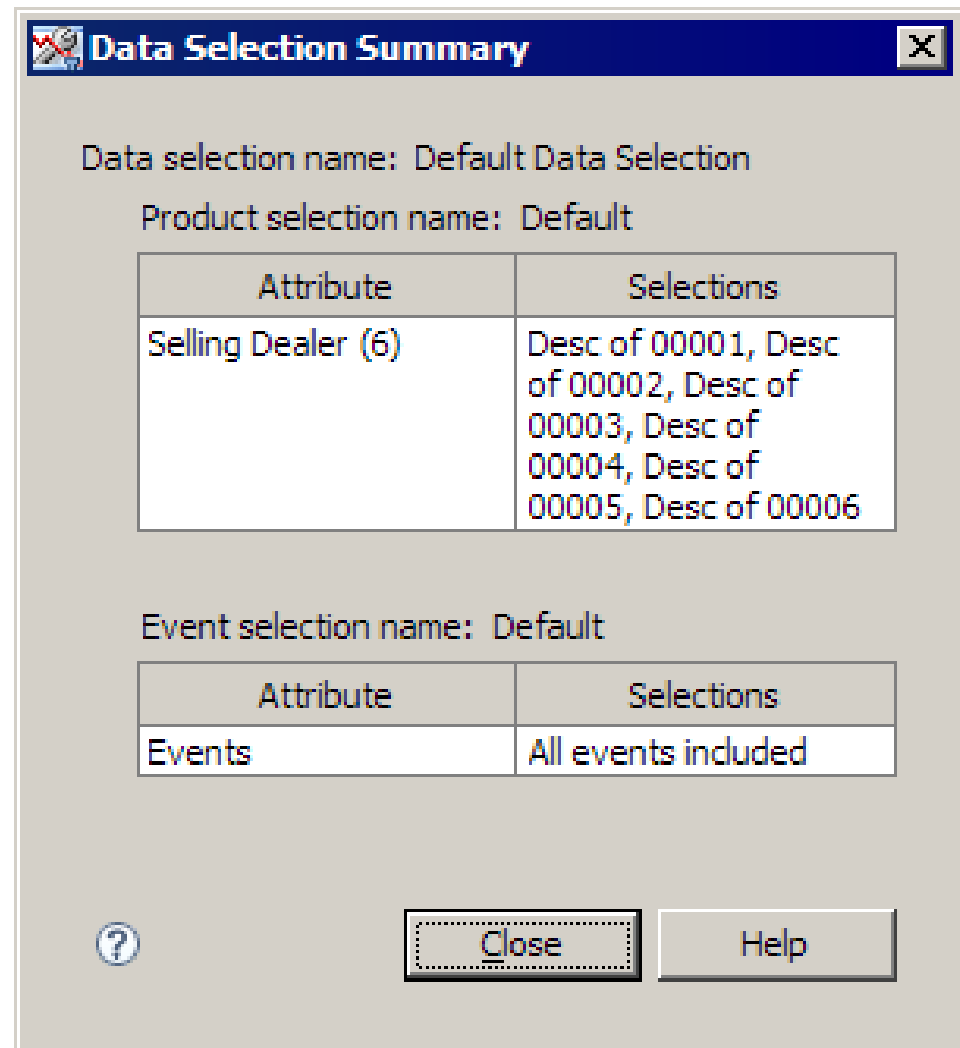
1. In the **Search Options** area, select the type of search from the first drop-down list:
2. Type search terms in the field to the right of the list.
3. To apply the search criteria, click **Apply**. Or to clear the search terms that you typed, click **Clear**.

To select build option values, select the check box beside a value to move the value to the **Items Selected** area.

In the **Items Selected** area, you can customize the list by sorting the list, removing an item from the list, or by removing all items from the list.

View Data Selection Summary

You can view the data selection summary when you specify information about a product selection or an event selection.



The dialog box titled "Data Selection Summary" displays information for two types of selections: Product and Event. It includes labels for the selection names and two tables showing attributes and their corresponding selections.

Data selection name: Default Data Selection

Product selection name: Default

Attribute	Selections
Selling Dealer (6)	Desc of 00001, Desc of 00002, Desc of 00003, Desc of 00004, Desc of 00005, Desc of 00006

Event selection name: Default

Attribute	Selections
Events	All events included

At the bottom of the dialog box, there is a question mark icon, a "Close" button, and a "Help" button.

See Also

- “Create a Product Selection” on page 102
- “Create an Event Selection” on page 105
- “The Disk Usage Utility” on page 20

Create an Event Selection

To create an event selection:

1. In the **Data Selection Viewer** pane menu, select **New** ⇒ **Event Selection**.

The New Event Selection dialog box appears.

New Event Selection

Event selection name:

Description:

Data source:

Data type:

Add attributes to use for selecting events, then specify the value for each attribute.

Selected attributes:

- Events

Selections:

All events included

[View Selection Summary...](#)

? OK Cancel Help

2. In the **Event selection name** field, type a name for the new event selection.
3. (Optional) In the **Description** field, type a detailed description of the event selection.
4. In the **Data source** field, select a data source for the event selection from the list. (If only one data source is available, then the list is unavailable.)
5. In the **Data type** field, select a data type for the event selection from the list. (If only one data type is available, then the list is unavailable.)

6. To add attributes to the event selection:

- a. Click .

The Select Attributes dialog box appears.

- b. Complete the steps to select attributes.

For more information, see [“Select Attributes” on page 187](#).

- c. In the **Selected attributes** pane of the New Event Selection dialog box, select an event attribute and use the controls in the **Selections** pane to define the attribute. (Various types of controls appear for different attributes.

For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.)

7. (Optional) View the selection summary.

For more information, see [“View Data Selection Summary” on page 104](#).

8. Click **OK**.

9. In the Data Selections workspace, select **Product and Event Selections** from the **View** list.

The new event selection is displayed in the **Data Selection Viewer** pane.

Create a Simple Data Selection

To create a simple data selection:

1. In the **Data Selection Viewer** pane menu, select **New** ⇒ **Simple Data Selection**.

The New Simple Data Selection dialog box appears.

Simple data selection name:

Description:

Data Source:

Select one product selection and one event selection.

Products Events

Find: ☒ Contains ☐ Starts With

Selection Name	Description	Data Source Group	Selection Type
<input type="checkbox"/> Product Data		Data Source Group 1	Product Selection

Product selection name: <none>

OK Cancel Help

2. In the **Simple data selection name** field, type a name for the new simple data selection.
3. (Optional) In the **Description** field, type a detailed description of the simple data selection.
4. In the **Data source** field, select a data source for the event selection from the list.
All of the product and event selections for the selected data source are displayed. (If only one data source is available, then the list is unavailable.)
5. On the **Products** tab, select one product selection to be a component of the new simple data selection.
6. On the **Events** tab, select one event selection to be a component of the new simple data selection.
7. Click **OK**.
8. In the Data Selections workspace, select **Simple Data Selection** from the **View** list.
The new simple data selection is displayed in the **Data Selection Viewer** pane.

Create a Combined Data Selection

1. In the **Data Selection Viewer** pane menu, select **New** ⇒ **Combined Data Selection**.
The New Combined Data Selection dialog box appears.

New Combined Data Selection

Combined data selection name:

Description:

Select at least two data selections to combine.

Find: ☒ Contains ☐ Starts With

Selection Name	Description	Data Source Group	Selection Type

2. In the **Combined data selection name** field, type a name for the new combined data selection.
3. (Optional) In the **Description** field, type a detailed description of the combined data selection.
4. (Optional) Find the data selection.
For more information, see [“Find Items” on page 192](#).
5. Select the check boxes of the data selections to combine.
6. Click **OK**.
7. In the Data Selections workspace, select **Combined Data Selection** from the **View** list.
The new combined data selection is displayed in the **Data Selection Viewer** pane.

Edit a Product Selection

Begin Editing

To edit a product selection:

1. In the **Data Selection Viewer** pane, select **Product and Event Selections** in the **View** list.
2. Select a product selection.
3. From the **Data Selection Viewer** pane menu, select **Edit**.

The Edit Product Selection dialog box appears.

Edit Product Selection

Product selection name: Simple Data Selection - products

Description:

Data source: UTF-8 Mart

Data type: Products

Add attributes to use for selecting products, then specify the value for each attribute.

[Select build options...](#)

Selected attributes:

- Products

Selections:

All products included

[View data selection summary...](#)

OK Cancel Help

4. (Optional) Type a description of the product selection.
5. (Optional) Select the build options and view the data selection summary. For more information, see [“Select Build Options” on page 103](#) and [“View Data Selection Summary” on page 104](#).

Add Attributes to the Product selection

To add attributes to the product selection:

1. Click

The Select Attributes dialog box appears.

2. Complete the steps to select attributes.

For more information, see [“Select Attributes” on page 187](#).

3. In the **Selected attributes** list, select an event attribute and use the controls in the **Selections** pane to define the attribute. (Various types of controls appear for different attributes.

For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.)

Import Values for an Attribute that Supports Importing Values

To import values for an attribute that supports importing values:


1. In the **Selected attributes** list, select an attribute.
2. In the **Selections** pane, click **Import**.

The Open dialog box appears.

3. Navigate to the comma-separated values file created previously, and open it.

Remove Attributes from the Product Selection

To remove attributes from the product selection:

1. In the **Selected attributes** list, select the attributes.
2. Click .

Either the attribute is removed immediately, or the Select Attributes dialog box appears so that you can remove the attribute. For more information, see [“Select Attributes” on page 187](#).

Change the Definitions of the Product Selection’s Attributes

To change the definitions of the product selection’s attributes, in the **Selected Attributes** pane, select a product attribute. Use the controls in the **Selections** pane to change the attribute’s definition.

See Also

- [“Select Build Options” on page 103](#)
- [“View Data Selection Summary” on page 104](#)

Edit an Event Selection

Begin Editing

To edit an event selection:

1. In the **Data Selection Viewer** pane, select **Product and Event Selections** in the **View** list.
2. Select an event selection.
3. From the **Data Selection Viewer** pane menu, select **Edit**.

The Edit Event Selection dialog box appears.

Edit Event Selection

Description:

Data source: UTF-8 Mart

Data type: Claims

Add attributes to use for selecting events, then specify the value for each attribute.

Selected attributes:

- Events

Selections:

All events included

[View Selection Summary...](#)

OK Cancel Help


4. (Optional) Type a description of the event selection.

5. (Optional) View the data selection summary. For more information, see [“View Data Selection Summary” on page 104](#).

Add Attributes to the Event Selection

To add attributes to the event selection:

- 1.

Click .

The Select Attributes dialog box appears.

2. Complete the steps to select attributes.

For more information, see [“Select Attributes” on page 187](#).

3. In the **Selected attributes** pane of the Edit Event Selection dialog box, select an event attribute and use the controls in the **Selections** pane to define the attribute. (Various types of controls appear for different attributes.

For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.)

Remove Attributes from the Event Selection

To remove attributes from the event selection:

1. In the **Selected Attributes** pane, select the attributes.

2. Click .

Either the attribute is removed immediately, or the Select Attributes dialog box appears so that you can remove the attribute. For more information, see [“Select Attributes” on page 187](#).

Change the Definitions of the Event Selection’s Attributes

To change the definitions of the event selection’s attributes, in the **Selected Attributes** pane, select an event attribute. Use the controls in the **Selections** pane to change the attribute’s definition.

See Also

- [“Select Build Options” on page 103](#)
- [“View Data Selection Summary” on page 104](#)

Edit a Simple Data Selection

To edit a simple data selection:

1. In the **Data Selection Viewer** pane, select **Simple Data Selection** from the **View** drop-down list.
2. Select a simple data selection.
3. From the **Data Selection Viewer** pane menu, select **Edit**.

The Edit Simple Data Selection dialog box appears.

Simple data selection name: Simple DS

Description:

Data Source: UTF-8 Mart

Select one product selection and one event selection.

Products Events

Find: Contains Starts With

Selection Name	Description	Data Source Group	Selection Ty
<input checked="" type="checkbox"/> Default		Data Source Group 1	Product Sele
<input type="checkbox"/> Product Data		Data Source Group 1	Product Sele

Product selection name: <none>

? OK Cancel Help

4. Type any desired changes in the **Simple data selection name**, **Description**, and **Data Source** fields.
5. Click the **Products** tab to select a different product selection to be a component of the simple data selection.
6. Click the **Events** tab to select a different event selection to be the other component of the simple data selection.

Edit a Combined Data Selection

To edit a combined data selection:

1. In the **Data Selection Viewer** pane, select **Combined Data Selection** from the **View** drop-down list.
2. Select a data selection.
3. From the **Data Selection Viewer** pane menu, select **Edit**.

The Combined Data Selection dialog box appears.

Combined data selection name:

Description:

Select at least two data selections to combine.

Find: ☒ Contains ☐ Starts With

Selection Name	Description	Data Source Group	Selection Type
<input checked="" type="checkbox"/> Simple DS 2		Data Source Group 1	Simple Data Selection
<input checked="" type="checkbox"/> Simple DS		Data Source Group 1	Simple Data Selection

Tree View:

- Simple DS 2
 - ... Default
 - ... Repair Date
- Simple DS
 - ... Default
 - ... Repair Date

? OK Cancel Help

4. Type any desired changes in the **Combined data Selection name** and **Description** fields.
5. Select or clear items in the list of data selections to change the data selections to combine.

Export a Table to a Spreadsheet

To export a table to a spreadsheet, from the **Data Selection Viewer** pane menu, select **Export to Spreadsheet**.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

Customize Columns

To customize the table columns, in the **Data Selection Viewer** pane menu, select **Customize Columns**.

The Customize Columns dialog box appears. For more information, see [“Customize Table Columns” on page 86](#).

Copy a Data Selection

To copy a data selection:

1. From the **View** drop-down list, select the type of data selection.
2. In the **Data Selection Viewer** pane, select a data selection.
3. From the **Data Selection Viewer** pane menu, select **Copy**.

Copy of is prefixed to the name of the duplicate data selection. The copy is available for selection in the **Data Selection Viewer** pane.

Delete a Data Selection

Data selections can be deleted only if they are not currently being used in a project.

To delete a data selection:

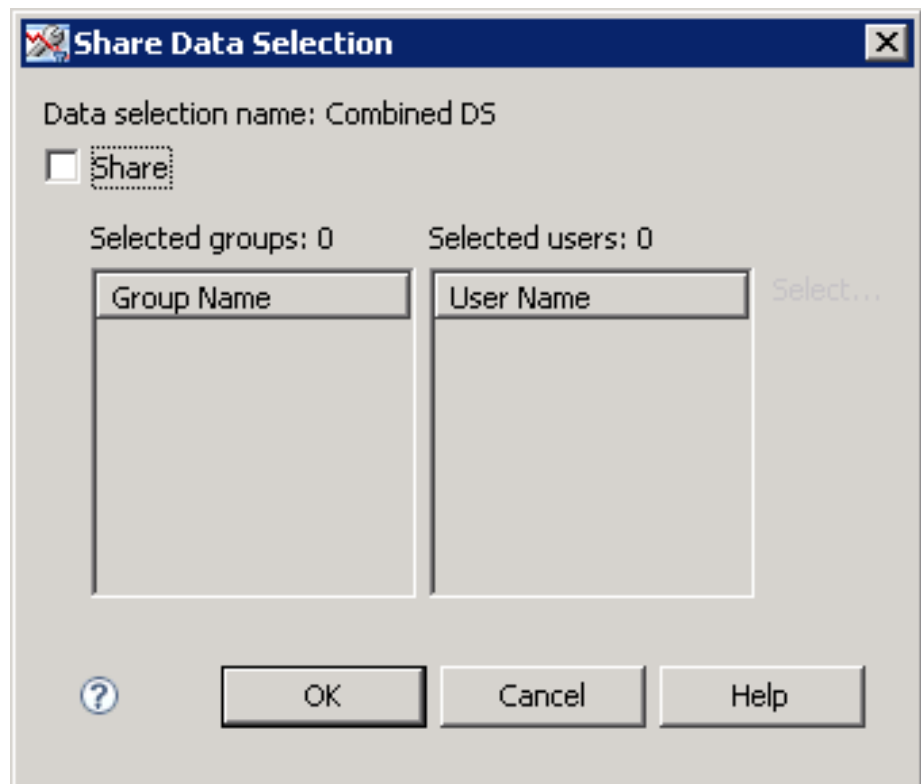
1. From the **View** drop-down list, select the type of data selection.
2. In the **Data Selection Viewer** pane, select a data selection.
3. From the **Data Selection Viewer** pane menu, select **Delete**.

Share a Data Selection

To share a data selection:

1. From the **View** drop-down list, select the type of data selection.
2. In the **Data Selection Viewer** pane, select a data selection.
3. From the **Data Selection Viewer** pane menu, select **Share**.

The Share Data Selection dialog box appears.



4. Select the **Share** check box.
5. Click **Select**.

For more information, see [“Select Users and User Groups” on page 189](#).

See Also

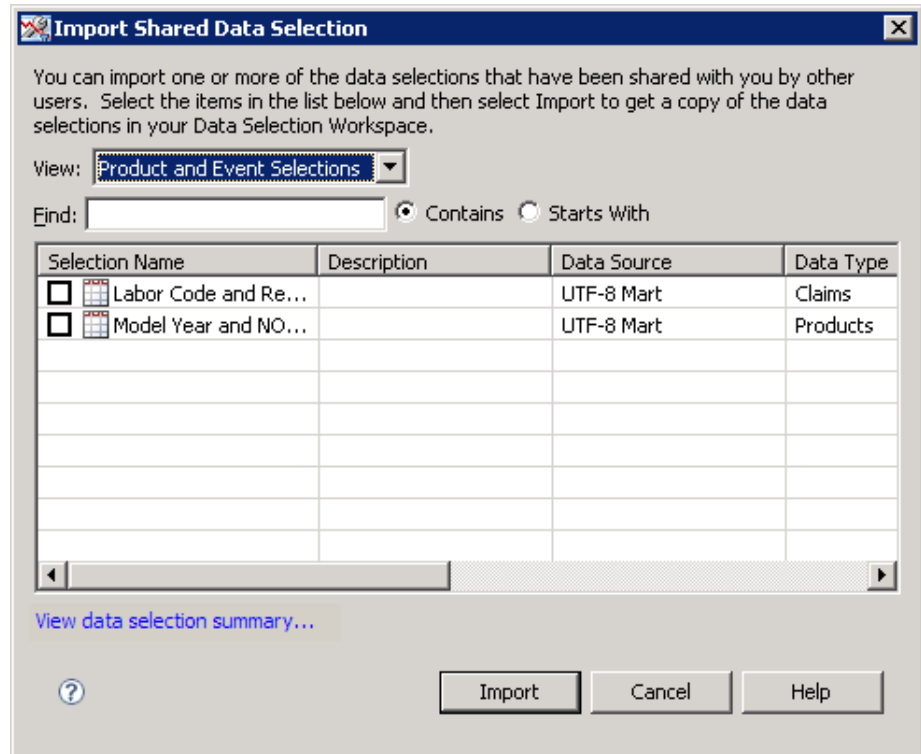
[“Import a Shared Data Selection” on page 116](#)

Import a Shared Data Selection

To import a data selection that someone else has shared with you:

1. From the **Data Selection Viewer** pane menu, select **Import**.

The Import Shared Data Selection dialog box appears.



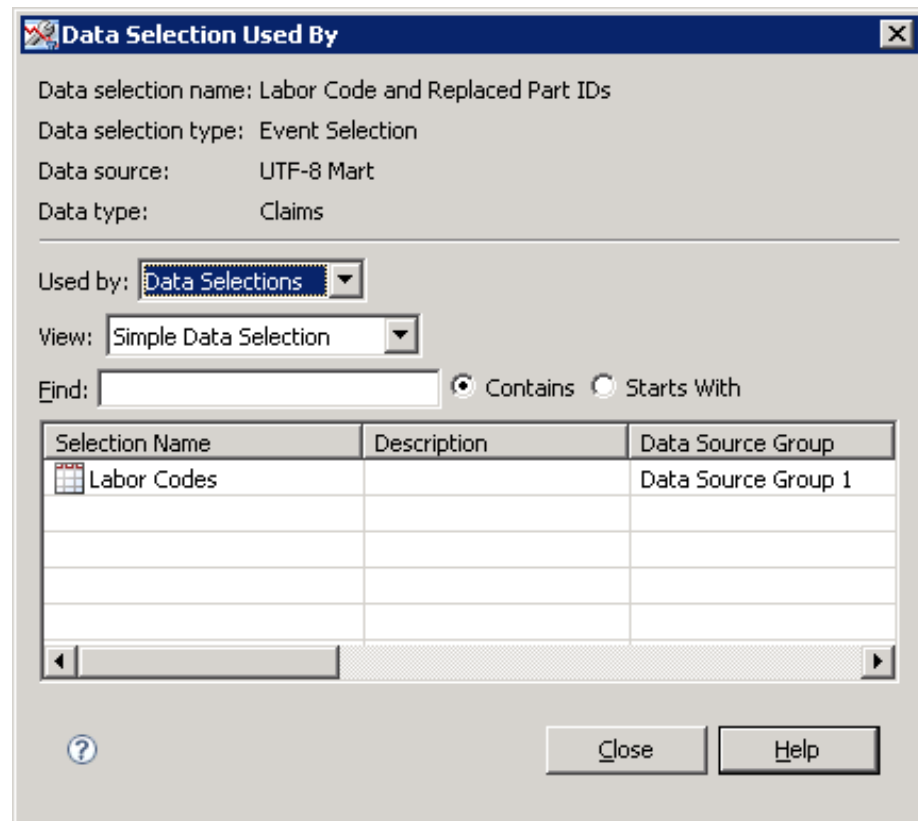
2. From the **View** list, select a type of data selection.
3. (Optional) Find the data selection.
For more information, see [“Find Items” on page 192](#).
4. Select data selections.
5. (Optional) View the summary.
For more information, see [“View Data Selection Summary” on page 104](#).
6. Click **Import** to import the selected data selections.

See Also

[“Share a Data Selection” on page 116](#)

Verify How a Data Selection Is Being Used


Links in the **Data Selection Viewer** pane indicate whether a selected data selection has been used in projects, reports, or other data selections. Click a link to open the Data Selection Used By dialog box.




Data Selection Used By

Data selection name: Labor Code and Replaced Part IDs
 Data selection type: Event Selection
 Data source: UTF-8 Mart
 Data type: Claims

Used by: **Data Selections** ▼
 View: Simple Data Selection ▼
 Find: ☒ Contains ☐ Starts With

Selection Name	Description	Data Source Group
 Labor Codes		Data Source Group 1

◀ ▶



The Data Selection Used By dialog box displays a table with details about each project, report, or data selection that uses the selected data selection.

In the **Used by** drop-down list, select **Projects**, **Reports**, or **Data Selections** to view related details.

If you select **Data Selections** in the **Used by** field, then select **Simple Data Selection** or **Combined Data Selection** from the **View** list.

(Optional) Find the project, report, or data selection.

For more information, see [“Find Items” on page 192](#).

Part 5

Reports

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Chapter 11

Overview of the Reports Workspace

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The Reports Workspace


The Reports Workspace is the part of the application where you can access and work with reports that are based on analyses that you have previously run and saved as reports. You can keep the reports for archival purposes, and you can make them available to other users. You must go to the Projects workspace to actually save an analysis as a report.

The Reports workspace enables you to perform the following actions:

- view and search personal and published reports
- delete personal reports
- publish personal reports
- add and edit report categories
- drill into a report's data or subset of data with other analyses
- see when a report has become outdated, either because the data selection definition has been changed in the Data Selections workspace, or because the data warehouse has been refreshed
- manually update a report (retrieve any changes to the data selection definition and new warehouse data)
- set a report to automatically update so that it gets run in batch after an extract, transform, and load process runs (for administrators only)
- export a report as a PDF file
- export most report tables to a spreadsheet (Excel) or comma-separated values (CSV) file
- zoom into and dynamically filter graphs

- copy graphs to paste into Microsoft PowerPoint or other applications

To access the Reports workspace, use any of the following methods:

- Select **Workspaces** ⇌ **Reports** on the main menu.
- Click  on the main toolbar.



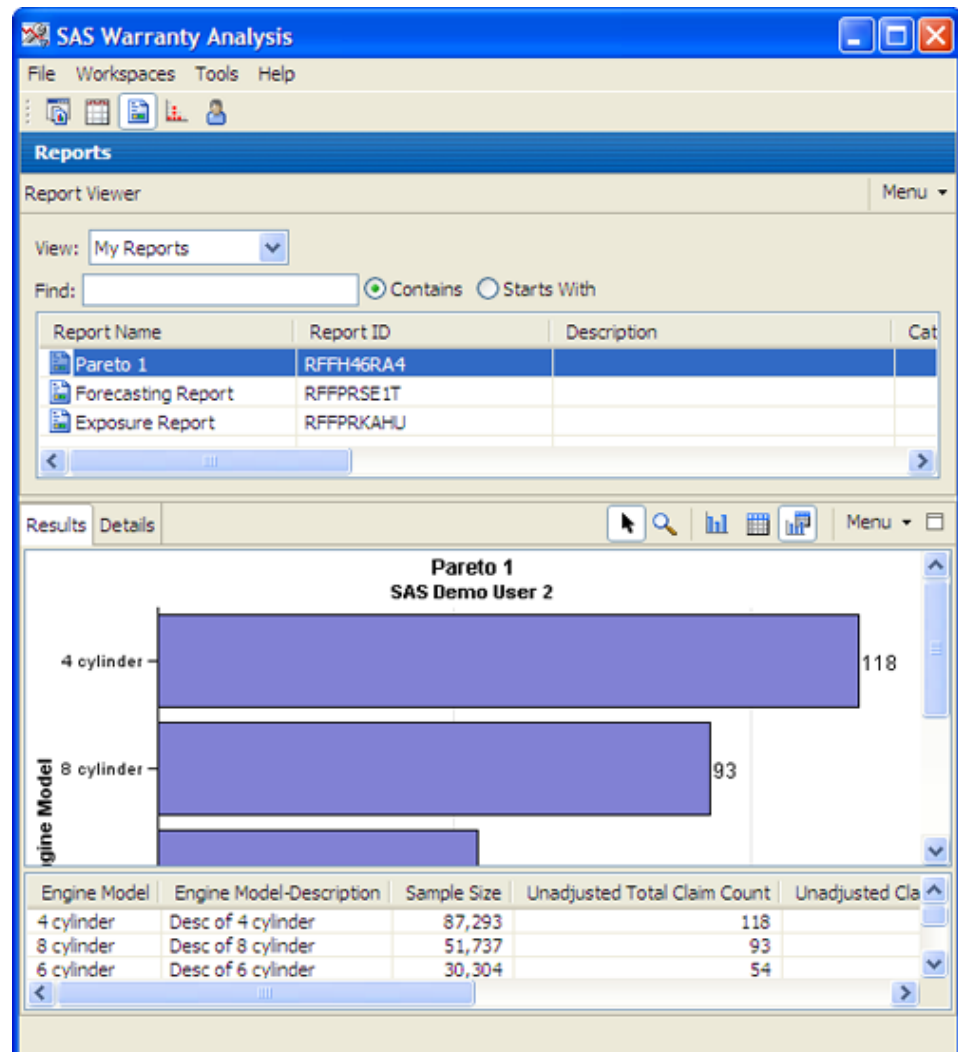
Click **Reports** in the Workspaces pane.

The Reports Workspace Content Display Area

The Report Viewer

The **Report Viewer** pane of the Reports workspace provides several methods of locating and working with reports.

Figure 11.1 Report Viewer



Use the **View** list to specify whether to view published reports or only your own reports.

You can scroll through the list of reports that is displayed in the **Report Viewer** pane to find the report that you want to view, or you can use the **Find** box.

The **Find** box enables you to type a few letters and then search for all reports with names that contain the specified sequence of letters or for all reports with names that begin with the specified sequence of letters.

You can right-click inside the list of reports to display a pop-up menu. This menu enables you to sort any column in the table by ascending or descending order. You can also select **Customize Columns** to open the Customize Columns dialog box, where you can specify the columns of descriptive information that you want to display for each report in the list. For more information, see [“Customize Table Columns” on page 86](#).

The Report Viewer Find Function

By default, the **Report Viewer** pane lists all the reports that you have saved. Use the **Find** field to dynamically filter the reports that are listed. For example, if the report that you want to view is named First Quarter Claims, then you can type **First Quarter Claims** to list only that report, or you can type part of the title as described in step 3.

To find an existing report:

1. In the **View** list, select **My Reports** to list reports that you have saved for your own use, or select **Published Reports** to list reports that any user has saved as published reports.
2. To reduce the number of reports that are listed, type a term in the **Find** field. (Search is not case-sensitive.)
3. Select **Contains** to filter by a term that is part of the report's name. Select **Starts With** to filter by one or more letters that the report's name begins with. As you type the text, the list of reports is dynamically filtered, and the only reports that are listed are those with matching text in the **Name** field.
4. Select a report's name to display the report in the Reports workspace.

The Reports Workspace Results Tab

When you select a report in the **Report Viewer** pane, relevant content tabs are displayed in the Reports content area. By default, the **Results** tab is displayed initially. The **Results** tab contains the graphics and related tables for the selected report.

The Reports Workspace Details Tab

The **Details** tab displays data selection and analysis details for the selected report.

The Reports Workspace Messages Tab

The **Messages** tab displays any messages related to the selected report.

The Reports Workspace Explore Results Pane

The appearance of the **Explore Results** pane is based on the type of analysis that was saved to create the selected report.

When you select a report, the **Explore Results** pane, if it is available, enables you to manipulate the report's results. The controls on the **Explore Results** pane provide an easy way to alter the results quickly. For more information, see [“Range Values” on page 88](#) and [“Check Boxes” on page 90](#).

Chapter 12

Managing Reports

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About Reports

After you select and submit an analysis in the Projects workspace, you can then save the analysis output as a report. This enables you not only to delete, update, or export the report to PDF, but also to edit the properties of the report. You can even drill into the report—that is, perform additional analyses of the subset data that the report is based on.

Create a Report

Overview

To create a report:

1. In the Projects workspace, save an analysis as a report.

For more information, see [“Save an Analysis as a Report” on page 91](#).

The New Report dialog box appears.

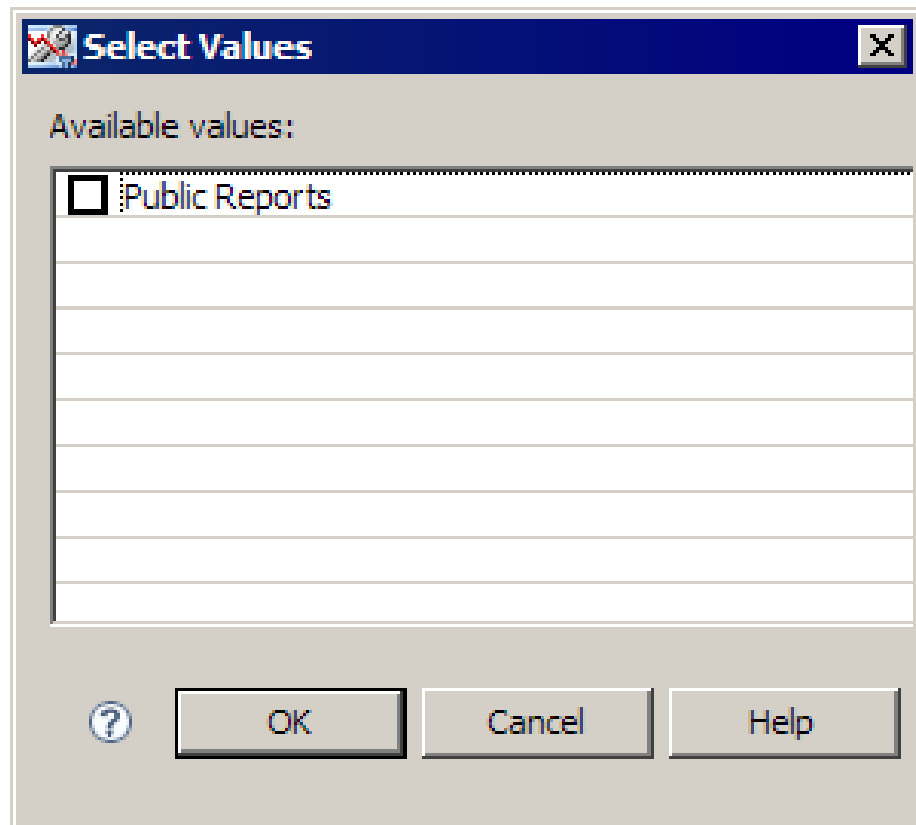
2. To change the report name:
 - a. Click **Edit** adjacent to the **Name** field.
The Choose Report Name dialog box appears.
 - b. Complete the steps to name the report.
For more information, see [“Name a Report” on page 130](#).
3. (Optional) Type a description for the report.
4. (Optional) Click **Select** adjacent to the **Categories** list.
For more information, see [“Select Values” on page 127](#).
5. (Optional) To update the report whenever the database is refreshed:
 - a. Select the **Auto update** check box.
 - b. Choose to replace the existing report or create a new report and keep the existing report when an update occurs.
6. (Optional) To publish the report to selected users and user groups:
 - a. Select the **Publish report** check box.

- b. To select the recipients, click **Select**.

For more information, see [“Select Users and User Groups” on page 189](#).

Select Values

You select a report category for an analysis when you create a new report. For more information, see [“Create a Report” on page 125](#).



Select the check box next to the category that you want to use.

Edit the Properties of a Report

To edit a report:

1. In the **Report Viewer** pane, select a report.
2. In the **Report Viewer** pane menu, select **Edit Report**.
The Edit Report dialog box appears.
3. Accept the default name, or click **Edit** to change the name.
The Choose Report Name dialog box appears. For more information, see [“Name a Report” on page 130](#).
4. (Optional) Type a description for the report.
5. (Optional) Click **Select** adjacent to the **Categories** list.
For more information, see [“Select Values ” on page 127](#).

6. (Optional) To update the report whenever the database is refreshed:
 - a. Select the **Auto update** check box.
 - b. Choose to replace the existing report or create a new report and keep the existing report when an update occurs.
7. (Optional) To publish the report to selected users and user groups:
 - a. Select the **Publish report** check box.
 - b. To select the recipients, click **Select**.


For more information, see [“Select Users and User Groups” on page 189](#).

Delete a Report

To delete a report:

1. In the **Report Viewer** pane, select a report.
2. In the **Report Viewer** pane menu, select **Delete Report**.

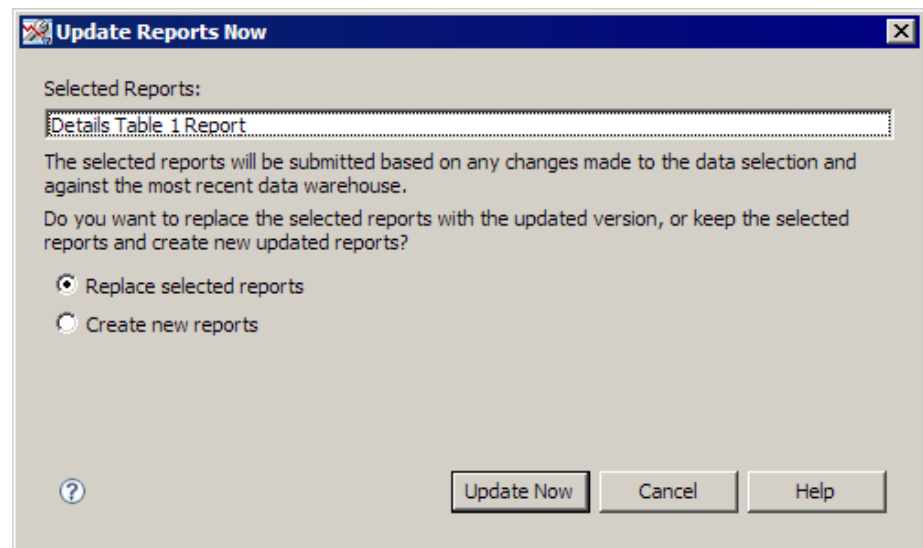
Update a Report

If a report is associated with an outdated data selection, then the report is marked as outdated (). You can update the report by rerunning the original analysis against the updated data.

To update a report:

1. In the Report Viewer, select a report.
2. In the **Report Viewer** pane menu, select **Update Report**.

The Update Reports Now dialog box appears.



3. Choose whether to replace the selected report with the updated version or create a new, updated report and keep the old report.

Analyze a Report in a Project

To further analyze a report:

1. In the Report Viewer, select a report.
2. In the **Report Viewer** pane menu, select **Analyze in Project**.

The Open Project dialog box appears.

3. Complete the steps to open a project.

For more information, see [“Open a Project” on page 38](#).

The data node shows the attributes of the data selection definition that the report was based on. The subset of data associated with the data selection is present in the system. In the project tree, under the node, an analysis node is created, and the analysis results are displayed, along with the details and messages that the original report has. You can now use the same data selection subset to perform additional analyses. You can also drill down on a point on the graph, or even update the data selection (which submits the analysis again).

Export a Report to PDF

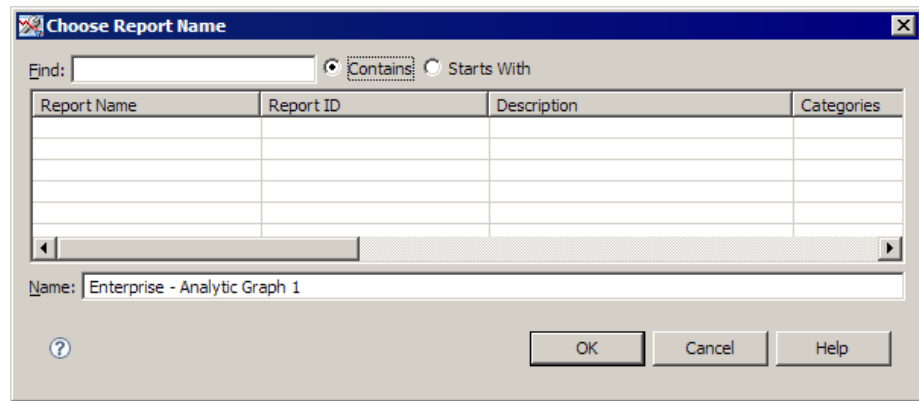
Overview

To export a report to a PDF file, select a report, and select **Export to PDF** from the **Report Viewer** pane menu.

The Export to PDF dialog box appears. For more information, see [“Export Information to a PDF File” on page 190](#).

Name a Report

You name a report when you create or edit a report. For more information, see [“Overview” on page 125](#) and [“Edit the Properties of a Report” on page 128](#).



The "Choose Report Name" dialog box features a search interface at the top with a text input field labeled "Find:" and two radio buttons: "Contains" (selected) and "Starts With". Below this is a table with four columns: "Report Name", "Report ID", "Description", and "Categories". The table is currently empty. A horizontal scrollbar is positioned below the table. At the bottom of the dialog, there is a text input field labeled "Name:" containing the text "Enterprise - Analytic Graph 1". To the left of the "Name:" field is a help icon (a question mark inside a circle). To the right are three buttons: "OK", "Cancel", and "Help".

Report Name	Report ID	Description	Categories

Name: Enterprise - Analytic Graph 1

OK Cancel Help

To name a report:

1. (Optional) Find a report.
For more information, see [“Find Items” on page 192.](#)
2. Type the name of the report.

Part 6

Emerging Issues

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Chapter 13

Overview of the Emerging Issues Workspace

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About Emerging Issues

SAS Warranty Analysis emerging issues processes analyze your data to determine whether warranty issues are currently developing.

Emerging issues processes perform the following functions:

- The Projected Analytical process and the Analytical Watch List process detect statistically significant upward shifts in claims or other warranty event activity and flag these events for investigation.
- The Threshold Watch List process notifies you when claim counts or other metrics surpass specified thresholds.

These processes display alerts and related graphics for you to review in the Emerging Issues workspace.

The Emerging Issues Workspace

The alerts that result from projected, analytic, and threshold processes for emerging issues are organized in the Emerging Issues workspace. This workspace enables you to manage and explore the results of the emerging issues processes that run after the extraction, transfer, and loading of data.


Note: Only users with Administrator user permissions can set up an emerging issues analysis, and they can do so only from the Administration workspace.


You can use the Emerging Issues workspace for the following purposes:

- search and sort the alerts (multiple column sort is supported)
- view the alerts for projected, analytical, and threshold types

- sort the projected alerts by run group
- export an emerging issues alert as a PDF file
- export alert tables to a comma-separated values (CSV) format file
- zoom into graphs
- copy graphs to paste into other applications
- for emerging issues projected alerts, change status (for example, Unassigned, Assigned, In Progress, Completed, Closed) and type and track notes

To access the Emerging Issues workspace, use any of the following methods:

- Select **Workspaces** ⇒ **Emerging Issues** on the main menu.
- Click  on the main toolbar.

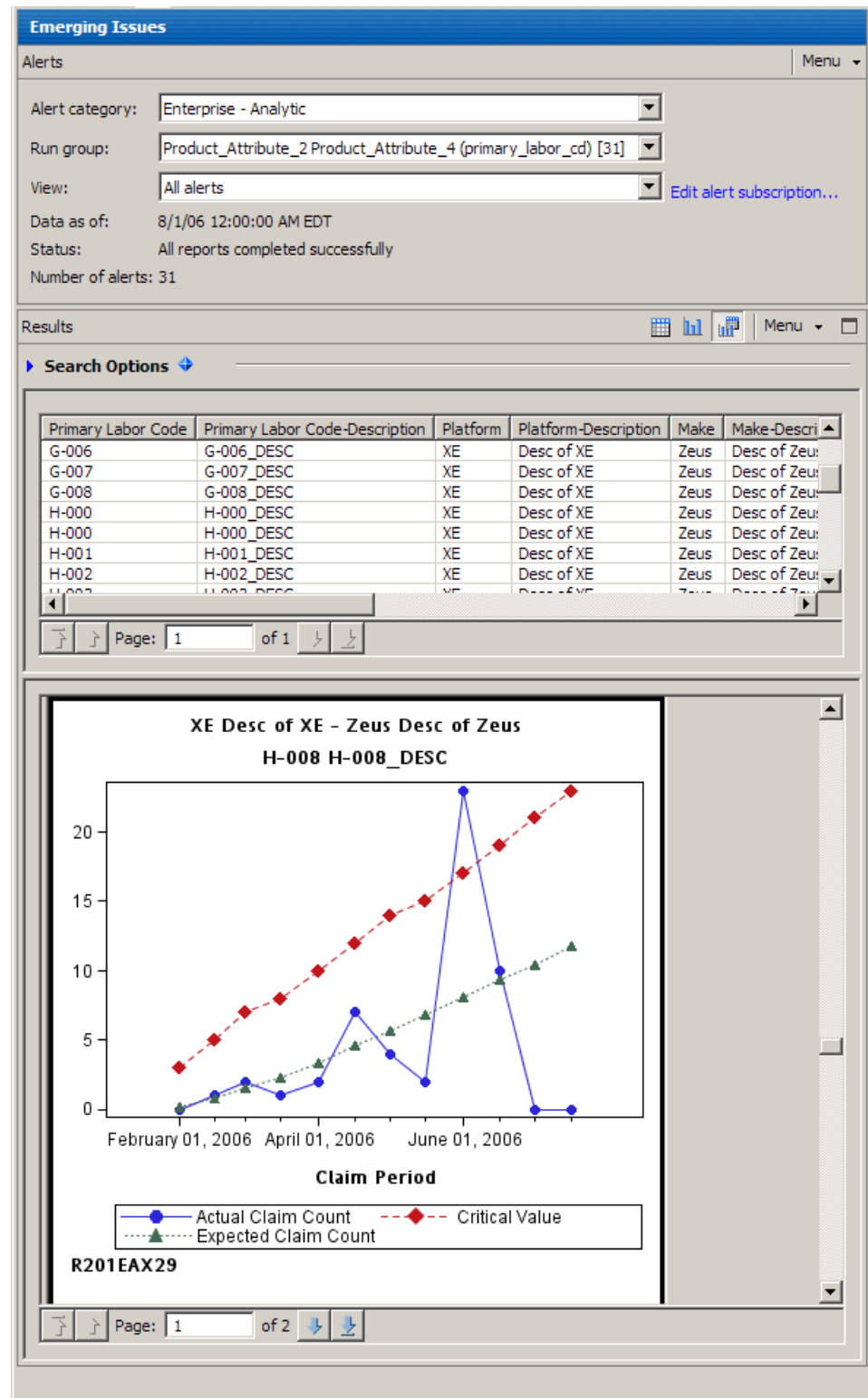
- 
Emerging
Issues
Click **Issues** in the **Workspaces** pane.

The Emerging Issues Content Display Areas

Overview

Note: To access the emerging issues content display areas, you must have Administrator user permissions.

The Emerging Issues content display area contains an **Alerts** pane, where you can select the type of alerts to investigate, and the **Results** pane, where you can view tables and graphics that display details of emerging issues alerts.



The Alerts Pane

Use the **Alerts** pane to control what is displayed in the **Results** pane.

The screenshot shows the 'Emerging Issues' workspace. The top pane is labeled 'Alerts' and contains the following controls:

- Alert category:** A dropdown menu set to 'Ad Hoc - Threshold'.
- View:** A dropdown menu set to 'All alerts' with a link 'Edit alert subscription...' next to it.
- Status:** A text label 'All alerts completed successfully'.
- Number of alerts:** A text label '2'.

The bottom pane is labeled 'Results' and contains a 'Search Options' section with a table of results. The table has five columns: 'Data as of', 'Analysis Name', 'Analysis Description', 'Reporting Variable', and 'Set Threshold'.

Data as of	Analysis Name	Analysis Description	Reporting Variable	Set Threshold
8/1/06	Ad Hoc - Threshold		Engine Model	1.000
8/1/06	Ad Hoc - Threshold		Engine Model	1.000

Below the table is a pagination control showing 'Page: 1 of 1'.

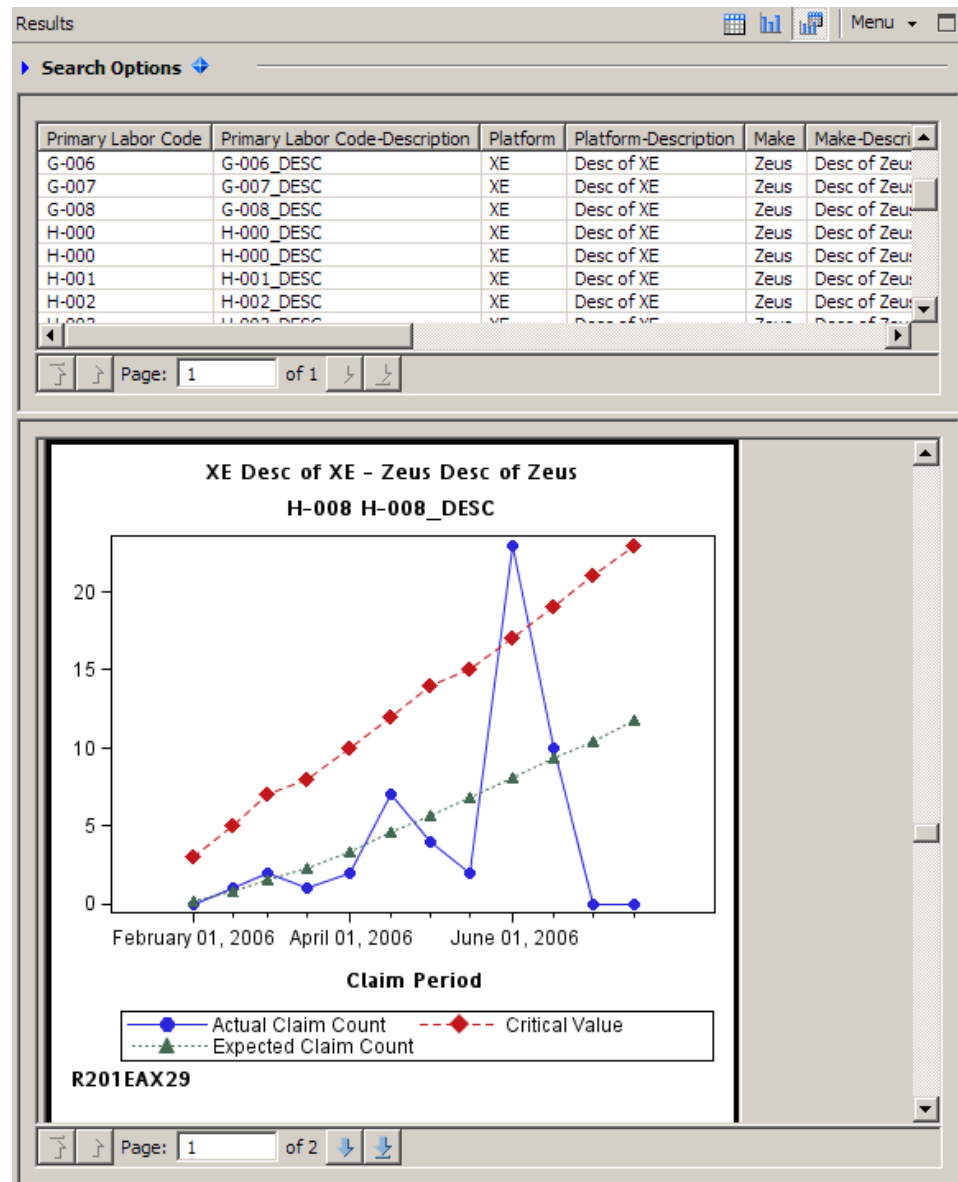
To specify which alerts to display in the **Results** pane:

1. Select a type of emerging issues from the **Alert category** drop-down list.
2. For Analytic and Projected alert categories, select a run group.
Text below the **View** drop-down list indicates when the data was most recently refreshed, the current status, and how many alerts were displayed when the process ran.
3. Select what to view from the **View** drop-down list.
4. (Optional) Click **Edit alert subscription**.
For more information, see [“Subscribe to an Emerging Issue Alert” on page 142](#).
5. Use the **Search Options** area of the **Results** pane to limit the number of alerts that are listed by specifying values to search for in alert table columns.

Click **Edit search attributes** to specify which alert table columns can be searched. For more information, see [“Edit Search Attributes” on page 191](#).

The Results Pane

All of the alerts that match the specifications that you typed in the **Alerts** pane are displayed in the **Results** pane.



You can use the Results toolbar to display a table that lists all the specified alerts, a set of graphs that illustrate the alerts, or both.

If you display both the table and the graphs, you can select an alert in the table to display its related graph.

Chapter 14

Managing Emerging Issues Alerts and Graphics

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View Emerging Issues Alerts

To specify the category of emerging issues alerts to view, select **View Enterprise — Analytic Alerts**, **View Enterprise — Projected Alerts**, **View Ad Hoc — Analytic Alerts**, or **View Ad Hoc — Threshold Alerts** from the **Alerts** pane menu.

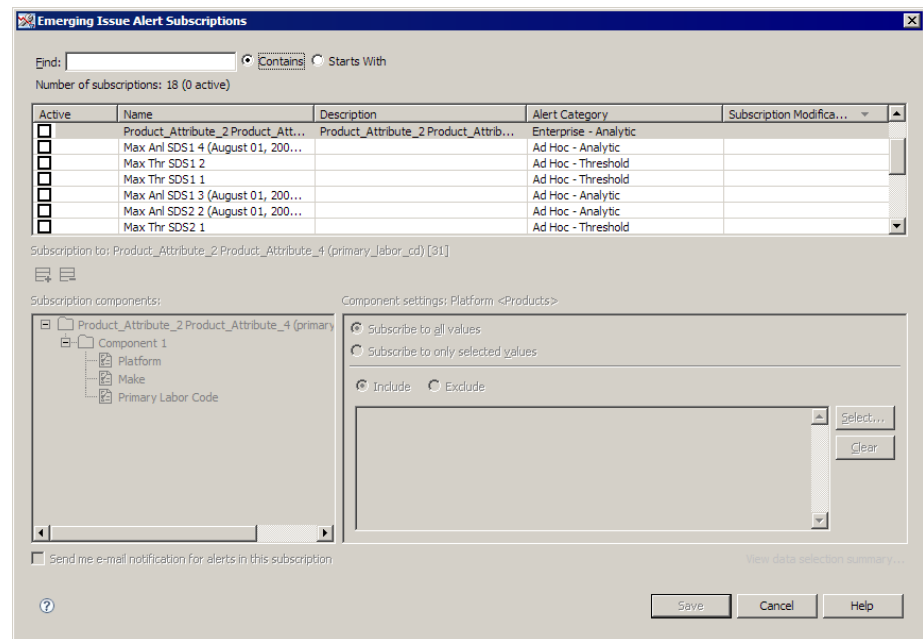
Note: **View Enterprise — Projected Alerts** is available only when your organization has configured SAS Warranty Analysis to support it.

Subscribe to an Emerging Issue Alert

To subscribe to an emerging issue alert:

1. In the **Alerts** pane, click **Edit alert subscription**, which is adjacent to the **View** drop-down list.

The Emerging Issue Alert Subscriptions dialog box appears.



2. (Optional) Search for a subscription.
3. In the list of subscriptions, select the check box in the **Active** column adjacent to a subscription.
Note: You can select more than one subscription.
4. To view the settings for a subscription, select the subscription row in the table.
The controls at the bottom of the dialog box are enabled.
Note: If you edit a subscription, an asterisk (*) appears in the **Active** column until you save the changes.
5. From the list of subscription components, select a component.
6. From the **Component settings** area, choose the values to which to subscribe.
7. To receive e-mail notification alerts, select the **Send me e-mail notification for alerts in this subscription** check box.
8. (Optional) View the data selection summary.

Subscribe Other Users to an Emerging Issue Alert

Note: You must be an administrator to subscribe other users to an emerging issue alert.

To subscribe other users to an emerging issue alert:

1. In the **Alerts** pane menu, select **Set alert subscription for other users**.

The Set Emerging Issues Alert Subscriptions for Others dialog box opens.

Set Emerging Issue Alert Subscriptions for Other Users

Users

Find: ☒ Contains ☐ Starts With

Number of users: 15 (0 selected) [Select All](#)

User	Active Subscriptions
<input type="checkbox"/> Alina Broth	No
<input type="checkbox"/> Ryan Hernandez	Yes
<input type="checkbox"/> Camie Santiago	No
<input type="checkbox"/> Christopher J Dela	No
<input type="checkbox"/> David Clarke	No
<input type="checkbox"/> Dave DeNiro	No
<input type="checkbox"/> Doug Reed	No
<input type="checkbox"/> Eric Wolfenbarger	No
<input type="checkbox"/> John L. Smith	No
<input type="checkbox"/> Max Fildes	No
<input type="checkbox"/> Ned Munson	No

Setting alert subscriptions for: <none> ☐ Deactivate all subscriptions

Find: ☒ Contains ☐ Starts With

Number of subscriptions: 18 (0 active)

Active	Name	Description	Alert Category
<input type="checkbox"/>	Max Thr SDS1 2		Ad Hoc - Threshold
<input type="checkbox"/>	Max Thr SDS2 1		Ad Hoc - Threshold
<input type="checkbox"/>	Max Thr SDS2 2		Ad Hoc - Threshold
<input type="checkbox"/>	Product_Attribute_2 Product_Attrib...	Product_Attribute_2 Product_Attrib...	Enterprise - Analytic
<input type="checkbox"/>	wei_test1		Ad Hoc - Threshold

Subscription to: Product_Attribute_2 Product_Attribute_4 (primary_labor_cd) [31]

Subscription components:

- Product_Attribute_2 Product_Attribute_4 (primary)
 - Component 1
 - Platform
 - Make
 - Primary Labor Code

Component settings: Platform <Products>

☒ Subscribe to all values
☐ Subscribe to only selected values

☒ Include ☐ Exclude

[Select...](#) [Clear](#)

☐ Send me e-mail notification for alerts in this subscription [View data selection summary...](#)

[?](#) [Save](#) [Cancel](#) [Help](#)

2. (Optional) Search for a user.
3. In the list of users, select the check box adjacent to a user.
Note: You can select more than one user.
4. (Optional) Search for a subscription.
5. In the list of subscriptions, select the check box in the **Active** column adjacent to a subscription.
Note: You can select more than one subscription.
6. To view the settings for a subscription, select the subscription row in the table.
The controls at the bottom of the dialog box are enabled.
7. From the list of subscription components, select a component.

Note: You can select more than one subscription.

6. To view the settings for a subscription, select the subscription row in the table.
The controls at the bottom of the dialog box are enabled.
 7. From the list of subscription components, select a component.
 8. From the **Component settings** area, choose the values to which to subscribe.
 9. To receive e-mail notification alerts, select the **Send me e-mail notification for alerts in this subscription** check box.
- (Optional) View the data selection summary.

Analyze an Emerging Issues Alert in a Project

To analyze an emerging issues alert in a project:

1. In the **Results** pane, select an alert.
2. From the **Results** pane menu, select **Analyze in Project**.

The Open Project dialog box appears. For more information, see [“Open a Project” on page 38](#).

3. Analyze the data.

For more information, see [“View Analysis Results” on page 81](#).

View a Baseline Chart

To view the baseline chart of an emerging issues alert:

1. In the **Results** pane, select an alert.
2. From the **Results** pane menu, select **View Baseline Chart**.

A new window appears that contains the baseline chart.

View a Detail Chart

To view the detail chart of an emerging issues alert:

1. In the **Results** pane, select a cell in a graph.
2. From the **Results** pane menu, select **View Detail Chart**.

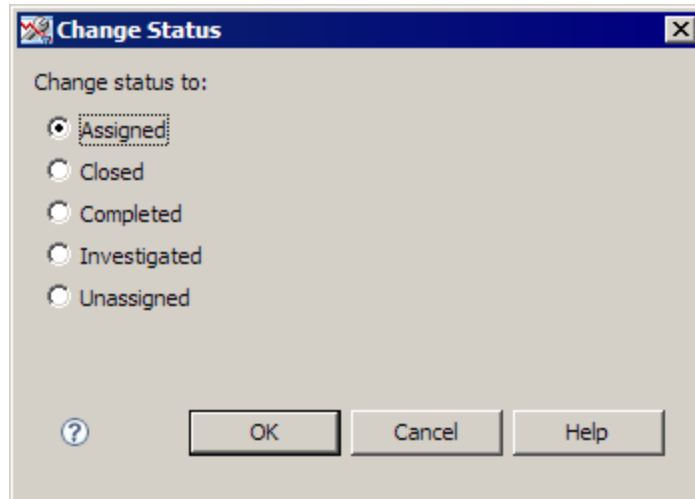
A new window appears that contains the detail chart.

Change the Status of an Emerging Issues Alert

To change the status of an emerging issues alert:

1. In the **Results** pane, select an alert.
2. From the **Results** pane menu, select **Change Status**.

The Change Status dialog box appears.



3. Select the new status for the alert.

View Notes

To view notes related to an emerging issues alert:

1. In the **Results** table, select an alert.
2. In the **Results** pane menu, select **View Notes**.

The Notes dialog box appears, showing summaries of any notes related to the emerging issues alert.

Notes

Emerging issue date: 8/1/06
 Emerging issue status: All reports completed successfully
 Current status: Investigated
 Number of notes: 1

Posted By	Posted Date	Note
Dylan Hruschka	8/5/09	Status Changed, From: Unassigned To: Invest

[Export table to spreadsheet...](#)

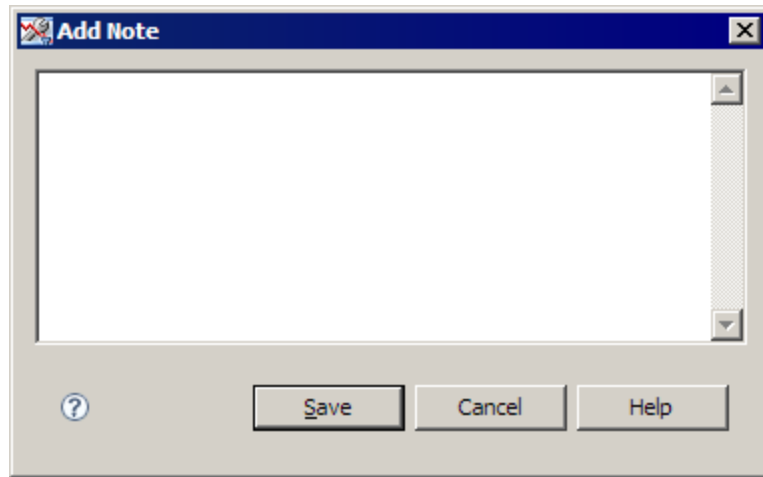
See Also

- “View an Emerging Issues Alert Note” on page 148
- “Add a Note to an Emerging Issues Alert” on page 147
- “Export Notes Related to Emerging Issues Alerts” on page 149

Add a Note to an Emerging Issues Alert

To add a note to an emerging issues alert:

1. View the notes.
 For more information, see “View Notes” on page 146.
2. Click .
 The Add Note dialog box appears.



3. Type the text of the note.

The note text can be up to 512 bytes.

For double-byte character sets, such as Chinese, Japanese, and Korean, the note text can be up to 256 characters.

See Also


- [“View an Emerging Issues Alert Note” on page 148](#)
- [“Export Notes Related to Emerging Issues Alerts” on page 149](#)

View an Emerging Issues Alert Note

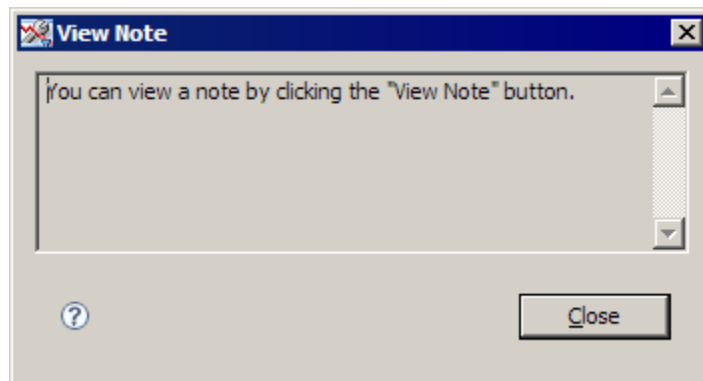
To view a note that is attached to an emerging issues alert:

1. View the notes.

For more information, see [“View Notes” on page 146](#).

2. Select a note, and then click .

The View Note dialog box appears.



See Also

- [“Add a Note to an Emerging Issues Alert” on page 147](#)
- [“Export Notes Related to Emerging Issues Alerts” on page 149](#)

Export Notes Related to Emerging Issues Alerts

To export notes related to an emerging issues alert:

1. View the notes.

For more information, see [“View Notes” on page 146](#).

2. Click **Export table to spreadsheet**.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

View Emerging Issues Graphs and Charts

To view a graph or chart for an emerging issues alert:

1. In the **Results** table, select an alert.

The related graphic is displayed below the table.

2. In the **Results** pane menu, you can select to view a baseline or detail chart (if available) in a separate window.

Export Alert Table to Spreadsheet

To export an alert table to a spreadsheet, in the **Results** pane menu, select **Export Alert Table to Spreadsheet**.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

Export Alert to PDF

To export an alert to a PDF file:

1. In the **Results** pane, select an alert.
2. In the **Results** pane menu, select **Export Alert to PDF**.

The Export to PDF dialog box appears. For more information, see [“Export Information to a PDF File” on page 190](#).

Customize Columns

To customize the table columns, in the **Results** pane menu, select **Customize Columns**.

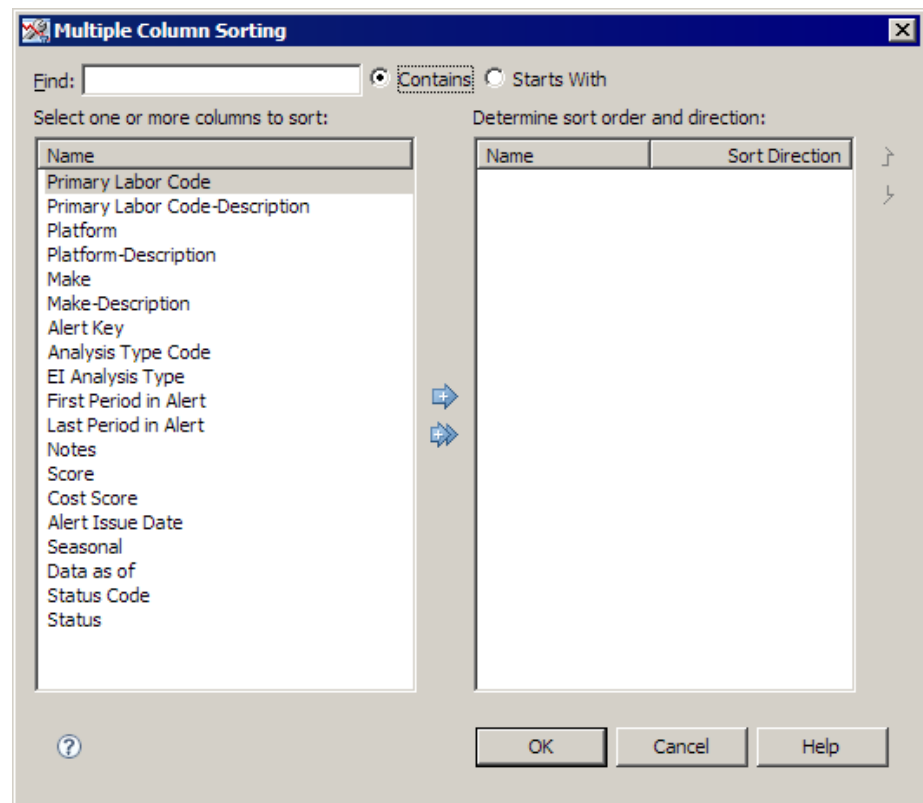
The Customize Columns dialog box appears. For more information, see “[Customize Table Columns](#)” on page 86.

Sort Multiple Columns

To sort a table by more than one column:

1. Right-click on the table and select **Sort**.

The Multiple Column Sorting dialog box appears.



2. Move items between the lists using the arrows that are between the lists.
3. To change the order of the columns that are sorted, select an item in the **Determine sort order and direction** list, and then click the arrows that are adjacent to the list.

Detach a Chart

To display a chart in a separate window:

1. In the **Results** pane, select an alert.
2. In the **Results** pane menu, select **Detach Chart**.

Select What to Display

You can limit what is displayed in the **Results** pane by selecting one of the following options from the **Results** pane menu:

- To hide graphs and view only tables in the **Results** pane, select **View Table Only**.
- To hide tables and view only graphs in the **Results** pane, select **View Graphs Only**.
- To view both table and graphs in the **Results** pane, select **View Table and Graphs**.

Copy an Image

To copy an image from the Emerging Issues workspace into an external document, use the steps described in [“Copy a Graphic to an External Document”](#) on page 93.

Part 7

Administration

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Chapter 15

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The Administration Workspace



Users with administrative rights have access to the Administration workspace.

The Administration workspace enables administrative users to modify the default settings. This enables administrators to adapt the application to changes in product lines and corporate best practices for analyzing warranty data.

If you have administrative rights, you can use the Administration workspace to accomplish the following tasks:

- edit the default settings for each analysis for each warranty type that is configured in the application.
- edit the product and event selection defaults for each data source and product or event type that is configured in the application. If configuration does not customize the defaults, the out-of-the box default is All Products and All Events.
- create and manage messages and URL links that users can see in the application and in the Web client.
- create and manage report categories, which users can assign to reports that they create and publish.
- view and access emerging issues analyses (if administrative access to emerging issues analyses has been assigned).

You can access the Administration workspace in any of the following ways:

- Select **Workspaces** ⇒ **Administration** from the main menu bar.
- Click  on the main toolbar.
- 

Click **Administration** in the **Workspaces** pane.

Chapter 16

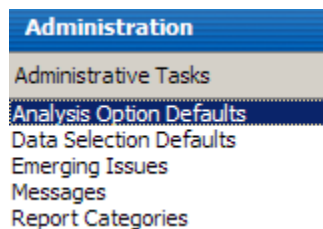
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Open Analysis Option Defaults Administration

Note: To administer analysis option defaults, you must have Administrator user permissions.

To change the analysis option defaults, select **Analysis Option Defaults** in the **Administrative Tasks** pane.



The **Analysis Option Defaults** pane opens.

Analysis Option Defaults Menu ▾

Select an analysis to view and edit its options for each warranty program type supported.

Analysis Name
Details Table
Exposure
Forecasting
Geographic
Multivariate Statistical Drivers
Pareto
Reliability
Statistical Drivers
Text Analysis
Time of Claim
Trend/Control
Trend By Exposure
Enterprise - Analytic
Enterprise - Projected
Ad Hoc - Analytic

Analysis options for Details Table:

Warranty program type: Time and usage based warranty ▾ [Edit Options...](#)

Analysis Option	Setting
<input type="checkbox"/> Variables	
Data type	Claims
Reporting variables	Replaced Part Amount, Replaced Part Number, Replace...
<input type="checkbox"/> Filtering Options	
Claims per unit to include	All
Maximum exposure	
Maturity level	
Include pre-delivery claims	Yes

Edit Analysis Options

Note: This feature is available only to users who have Administrator user permissions.

To edit the analysis option defaults:

1. Open the analysis option defaults administration.
For more information, see [“Open Analysis Option Defaults Administration”](#) on page 157.
2. In the **Analysis Option Defaults** pane, select an analysis.
3. On the **Analysis Option Defaults** pane menu, select **Edit Analysis Options**.
A confirmation message is displayed.
4. Click **Edit**.
The Edit Analysis Options dialog box appears.

Edit Analysis Options

Variables

Data type: Claims <Claims> Select...

Reporting variables: Replaced Part Amount <Replac> Select...
Replaced Part Number <Replac> Select...
Replaced Part Quantity <Replac> Select...

Filtering Options

Claims per unit to include: All

Maximum exposure: (none) Select...

Maturity level: (none) Select...

Include pre-delivery claims: Yes

? OK Cancel Help

5. Change the options.

Note: The available options depend on the analysis that you selected.

Chapter 17

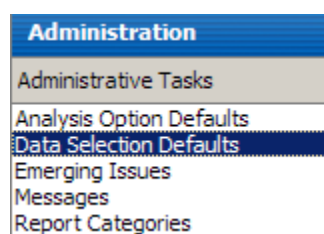
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Open Data Selection Defaults Administration

Note: To administer data selection defaults, you must have Administrator user permissions.

To change the defaults for product and event selections, select **Data Selection Defaults** in the **Administrative Tasks** pane.



The **Data Selection Defaults** pane opens.

Data Selection Defaults
Menu

Data source: UTF-8 Mart

Product selection defaults
Last Modified:
Product type: Products Edit...

Attribute	Selections
Products	All products included

Event selection defaults
Last Modified:
Event type: Claims Edit...

Attribute	Selections
Events	All events included

Edit the Product Selection Default Settings

Overview

Note: To edit product selection default settings, you must have Administrator user permissions.

You can add attributes to a product selection, remove attributes from a product selection, and change the definitions of a product selection's attributes.

To edit the default settings of a product selection:

1. Open the data selection defaults administration.

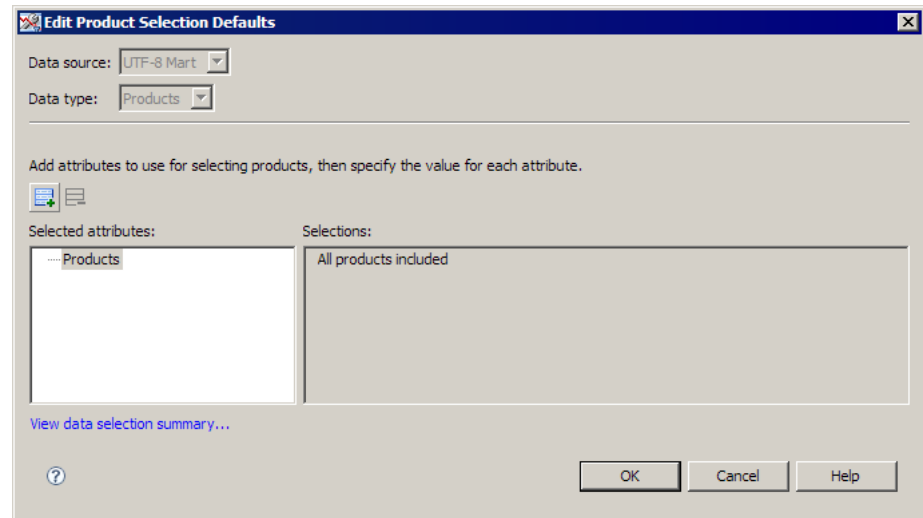
For more information, see “Open Data Selection Defaults Administration” on page 161.

2. In the **Product selection defaults** area of the **Data Selection Defaults** pane, select a product type, and click **Edit**.

A confirmation message is displayed.

3. Click **Edit**.

The Edit Product Selection Defaults dialog box appears.



4. (Optional) View the selection summary.

For more information, see [“View Data Selection Summary” on page 104](#).

Add Attributes from the Product Selection

To add attributes to the product selection:

- 1.

Click .

The Select Attributes dialog box appears.

2. Complete the steps to select attributes.


For more information, see [“Select Attributes” on page 187](#).

3. In the **Selected attributes** list of the Edit Product Selection Defaults dialog box, select an attribute and use the controls in the **Selections** pane to define the attribute.

The controls that appear depend on the attribute that you select. For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.

Remove Attributes from the Product Selection

To remove attributes from the product selection:

1. In the **Selected attributes** list, select the attributes.
2. Click .

Either the attribute is removed immediately, or the Select Attributes dialog box appears so that you can remove the attribute. For more information, see [“Select Attributes” on page 187](#).

Change the Definitions of a Product Selection’s Attributes

To change the definitions of a product selection’s attributes:

1. In the **Selected attributes** list, select an attribute.
2. Use the controls in the **Selections** pane to change the definition of the selected attribute.

Edit the Event Selection Default Settings

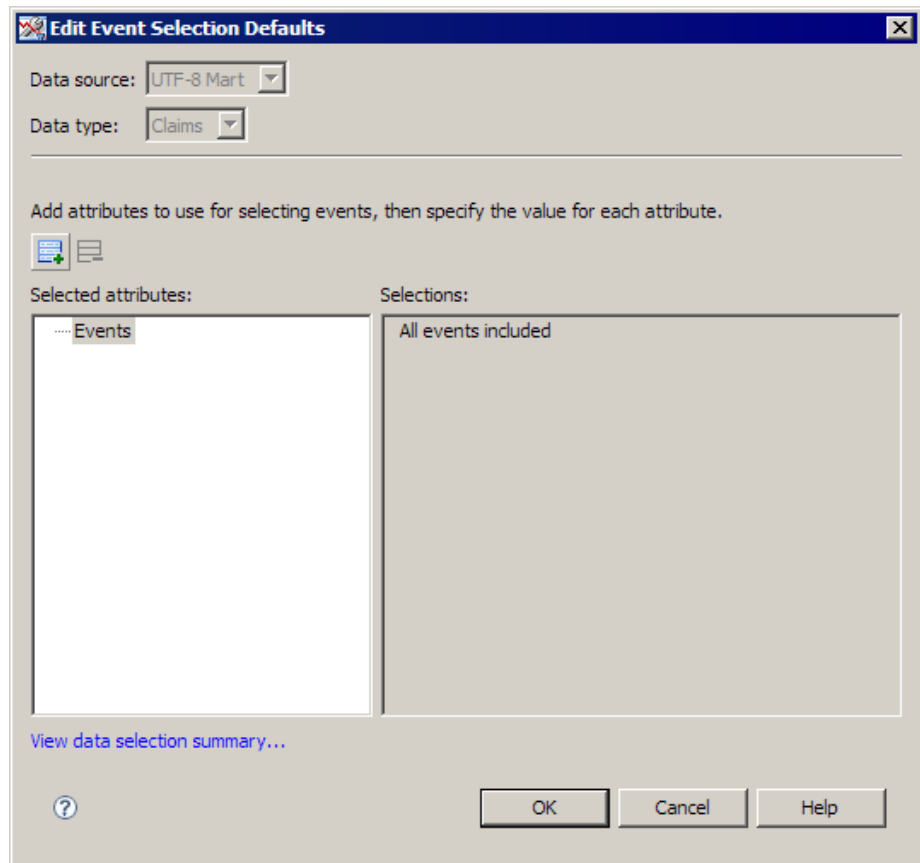
Overview

Note: To edit event selection default settings, you must have Administrator user permissions.

You can add attributes to an event selection, remove attributes from an event selection, and change the definitions of an event selection’s attributes.

To edit the default settings of an event selection:

1. Open the data selection defaults administration.
For more information, see [“Open Data Selection Defaults Administration” on page 161](#).
2. In the **Event selection defaults** area of the **Data Selection Defaults** pane, select an event type, and click **Edit**.
A confirmation message is displayed.
3. Click **Edit**.
The Edit Event Selection Defaults dialog box appears.



4. (Optional) View the selection summary.

For more information, see [“View Data Selection Summary”](#) on page 104.

Add Attributes to the Event Selection

To add attributes to the event selection:

- 1.

Click .


The Select Attributes dialog box appears. For more information, see [“Select Attributes”](#) on page 187.

2. In the **Selected attributes** list of the Edit Event Selection Defaults dialog box, select an attribute and use the controls in the **Selections** pane to define the attribute.

The controls that appear depend on the attribute that you select. For most attributes, the **Selections** pane displays an **Available** list and a **Selected** list, but for some attributes, the **Selections** pane might contain radio buttons, check boxes, or other controls.

Remove Attributes from the Event Selection

To remove attributes from the event selection:

1. In the **Selected attributes** list, select the attributes.
2. Click .

Either the attribute is removed immediately, or the Select Attributes dialog box appears so that you can remove the attribute. For more information, see [“Select Attributes” on page 187](#).

Change the Definitions of an Event Selection’s Attributes

To change the definitions of an event selection’s attributes:

1. In the **Selected attributes** list, select an attribute.
2. Use the controls in the **Selections** pane to change the definition of the selected attribute.

Chapter 18

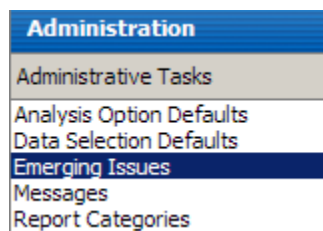
Emerging Issues Settings

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Open Emerging Issues Administration

Note: To administer emerging issues, you must have Administrator user permissions.

To change the settings for emerging issues analyses, select **Emerging Issues** in the **Administrative Tasks** pane.



The **Emerging Issues** pane opens.

Name	Description	Created	Modified	Ru
atina 1		7/8/09	7/8/09	8/
ei_auto_wei		7/10/09	7/10/09	8/

Analysis Settings

Analysis Option	Setting

Create an Emerging Issues Analysis

Note: To create an emerging issue analysis, you must have Administrator user permissions.

To create an emerging issues analysis:

1. Open the emerging issues administration.

For more information, see [“Open Emerging Issues Administration” on page 167](#).

2. Select the tab for the type of analysis that you want to create.

Note: The information that you specify is determined by the type of analysis that you select. Therefore, the rest of the steps in this task might differ from what you see.

3. Select **New** from the **Emerging Issues** pane menu.

The New Emerging Issues Analysis dialog box appears.

New Emerging Issues Analysis

Name:

Description:

▼ **Data Selection Details** ◆

[Replace data selection...](#)

▼ **Analysis Settings** ◆

Locale: English (US)

ⓘ OK Cancel Help

4. Type a name.
5. (Optional) Type a description.
6. Use the fields in the dialog box to define the variables and options for the emerging issues analysis.
7. To replace the data selection for an analytic or threshold analysis, click **Replace data selection**.
The Select Data Selection dialog box appears.
8. Complete the steps to select a data selection.
For more information, see [“Select a Data Selection” on page 188](#).
9. Use the fields in the dialog box to define the analysis settings.

Edit an Emerging Issues Analysis

Note: To edit an emerging issues analysis, you must have Administrator user permissions.

You can change the definition of an existing emerging issues analysis.

To change an emerging issues analysis:

1. Open the emerging issues administration.
For more information, see [“Open Emerging Issues Administration” on page 167](#).
2. Select the tab for the type of analysis that you want to edit.
3. Select an analysis.
4. Select **Edit** from the **Emerging Issues** pane menu.

The Edit Emerging Issues dialog box appears.

Edit Emerging Issues Analysis

Name: EI Analysis Q1

Description:

▼ **Data Selection Details** ▸

[Replace data selection...](#)

Data selection name: 68Cyl
Product selection name: 68Cyl

Attribute	Selections
Engine Model (2)	Desc of 6 cylinder, Desc of 8 cylinder

Event selection name: All

Attribute	Selections
Events	All events included

▼ **Analysis Settings** ▸

Variables

Segments: In Service Year Code Select... Clear

Analysis Options

Assigned to: Atina Brooks Select... Clear

? OK Cancel Help

5. Use the fields in the dialog box to change the name, the description, or the variables and options for the selected emerging issues analysis.
6. To replace the data selection for an analytic or threshold analysis, click **Replace data selection**.

The Select Data Selection dialog box appears.

7. Complete the steps to select a data selection.

For more information, see [“Select a Data Selection” on page 188](#).

Delete an Emerging Issues Analysis

Note: To delete an emerging issues analysis, you must have Administrator user permissions.

To delete an emerging issues analysis:

1. Open the emerging issues administration.

For more information, see [“Open Emerging Issues Administration” on page 167](#).

2. Select the tab for the type of analysis that you want to delete.
3. Select an analysis.
4. Select **Delete** from the **Emerging Issues** pane menu.

Chapter 19

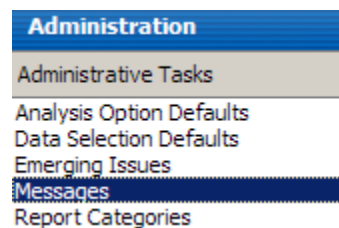
Messages

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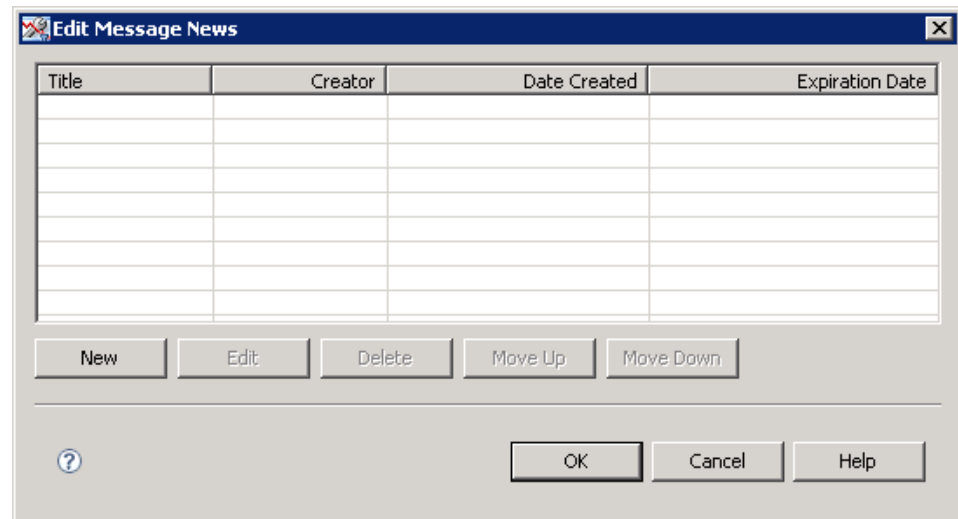
Open Messages Administration

Note: To administer messages, you must have Administrator user permissions.

Select **Messages** in the **Administrative Tasks** pane to work with links and news items.



The **Messages** pane opens.



Add a News Item

Note: To add a news item, you must have Administrator user permissions.

To add a news item:

1. Manage the news.

For more information, see [“Open Messages Administration” on page 173](#).

The Edit Message News dialog box appears.

2. Click **New**.

The Add News dialog box appears.


Add News

Title:
Managing News

Text:
You can create, edit, and delete news items. You can also move them up or down in the table.

Expires on:
07/15/2009

? OK Cancel Help

3. In the **Title** field, type a descriptive title for the news item.
4. In the **Text** field, type the text of the news item.
5. Type a date or click  to select an expiration date for the item.

Edit a News Item

Note: To edit a news item, you must have Administrator user permissions.

To edit a news item:

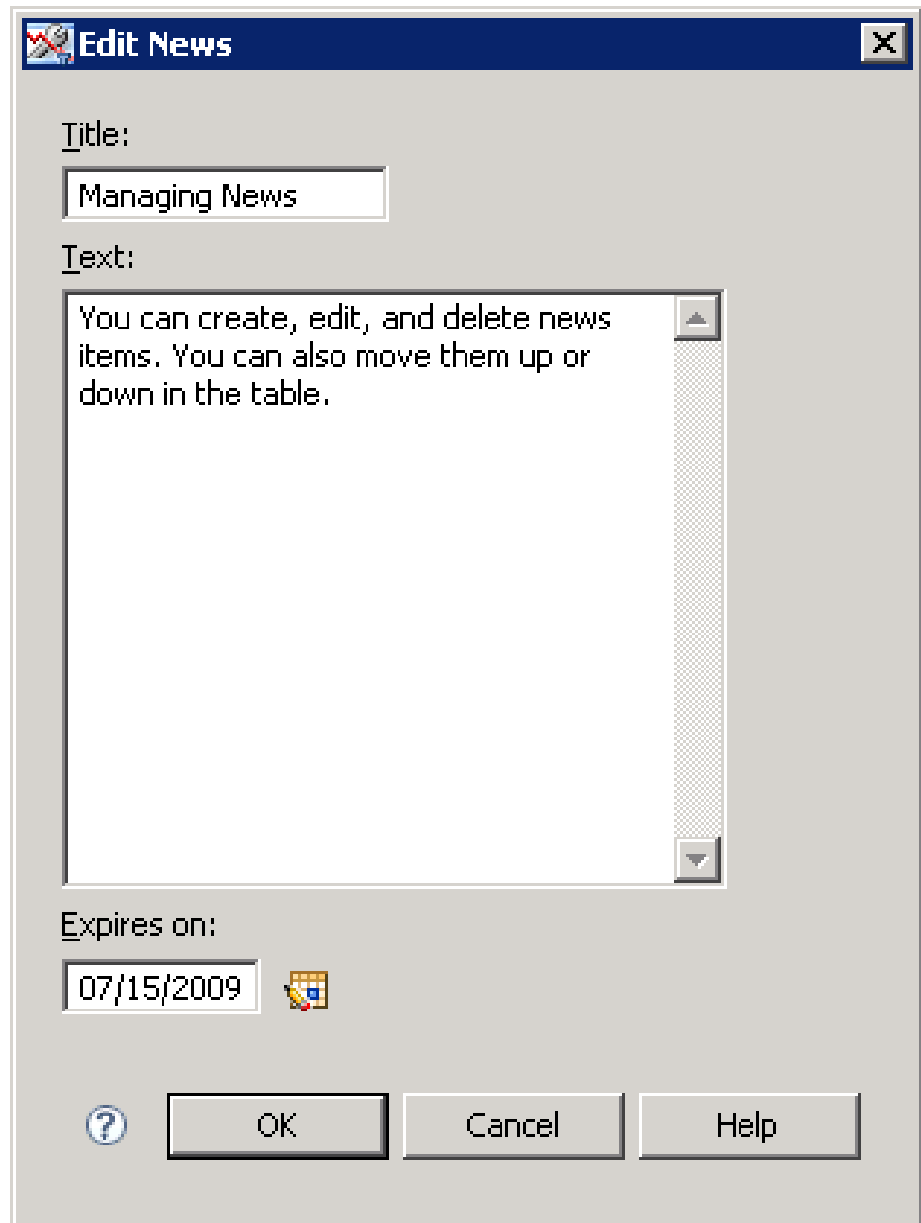
1. Manage the news.

For more information, see [“Open Messages Administration” on page 173](#).

The Edit Message News dialog box appears.

2. Select a news item, and then click **Edit**.

The Edit News dialog box appears.



3. Make changes.

Delete News Items

To delete news items:

1. Manage the news.

For more information, see [“Open Messages Administration” on page 173](#).

The Edit Message News dialog box appears.

2. Select news items, and then click **Delete**.

Rearrange News Items

To rearrange news items:

1. Manage the news.

For more information, see [“Open Messages Administration” on page 173](#).

The Edit Message News dialog box appears.

2. Select a news item, and then click **Move Up** or **Move Down**.

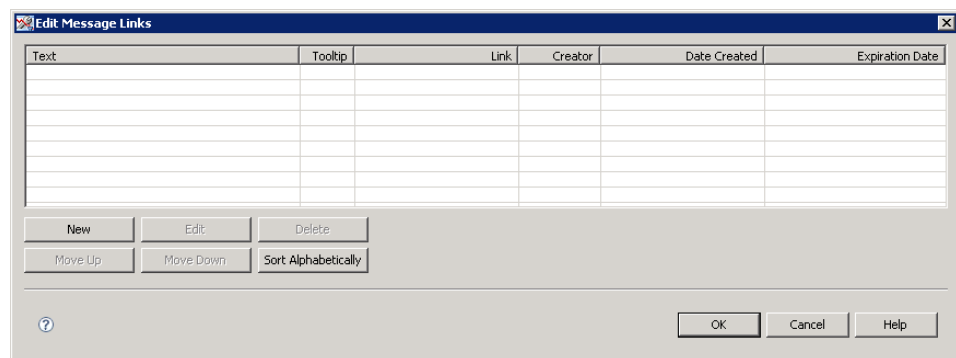
Links

Manage Links

Note: To manage links, you must have Administrator user permissions.

To edit message links, click **Manage** in the **Links** pane.

The Edit Message Links dialog box appears.



Add a Link

Note: To add a link, you must have Administrator user permissions.

To add a link:

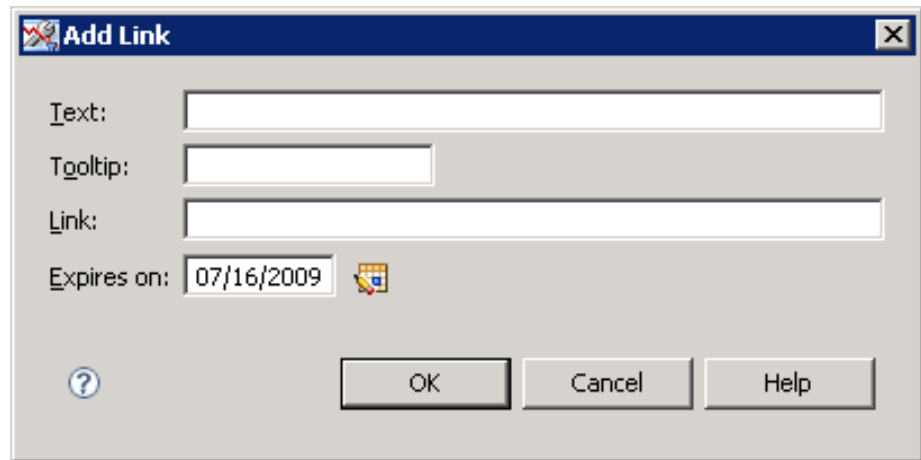
1. Manage the links.

For more information, see [“Links” on page 178](#).


The Edit Message Links dialog box appears.

2. Click **New**.

The Add Link dialog box appears.



The 'Add Link' dialog box has a title bar with a close button (X). It contains four input fields: 'Text' (empty), 'Tooltip' (empty), 'Link' (empty), and 'Expires on' (set to 07/16/2009 with a calendar icon). At the bottom, there is a help icon (question mark), and three buttons: 'OK', 'Cancel', and 'Help'.

3. In the **Text** field, type text to describe the link.
4. (Optional) In the **Tooltip** field, add a short description of the link.
5. In the **Link** field, add the URL for the link.
6. Type a date or click  to select an expiration date for the link.

Edit a Link

Note: To edit a link, you must have Administrator user permissions.

To edit a link:

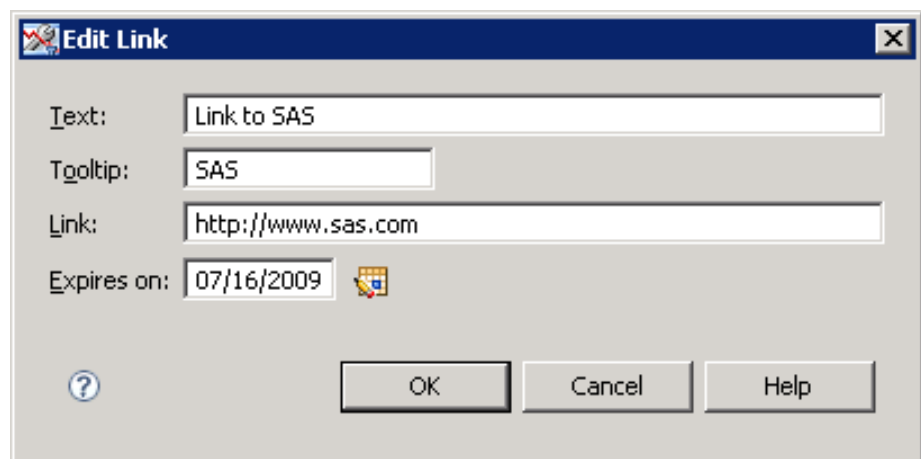
1. Manage the links.

For more information, see [“Links” on page 178](#).

The Edit Message Links dialog box appears.

2. Select a link, and click **Edit**.

The Edit Link dialog box appears.



The 'Edit Link' dialog box has a title bar with a close button (X). It contains four input fields: 'Text' (filled with 'Link to SAS'), 'Tooltip' (filled with 'SAS'), 'Link' (filled with 'http://www.sas.com'), and 'Expires on' (set to 07/16/2009 with a calendar icon). At the bottom, there is a help icon (question mark), and three buttons: 'OK', 'Cancel', and 'Help'.

3. Make changes.

Delete Links

To delete links:

1. Manage the links.
For more information, see [“Links” on page 178](#).
The Edit Message Links dialog box appears.
2. Select links, and click **Delete**.

Rearrange Links

To rearrange a link:

1. Manage the links.
For more information, see [“Links” on page 178](#).
The Edit Message Links dialog box appears.
2. Select a link, and then click **Move Up** or **Move Down**.

Sort Links Alphabetically

To sort links alphabetically:

1. Manage the links.
For more information, see [“Links” on page 178](#).
The Edit Message Links dialog box appears.
2. Click **Sort Alphabetically**.

Chapter 20

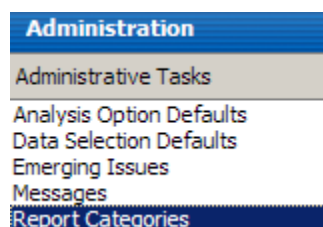
Report Categories

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Open Report Categories Administration

Note: To administer the report categories, you must have Administrator user permissions.


Select **Report Categories** in the **Administrative Tasks** pane to add, edit, or delete categories for reports or to export a report table to a spreadsheet.

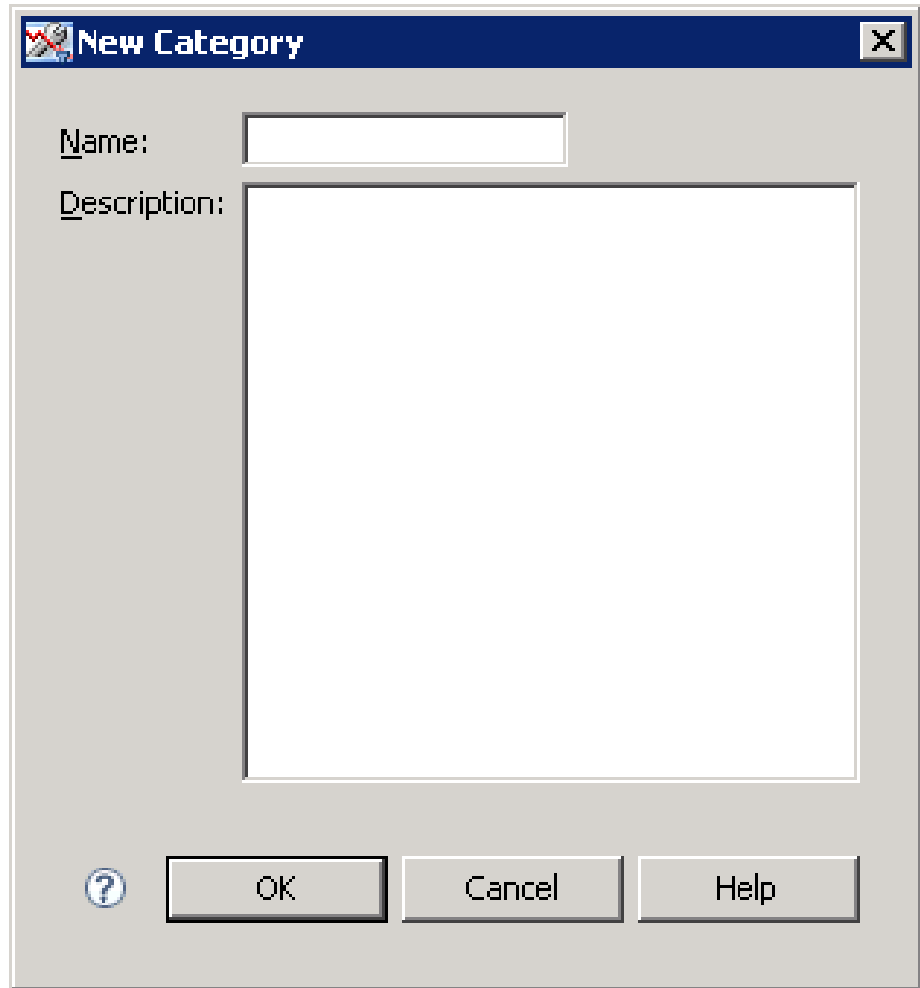


Create a Report Category

Note: To create a report category, you must have Administrator user permissions.

To create a report category:

1. In the **Report Categories** pane, click . The New Category dialog box appears.

A screenshot of a Windows-style dialog box titled "New Category". The dialog has a blue title bar with a close button (X) in the top right corner. The main area is light gray. On the left, there are two labels: "Name:" and "Description:". To the right of "Name:" is a single-line text input field. To the right of "Description:" is a large, empty rectangular text area. At the bottom left of the dialog is a question mark icon in a circle. To its right are three buttons: "OK", "Cancel", and "Help".

2. Type a name for the category.
3. (Optional) Type a description for the category.

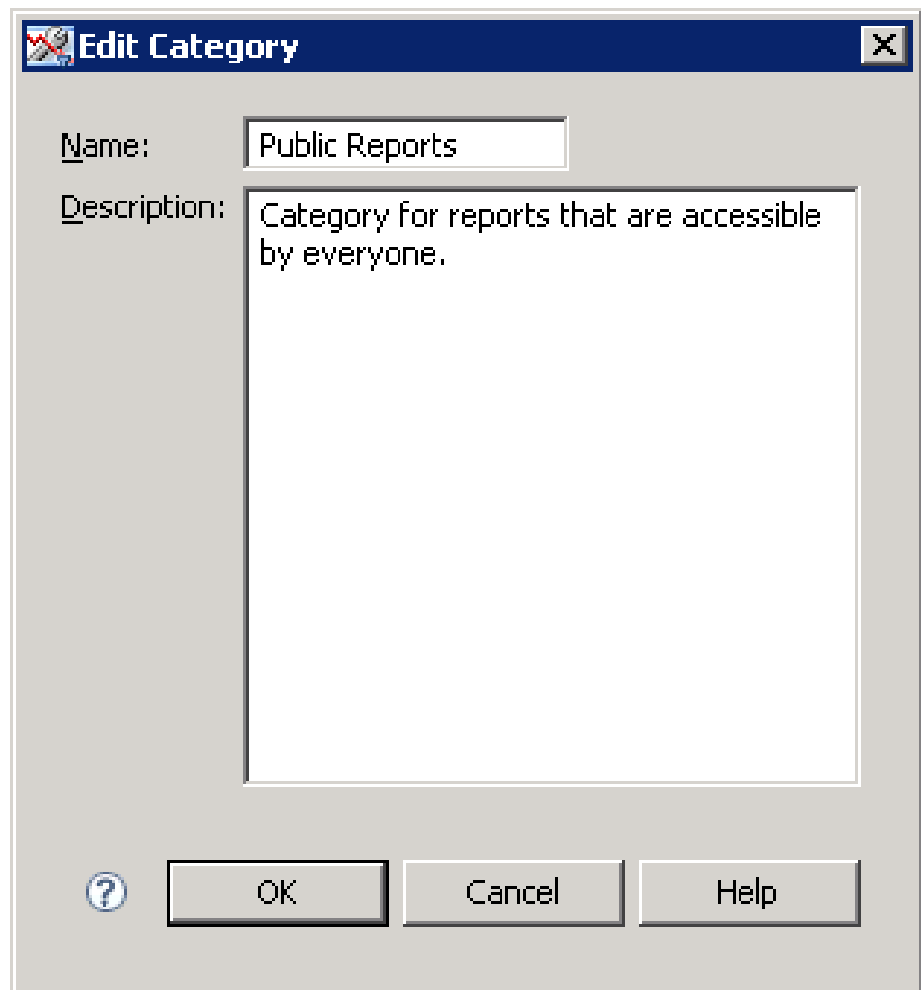
Edit a Report Category

Note: To edit a report category, you must have Administrator user permissions.

To edit a report category:

1. In the **Report Categories** pane, select a report category.
2. From the **Report Categories** pane menu, select **Edit Category**.

The Edit Category dialog box appears.




The screenshot shows a standard Windows-style dialog box titled "Edit Category". It has a blue title bar with a close button (X) in the top right corner. The main area of the dialog is light gray. On the left side, there are two labels: "Name:" and "Description:". To the right of "Name:" is a text input field containing the text "Public Reports". To the right of "Description:" is a larger text area containing the text "Category for reports that are accessible by everyone.". At the bottom of the dialog, there is a row of four buttons: a help button (a circle with a question mark), an "OK" button, a "Cancel" button, and a "Help" button.

3. Make changes.

Delete Report Categories

Note: To delete report categories, you must have Administrator user permissions.

To delete a report category:

1. In the **Report Categories** pane, select a report category.
2. Click .

Export a Table to a Spreadsheet

Note: To export a table to a spreadsheet, you must have Administrator user permissions.

To export a table to a spreadsheet, right-click a report category, and select **Export to Spreadsheet** from the pop-up menu.

A comma-separated values file is created, ready to be opened by the application associated with the .csv file extension.

Part 8

Appendix

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Common Tasks	187
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Appendix 1

Common Tasks

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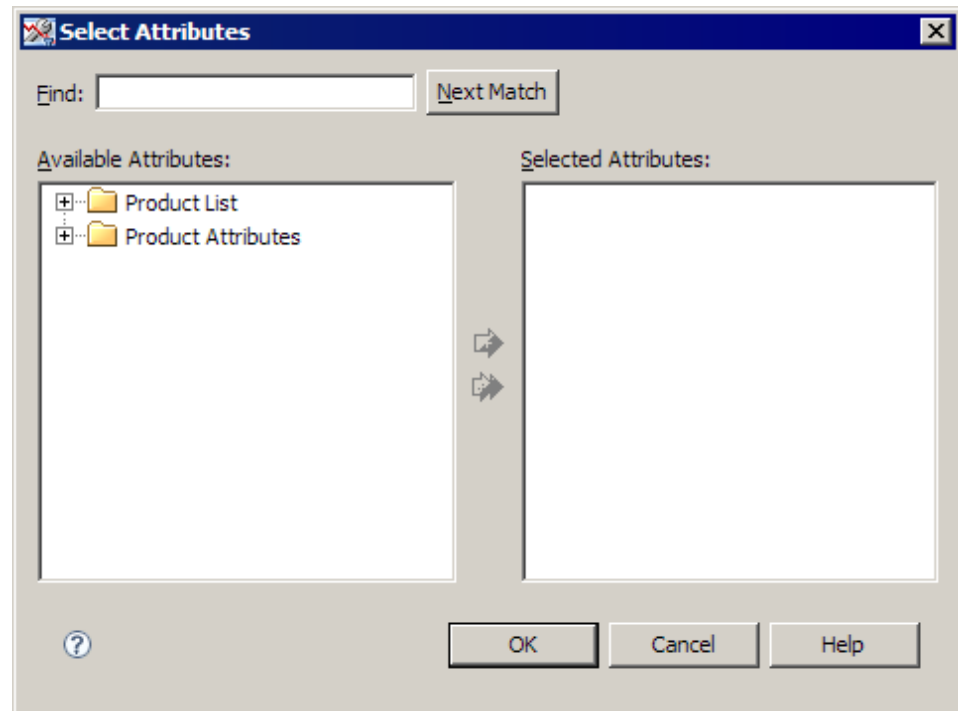
Overview

This section documents common tasks that you perform in different places in SAS Warranty Analysis.

Select Attributes

You select attributes when you perform the following tasks:

- “Edit a Product Selection or Event Selection” on page 48
- “Edit a Product Selection” on page 108
- “Edit an Event Selection” on page 111
- “General Information” on page 102
- “Create an Event Selection” on page 105
- “Overview” on page 164
- “Overview” on page 162



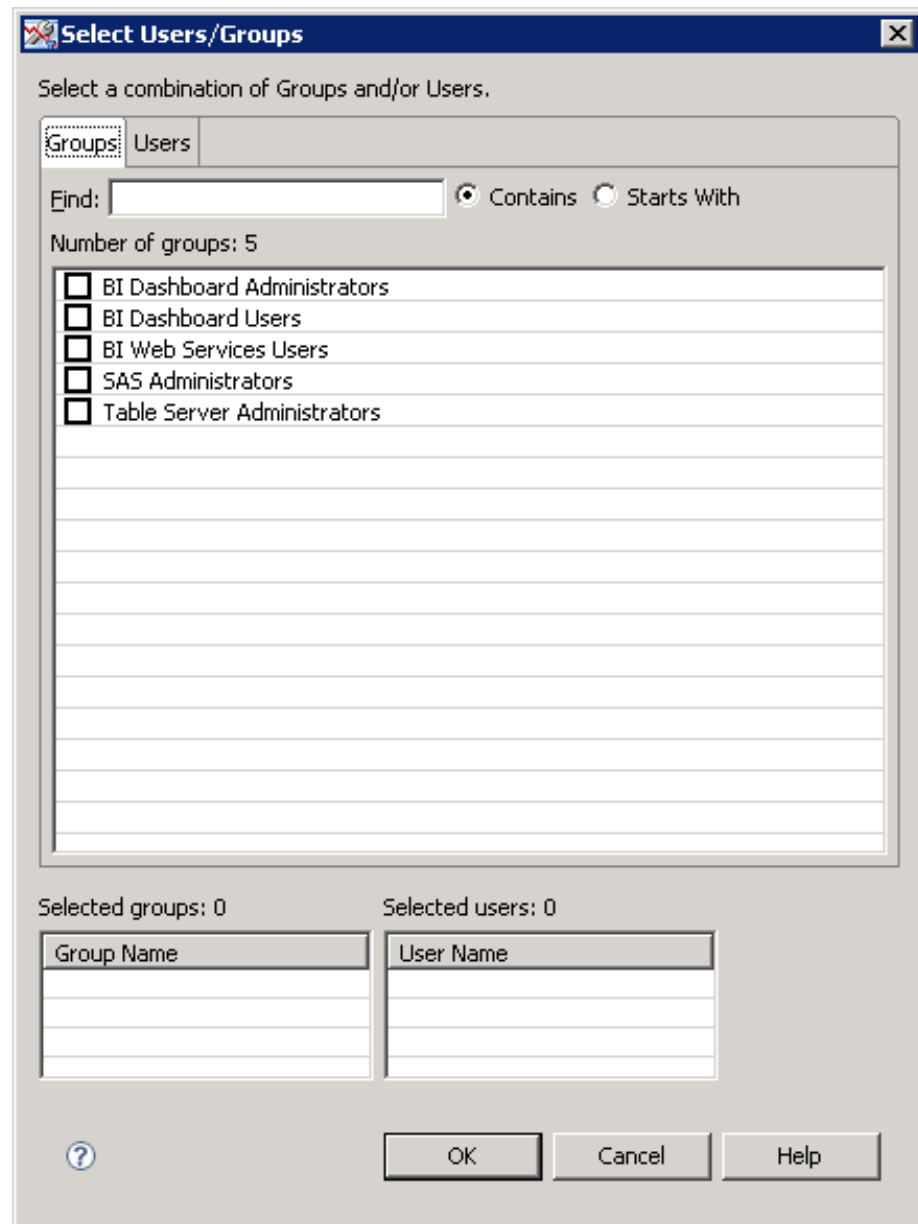
To select attributes:

1. (Optional) Type search terms in the **Find** field to quickly locate an attribute. To find the terms again, click **Next Match**.
2. Move items between the **Available Attributes** list and the **Selected Attributes** list by selecting an item and then clicking the arrows between the lists.

Select a Data Selection

You must select a data selection when you perform the following tasks:

- “[Replace a Data Selection](#)” on page 47
- “[Edit an Emerging Issues Analysis](#)” on page 170
- “[Create an Emerging Issues Analysis](#)” on page 168



To select users and user groups, click the **Groups** or **Users** tab and select the check box next to an item in the list.

Export Information to a PDF File

You can export the following information to a PDF file:

- an analysis

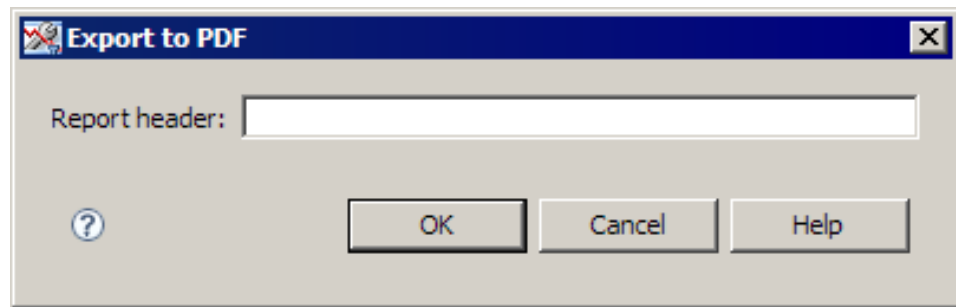
For more information, see [“Export an Analysis to PDF” on page 92.](#)

- an alert

For more information, see [“Export Alert to PDF” on page 149.](#)

- a report

For more information, see [“Overview”](#) on page 130.



To export information to a PDF file, type a header for the report.

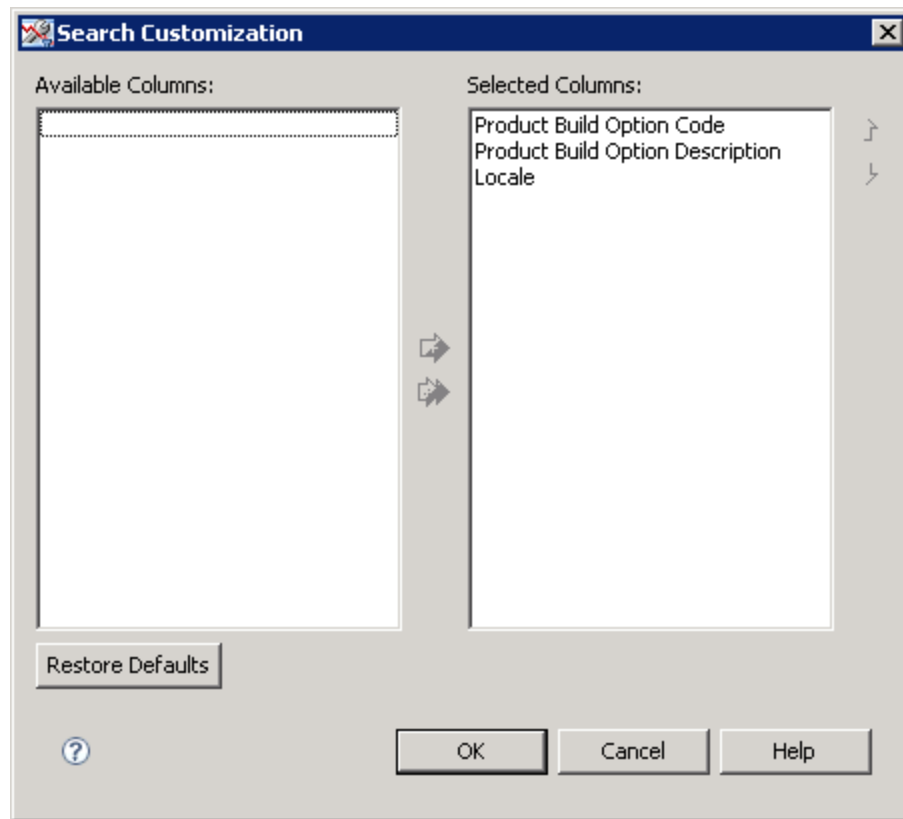
Note: The state of a graph or table (as seen in the application) is not preserved in the exported PDF file. To preserve the state, copy the image or export the table to a spreadsheet. For more information, see [“Copy a Graphic to an External Document”](#) on page 93 and [“Export Results Table to Spreadsheet”](#) on page 93.

CAUTION:

The number of rows of data in tables exported to a PDF file might be truncated. The number of rows of data in exported tables is limited. The limit is specified by the SAS Warranty Analysis administrator.

Edit Search Attributes

Use the Search Customization dialog box to specify items to be listed and available for searching.



To complete the Search Customization dialog box, move items between the **Available Columns** list and the **Selected Columns** list by selecting items and clicking the arrows between the lists.

The items in the **Available Columns** list are available in the **Search Options** area of the **Alerts** pane. The items in the **Selected Columns** list are not available in the **Search Options** area of the **Alerts** pane.

Find Items

Many dialog box in SAS Warranty Analysis contain a **Find** field. The **Find** field enables you to filter the items (such as projects or selections) that are listed in the dialog box, so that the list is more manageable.

You can type the full name of an item. Or, you can type a partial name to list all of the items that have matching text in their names, descriptions, or property fields. You can choose whether the specified text can be anywhere within the found items or that the found items must start with the specified text.

To find an item:

1. Type text in the **Find** field.
As you type the text, the list of items is filtered.
Note: The search is not case-sensitive.
2. Select **Contains** or **Starts With**.
3. Select a found item.

Your Turn

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- If you have comments about the software, please send them to **`suggest@sas.com`**.

