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Primavera
Portfolio Management User Guide

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Preface: Using Online Help

Primavera Portfolio Management provides access to an online help system that explains PPM and how to use it.

To open the help system:

1) Log in to the application using a web browser.
2) In the ⑦ **Help** list, select **Help**.

   The online help system opens in a separate window.

The help system is context-sensitive, meaning it will open to the topic that is most relevant to the part of the application from which you opened the help system.

Primavera Portfolio Management Overview

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Portfolio Management Software for Technology Leaders

Information technology is a strategic business asset. Managing it like one is as important as ever. Which technology investments are critical to business success? What is the best way to plan technology initiatives? How do you measure the progress of technology initiatives? The practice of portfolio management helps organizations that manage technology answer these questions so they can get the most from their investments.

Portfolio management enables organizations to establish clear objectives and rank investments before selecting them. It enables them to collaborate through the development, execution, and completion phases, using a common vocabulary about the impacts of their investments. It also enables organizations to adjust their portfolios to keep investments balanced.

With Primavera Portfolio Management, organizations that manage technology can fully automate their portfolio management processes, and not just for technology investments. PPM can be used to manage any critical resource or initiative where objective data is governed by subjective input. These include clients, services, human resources, service-level agreements, and product development.

The application is divided into several solution modules:

- Investor
- Scorecard
- Workbook
- Forms
- Dashboards
- To-Do

These solution modules give managers proactive insight into key investments. They enable investments to be managed effectively, using what-if scenarios for planning and trade-off analyses for funding decisions.

Modules provide different levels of detail and functionality, but all of them use a centralized database of information and display investment and performance category information in customizable formats.

Solution Modules Overview

PPM is divided into solution modules. Each solution module provides a different view of business activities, from high-level management tasks to everyday operations.

- **Investor**: The Investor module is the strategic planning center of the application. It allows you to view investor maps, which display business activities in terms of factors like risk, investment type, and budget. Investor maps visually slice key performance data according to strategic goals. They also enable What-if analyses that make it easier to plan and align strategic goals.
- **Scorecard:** The Scorecard module is the operational center of the application. It provides portfolio and department managers with the tools they need to effectively communicate throughout the organization. It helps establish a common vocabulary by coordinating and setting standards of key performance measurements across the organization. It also serves as an early warning system to identify problematic patterns.
- **Workbook**: The Workbook module is the tactical center of the application. It is for managing items. It provides comprehensive, detailed information about the various aspects of individual items and their progress. Each workbook includes an item scorecard, management information, life cycle management, action items, and a deliverable list.
- **Forms**: The Forms module is the data entry and display center of the application. It enables you to create and access custom-designed forms that cater to the specific needs of your organization.You can use these forms to consistently enter, view, summarize, and categorize specific organizational data.
- **Dashboards**: The Dashboards module is a collection of graphs that provide detailed technical and business information about investments and performance categories. A dashboard enables managers to focus on key performance indicators and trends that are critical to their specific areas of interest and responsibility. The Dashboards module enables you to create custom dashboards that cater to the specific needs of your organization.
- **To-Do**: The To-Do module serves as a home page for individual users. It enables users to identify all of the reporting and updating responsibilities that are relevant to them. It also alerts users to action items and deliverables related to their investment and portfolio responsibilities.

Navigation Overview

Working with the Main Screen

The main screen is the screen that appears after you log in to the application. It includes these components:

- **User Menu**: Located in the top right corner of the main screen, the User Menu provides links to the **Setup** and **Admin** windows (if you have the required security privileges), and the **Log out** link. The text of the User Menu link is your user name.
- **Navigation Pane**: The Navigation Pane appears along the left side of the main screen. You can show and hide it with the ☰ **Navigation Pane** button. In the Navigation Pane, you can access these elements:
  - Solution module links: You can access the **Investor**, **Scorecard**, **Workbook**, **Forms**, **Dashboards**, and **To-Do** solution modules.

- **Processes** and **Workflows** links: Located above the module links in all modules except To-Do, these links enable you to access features that direct you through various screens in the application.

- **Workspace**: The workspace is the main area of the main page. It is where you view and work with information in the selected module. When you select the Investor module link, for example, the workspace shows information and controls for the Investor module.
- **Title Area**: Located at the top of the workspace for all modules except To-Do, the Title area consists of two or three fields that let you choose what to view in the open module. In the Investor module, for example, the Title area consists of the **Map**, **Portfolio**, and **Data as of** fields.
- **Menu Bar**: Located beneath the Title area, if there is one, the Menu Bar enables you to create and edit items in most modules.
- **Toolbar**: Located next to the Menu Bar, the Toolbar consists of general controls like **Print**, **Mail**, and **Save**.

Searching for Items and Portfolios

You can perform advanced searches for items and portfolios in all modules except the To-Do module.

To perform an advanced search for items and portfolios:

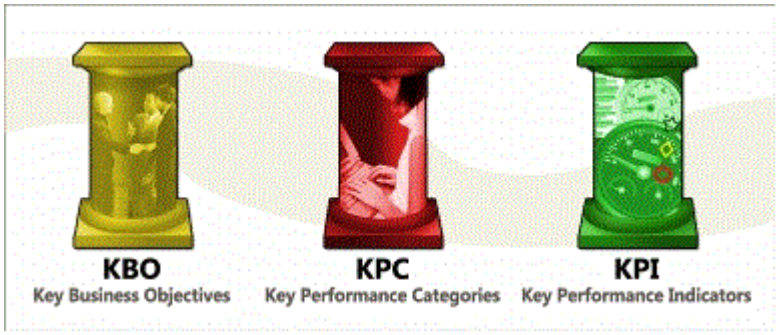
1) In any module except the To-Do module, select **Search**.
2) In the **Advanced Search** dialog box, enter the following information:
   a. In the **Advanced Search** field, select a predefined search string from the drop-down list.

      For more details on how to setup predefined Advanced Search strings to include in the drop-down list, see ***Creating Advanced Searches*** (on page 154).
   b. In the category filter grid to set one or more category filters as follows:
      1. In each row, select a **category**, **operator**, and **value** for the category filter that you want to apply to your search results.
      2. Use the **And/Or** column to specify the logical relationships between category filters.
      3. Select any of the following buttons to manage the category filters:
         - Select **Save As** to save a category condition.
         - Select **Reset** to discard all category conditions entered in the grid.
         - Select **Remove** to remove a category condition.
   c. (Optional) In the **Filter by name** field, enter search text to further refine your search, and then select **Search**.
   d. In the **Search Results** area, view the search results and select the item that you want to view.

Measurements Overview

In the application, components are aligned, distributed, and compared in order to evaluate business functions and performance. This section describes the measurement methods and concepts that are employed to perform these evaluations.

Within organizations, **key business objectives** prompt initiatives. These initiatives are defined using **key performance categories**. Key performance categories are then measured and displayed using **key performance indicators**.



Key Business Objectives

Key business objectives (KBOs) represent business goals that are important to top-level executives. Example KBOs include "reduce scheduling time by 30%," "improve customer satisfaction," and "reduce risk in development activities."

Business objectives are typically divided them into manageable business initiatives. These initiatives are better understood by the organization through **key performance categories** (KPCs).

Key Performance Categories

Key performance categories (KPCs) are operational categories that are the building blocks of key business objectives (KBOs). For example, a KBO called "achieve scheduling commitments" may be broken down into two KPCs:

- Achieve external scheduling commitments or contractual milestones.
- Achieve internal commitments, such as phase scheduling and raising funds, in a timely manner.

KPCs are used to clearly communicate and define the operational aspects of KBOs. This application provides a flexible framework to build various types and collections of KPCs.

Key Performance Indicators

Key performance indicators (KPIs) are the measurable entities that are used to calculate or define the Key Performance Categories (KPCs). For example, a KPI may be the time that has elapsed since the beginning of the phase or the total budget that was spent in the past month. Typically, more than one KPI is used to create a KPC.

Accessing the Application

Primavera Portfolio Management is a web-based application. You access the user interface with a standard web browser, and you log in with a user name and password provided by your system administrator.

To access Primavera Portfolio Management:

1) Open your web browser.
2) In your web browser, navigate to **http://<servername>/prosight**. Your system administrator must provide you with the actual server name. It might resemble one of these default names:
   - server1 (Intranet)
   - 192.0.2.1 (IP Address-Internet)

   If the secure communications protocol (https) is enabled, you may enter **https://** instead of **http://**. Your administrator must enable the secure communications protocol (https) on the Internet Information before or after installing the application.
3) On the **Login** page, enter your user name and password, and then click **Sign In**.

   The default user name is "admin". Your administrator determines the default password when creating the PPM database with the PPM console.
4) If consent settings are enabled, click **Agree** to give consent for using or accessing PII data in the application.

   You can withdraw your previously given consent at any time by clicking **Withdraw Consent** from the **User** menu.

The Start Menu

You can access PPM in Windows by choosing **Start > All Programs > Oracle Primavera Portfolio Management**.

The **Start** menu, described in detail in ***The Start Menu and Server Utilities*** (on page 428), also provides the following PPM functionality:

- Exporting a package.
- Importing a package to the PPM database.
- Using the PPM Console.
- Scheduling Tasks.
- Starting PPM for all users in your organization.
- Shutting down PPM for all users in your organization.
- Shutting down the Internet Information Server (IIS) and PPM Service for all users in your organization.

About Consent Notices

Consent notices alert you to the need to protect personally identifiable information (PII). You and your organization might be collecting, processing, storing, and transmitting PII while using Primavera Portfolio Management. When you accept a consent notice, your consent covers the collection, processing, storing, and transmission of PII data in all areas of Primavera Portfolio Management and means of retrieving data from Primavera Portfolio Management including but not limited to project export, downloaded tables, reports, documents, web services, and API. If you refuse consent you might not be able to log in to Primavera Portfolio Management or access some areas of Primavera Portfolio Management might be restricted.

You may be asked to provide consent to show that you understand the need to treat PII as secure data. You may also be asked to provide consent for your organization to collect, process, store, and transmit your PII. If you refuse consent you will be denied access to Primavera Portfolio Management.

You can withdraw your consent at any time by clicking **Withdraw Consent** from the **User** menu on the **Scorecard** page. .

Viewing Your PII Data in PPM

PII data can be viewed from any module of PPM:

1) Click the **User** menu.
2) Click the following tabs to view your PII data:
   - **General**
   - **Password**
   - **Preferences**

Tips

- You can withdraw your previously given consent at any time by clicking **Withdraw Consent** from the **User** menu.

Components

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Components Overview

In order to manage business initiatives on the strategic, tactical, and operational levels, you must create and configure the various components that define your system.

PPM provides wizards that guide you through the processes of creating and editing these components in the Setup module:

- **Items:** An item is a collection of tasks and their required resources. Each item represents a development effort that has a beginning and an end and results in a specific deliverable. Each item is assigned an item manager, who is responsible for its progress.

  There are two kinds of items: items and candidates. An item is one entity in the system. It may represent an initiative that your organization refers to as an investment. A candidate is a proposed item that is not yet added to the map scenario displayed in the Investor module. You can change a candidate to an item and an item to a candidate in the **Status** field on the General tab of the New Item wizard.

- **Portfolios:** A portfolio is a collection of related items that are grouped in order to manage and view performance of common business activities and goals. You can also group related portfolios into a single portfolio. Portfolios can be grouped according to any parameter you define, such as type of business activity or geographic region.

  Related items that represent investments can be collected into portfolios to track particular aspects of performance. For example, an organization may have many similar investments that involve work in various locations. These investments can be collected into a type-specific portfolio. There may also be different types of investments that involve work in one location. These investments can be collected into a location-specific portfolio.
- **Folders:** A folder is a collection of related objects or other folders. Each object type has its own folder hierarchy. For example, it is not possible to have Scorecards in a Maps hierarchy. Each folder hierarchy has its own "root" folder. Objects and folders may appear in multiple folders, but each object has a single home folder. All other instances of that object are referenced objects.
- **Maps:** Maps are the strategic center of the application. Investor maps enable senior management to view business activities in terms of risk, investment type, budget, etc. They provide managers with a flexible, visual tool for slicing key performance data according to strategic goals. They also provide What-if capability to plan and align strategic goals.
- **Scorecards:** Scorecards are tables that enable you to track and manage the performance of items and portfolios according to predefined lists of categories. You can use Scorecards to easily view item and portfolio values in terms of color and shape-coded indicators. Additionally, you can create multiple scorecards, each grouping related performance categories into a single view.
- **Forms:** Forms enable data reporting and collection. You can use Forms to enter system data or as a reporting tool that enables you to efficiently view, summarize, and categorize data.
- **Dashboards:** A dashboard is a collection of graphs that provide detailed technical and business information about investments and performance categories. Dashboards enable managers to focus in on key performance indicators and trends that are critical to their specific areas of interest and responsibilities.
- **Versions:** Versions help you compare data. Configure versions and apply them later to display data as of a particular time period. A version can be defined as an absolute fixed date like September 30, 2012, or it can be defined as a relative range of dates that shift daily based on any past, current, or future time period. For example, the past 6 months, today, or the next 10 days. Relative versions can also be anchored to a specific time within the range, such as the fifth day of the last quarter. When comparing data spanning three years, for example, versions could be defined for the past year, the current year, and the future (planned) year, all anchored to a specific date such as June 15 to yield comparable data for analysis. Set up and store versions with security settings in folders for later use in scorecards, dynamic lists, investor maps, forms, and dashboards.
- **Tabs:** Tabs are the main building block for both forms and dashboards. A tab is a single display page containing data components arranged in group boxes. The same tab can be used in many different forms or dashboards.
- **Tables:** Tables enable you to efficiently view data. The arrangement of data in columns and rows allows you to easily scan the data and make comparative evaluations and summaries.
- **Graphs:** Graphs display historical or current information about an item or a portfolio. There are six types of customizable graphs:

  - Distribution graphs: Display information in the form of a bar chart or a pie chart.
  - Trend graphs: Display a line graph indicating performance over time.
  - Column/Bar graphs: Can transform a table into a clustered or stacked column or bar graph.
  - Scatter graphs: Display data in the form of points indicating values on the x-axis and y-axis.
  - Radar graphs: Allow you to compare the magnitude of multiple properties on a single chart.
  - Pareto distribution graphs: Show incremental quantities of one category in descending order with bars, and the cumulative total percentage of the same category, over the same period, with a line.
- **Color Templates**: Color templates enable you to define, adjust, and consistently apply color schemes to graphs.
- **Categories:** Once defined, key performance categories are criteria that grade business or technical performance for items and portfolios. For example, common categories are budget, staffing, start and end dates, number of defects, customer satisfaction, and return on investment (ROI). Categories are the basis for building Scorecards, Forms, Tabs, Graphs, and Dashboards.
- **Value Lists:** Value lists are defined data types, which include a predefined list of values. Value lists are used as the basis for some categories. An example of a Value list could be "Quality," and the included values could be "High," "Medium," and "Low." The values in the list can be ranked, as in "Low", Medium," and "High," or unranked, as in "Database" and "Commerce.".
- **Life Cycles:** A life cycle is an organization-wide paradigm that consists of the common phases of a certain activity type. Each phase has defined deliverables. The various phases of a life cycle must each be completed for the item to progress. You can create any number of life cycles, phases, and deliverables, enabling you to specify a predefined progression of phases for various types of items, such as new application development, operations, vendor selection, etc. When an item or portfolio is based on a life cycle, it inherits all the phases and deliverables defined by that life cycle.
- **Phases:** Each life cycle consists of a sequence of phases. Examples of phases could be requirement analysis, design, coding, etc. Each phase may have one or more deliverables that must be completed before you can progress to the next phase. Phases also include the document links and action items being managed for a technology investment. Once they are defined, phases can be used for many different life cycles.
- **Advanced Searches**: Create and save your most frequent search strings to use it across the application as needed.
- **Users:** Users are all the individuals in your organization who have access to the Primavera Portfolio Management application. Use the User Wizard to enter information for each user in the company, such as password, privileges, login name, user preferences, and contact information.
- **User Groups:** A user group is a group of users who should all be assigned identical rights. Use the User Group Wizard to create new user groups and define security parameters for entire groups, rather than individually defining security for each system user.

- **Processes:** Processes are sets of favorite URLs and defined practices arranged in a series that provide you with guidance, including direct access to application objects and documents, as well as any local or web URLs. Using processes helps you organize your work and makes it easier to navigate and collaborate with others.
- **Workflows:** Workflows are automated guidelines that define and step users through established organizational procedures. Workflows include both manual tasks, which end-users perform, and automatic tasks, which the system performs. Workflows can be started manually or triggered by an alert or a host workflow. Workflows provide clear opportunities for people to effectively collaborate on complex organizational processes.
- **Alerts:** Alerts are automatic messages that are triggered by system events and that notify the user to some change in a monitored item or portfolio. Alerts can be dispatched as an e-mail message or a notification to an Open API.

Setup Module Overview

In the Setup module, you can access wizards that you use to create and edit the components that you manage in the application. The Setup module also enables you to create and manage folders and portfolios that form the hierarchical libraries, or *hierarchies*, that store these components.

Accessing the Setup Module

You can access the Setup module from the User Menu or the Menu Bar.

To access the Setup module from the User menu:

1) In the **User Menu**, select **Setup**.

To access the Setup module from the Menu Bar:

1) In the **Menu Bar**, select **Setup**.
2) In the **Setup** list, select a hierarchy, or select **Setup**.

Working with the Setup Module

The **Setup** module includes these main parts:

- **Setup field**: Located at the top of the Setup module, the Setup field enables you to select the component hierarchy that you want to manage.
- **Navigation Pane**: Located on the left side of the Setup module window, the Navigation Pane enables you to navigate the component hierarchy specified in the Setup field. The Navigation Pane includes two tabs:
  - **All**: Displays the selected hierarchy.
  - **Search**: Provides a search field that enables you to search for any component or folder within the selected components.
- **List area**: Located on the right side of the Setup module, the list area displays all objects in the folder that you select in the Navigation Pane, or all objects that are returned when you perform a search in the navigation pane.

You can make multiple selections in the list area. To make multiple continuous selections, press the Shift key as you select items. To make multiple noncontinuous selections, press the Ctrl key as you select items.

Items

Items represent basic business activities that you monitor in the application. For example, an item could be the development of a new product.

You must define items before you can gather strategic information. Once an item is defined, it can be rated and assessed using defined categories. This enables you to track the development of each item and to evaluate its value to your business.

Creating and Editing Items

Creating an Item with the Item Wizard

To create a new item with the Item Wizard:

1) From the **Setup** drop-down list, select **Items**.

   The Setup module appears. In the Setup module, the Navigation Pane shows the Items and Portfolios hierarchy.
2) In the navigation pane, select the portfolio to which you want to add the new item.
3) From the **New** drop-down list, select **Item** to create a new item, or select **Candidate** to create a new candidate.

   A candidate is a proposed item that is not yet added to the map scenario displayed in the Investor module. You can change a candidate to an item and an item to a candidate in the **Status** field on the General tab of the New Item wizard.

   The Item Wizard appears.
4) In each tab of the Item Wizard, add and edit information for the item and then select **Finish**.

Entering General Item Information

To enter general information about an item, including its name, description, manager, start and end dates, and status:

1) On the **General** tab of the Item Wizard, enter the following information:
   - **Name**: The name of the item.
   - **Description**: A brief description of the item. This description can include hypertext.
   - **Manager**: The project manager who manages the item. Select a manager from the drop-down list.

     For information on adding new users, refer to ***Users*** (on page 156).
   - **Start**: The date the item is scheduled to start. Either enter a date in format m/dd/yyyy, or use the date picker to choose a date.
   - **End**: The date the item is scheduled to be completed. Either enter a date in the format m/dd/yyyy, or use the date picker to choose a date.

- **Status**: The status of the item. Each item can have a status of **Open**, **Closed**, or **Candidate**.

> **Note:** The status of an item may determine whether it is included in specific vertical functions (e.g. sum, average). This depends on the definition of each function. For more information about functions, refer to ***Vertical Function*** (on page 121).

2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the item and exit the wizard.

Entering Portfolio Information

To select an item's home portfolio and specify whether it should be included in other portfolios:

1) On the **In Portfolios** tab of the Item Wizard, view the following information:
   - **Home Portfolio**: Displays the name of the home portfolio of the item. By default, the item inherits its security settings from its home portfolio.
   - **Others**: If the items is used in other portfolios, those portfolios are listed in this table.
2) To change the home portfolio of the item, complete one of the following steps:
   - Select **Browse** and choose a portfolio.
   - If the desired home portfolio is listed in the Others table, select it and then select **Define as Home Portfolio**. The original home portfolio is now listed in the Others table.
3) To add the item to other portfolios, select **Add**.

   In the **Portfolios** dialog box, select the portfolio or portfolios to which you want to add the item and then select **OK**.

   To select multiple portfolios, hold down the **Shift** or **Ctrl** key on your keyboard as you select additional portfolios.
4) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the item and exit the wizard.

Entering Life Cycle Information

To select a life cycle for an item:

1) On the **Life Cycle** tab of the New Item Wizard, from the **Life Cycle** drop-down list, select the life cycle that you want to apply to the new item.

   When you choose a life cycle, its phases are shown in the **Phases** area. If the chosen life cycle has a description, it is shown in the **Description** area.

   If you want to create a new life cycle, select **<New Life Cycle>**. For more information on using the Life Cycle Wizard, refer to ***Adding Life Cycle Phases*** (on page 151).
2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the item and exit the wizard.

Defining Security Permissions

To define security permissions for the item.

1) On the **Security** tab of the Item Wizard, use the table to view security permissions and **Add**, **Edit**, or **Remove** security permissions.

   By default, items inherit their security permissions from their home portfolios. To change this, deselect **Inheriting settings from**. This will enable you to decide whether to copy previously enabled permissions or remove inherited permissions.
2) For more information on working with security permissions, refer to ***Security*** (on page 443).
3) Click **Finish** to save your changes and close the Item Wizard.

Editing an Item with the Item Wizard

To edit an item with the Item Wizard.

1) From the **Setup** drop-down list, select **Items**.

   The Setup module appears. In the Setup module, the navigation pane shows the Items and Portfolios hierarchy.
2) In the Navigation Pane, select the portfolio that contains the item that you want to edit.
3) In the list area, select the item you want to edit and then select **Edit**.
4) In each tab of the Item Wizard, edit information for the item.

Selecting Items

You can select an item in the **Select an Item or Portfolio** pop-up window. Within this window, items and portfolios are organized in a hierarchy. Items are displayed with icons indicating an open, closed, or candidate status. For more information on status icons, refer to ***Working with Items*** (on page 235).

You can resize the **Select an Item or Portfolio** pop-up window to view longer and shorter item names accordingly. You can also use the scroll wheel on your mouse to move up and down in the list.

Example: Selecting Items

1) Open the **Workbook** module.
2) In the **Item** field of the item workbook, on the toolbar, click the drop-down list. The **Select an Item or Portfolio** pop-up window appears.
3) Select an item from the pop-up window. The selected item appears in the current workbook.

> **Note:** The currently selected item or portfolio is highlighted whenever you open the **Select an Item or Portfolio** pop-up window to assist you in locating it within the hierarchy.

4) To search for an item, click the **Search** tab in the **Select an Item or Portfolio** pop-up window. The **Search** field appears. Type a search string (not case sensitive) and click **Search**. The results of the search appear in the workspace.

> **Note:** The result lists all objects or folders that begin with the requested string first, followed by any object or folder that contains the string. The number of retrieved objects is limited, so you may need to refine your search.

Portfolios

Portfolios are collections of items or other portfolios. They provide you with an overview of various areas of business operations grouped by type of business activity, region or any other parameter. Portfolios normally show summary values for the categories. These values are either manually updated or automatically calculated according to the category settings.

For example, if you define each region's marketing campaign as an item, you can create a marketing portfolio comprised of the items from the various regions. This enables you to rate each of these items by the same scorecard of categories and enables you to compare each item's performance. In addition, the marketing portfolio can show you the total budget or the average risk of the items from the various regions.

This section describes how to create new portfolios using the *New Portfolio Wizard*.

Creating and Editing Portfolios

Creating a Portfolio with the Portfolio Wizard

To create a new portfolio with the Portfolio Wizard.

1) From the **Setup** drop-down list, select **Portfolios**.

   The Setup module appears. In the Setup module, the Navigation Pane shows the Items and Portfolios hierarchy.
2) In the Navigation Pane, select the portfolio to which you want to add the new portfolio.
3) From the **New** drop-down list, select **Portfolio of Items** to create a portfolio that can only contain items, or select **Portfolio of Portfolios** to create a portfolio that can only contain other portfolios.

   The Portfolio Wizard appears.
4) In each tab of the Portfolio Wizard, add and edit information for the portfolio.

Entering General Portfolio Information

To enter general information about the portfolio, including the portfolio name, description, manager and status:

1) On the **General** tab of the Portfolio Wizard, enter the following information:
   - **Name**: The name of the portfolio.

     > **Note**: If you are creating a portfolio from an existing scenario, the default name displays from the selected scenario.

   - **Description**: A brief description of the portfolio. The description can include hypertext.

- **Manager**: The project manager who manages the item. Select a manager from the drop-down list. For information on adding new users, refer to ***Users*** (on page 156).
- **Start**: The date the portfolio is scheduled to start. Either enter a date in format m/d/yyyy, or use the date picker to choose a date.
- **End**: The date the portfolio is scheduled to be completed. Either enter a date in the format m/d/yyyy, or use the date picker to choose a date.
- **Status**: Select the status of the portfolio. A portfolio can be either **Open** or **Closed**.

  The status of a portfolio may determine whether it is included in specific vertical functions (e.g. sum, average). This depends on the definition of each function. For more information on functions, refer to ***Vertical Function*** (on page 121).
- **Domain**: The domain showing this portfolio. The list of available domains can be modified by editing the Domain value list. For more information on editing value lists, refer to ***Value Lists*** (on page 145).

  By assigning a domain for this portfolio, users can relate to the portfolio members as entities other than items, for example, *Clients* or *Initiatives*. The selected domain appears above the Summary Bar in an Investor map in portfolio view mode.
- **Do not perform summary calculations for this portfolio**: Prevents automatic summation of the portfolio. When this option is selected, the icon of the portfolio changes color to indicate that it is non-calculating. For more information refer to ***Non-Calculating Portfolios*** (on page 45).

2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Manually Entering Items and Portfolios

You can manually select the items or portfolios that make up a portfolio. To add items or portfolios using query-based Portfolios, see ***Query-Based Portfolios*** (on page 46).

To manually specify which items are included in the portfolio:

1) On the **Items** tab of the Portfolio Wizard, select **Manual**.
2) To add items or portfolios, click **Add**. A list of items (or portfolios) appears.

   If you chose to add a portfolio from an existing scenario, the items display accordingly.

   If you chose a super portfolio in the investor map, in the scenario content all the items under the portfolios display.
3) In the list of items or portfolios, select the items or portfolios that you want to add to the portfolio. To select multiple items or portfolios, hold down the **Shift** or **Ctrl** key on your keyboard as you select them.

   If you are creating a portfolio of items, you can only select items. If you are creating a portfolio of portfolios, you can only select portfolios.
4) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Using a Query to Enter Items and Portfolios

Query-based selection is used when you want to define a portfolio that includes all of the items that comply with the query's definition.

You can use query-based selection to define the portfolio and then convert the portfolio to manual selection for editing and updating.

To use a query to specify which items to include in the portfolio:

1) On the **Items** tab of the Portfolio Wizard, select **Query**.
2) In the **Query Scope** area, define the scope of the query.

   To include all the portfolios in the query, select **All Portfolios**.

   To limit the query to specific portfolios, select **Limit to Selected Portfolios** and then click **Select**. In the **Portfolios** dialog box, choose the portfolios that you want to query and then select **OK**. To select more than one portfolio, hold down the Shift or Ctrl key while selecting.

   After you select portfolios, select **Edit** to add or remove portfolios from the query. To add portfolios to the query, select **Add**. To remove a portfolio from the query, select it and then select **Remove**.

   Click **OK** to save your selections and return to the *Items* (or *Portfolios*) step.
3) In the **Query Definition** area, define the conditions that the items or portfolios must satisfy.

   For each condition, specify the following information:

   - **Category**: The category of the condition. Each category type has a predefined set of operators and values that populate the drop-down lists when the category is selected. If the category includes indicator values, additional operators are available.
   - **Operator**: The operator for the condition.
   - **Value**: The value or values for the condition. You can select multiple values with the **Ctrl** or **Shift** keys. If the value is a date, you can select it from a calendar.
   - **And /Or**: The relationship between the query and the subsequent query.

     You may group conditions and set logical relations between the groups by adding separator lines. To turn a blank line into a separator line, choose an **And/Or** value for the line and then select another field in the next line.

   Select the **up** or **down arrows**, or select **Remove** to move or delete a selected criterion.
4) Click **Permissions** to view or change the query permissions (to read more about query permissions see ***About Query Based Portfolio Security*** (on page 43). The Query Permissions dialog box appears.
5) In the **User** list, select a user. You can select any user from the list as long as you can provide a password for the selected user.
6) In the **Password** field, enter the selected user's password and click **OK** to save the query permissions.
7) In the **Periodic update** list, specify how often you want the query to be updated. You can select *None* if you don't want the query to be updated, select *Standard, Frequent, or Customized* to have the query automatically updated. The administrator can control the frequency with which query based portfolios are updated. For more information on scheduling tasks, refer to ***Scheduling Tasks*** (on page 433) .
8) Click **Run** to run the query. The query results appear in the **Query Results** area. Query results include all the data that matches the criteria entered in the Query Definition area.

   The date and time of the last instance the present query was run, and the name of the person who ran the query, appear at the bottom of the *Items* (of *Portfolios*) step.
9) To convert items selected by the query to manually selectable items, click **Convert**.

Notes:

- Converting the selection method for the current portfolio is irreversible. The next time you wish to edit that portfolio, the *Manual Selection* dialog box will appear.
- Query based portfolios can also be refreshed and updated by clicking **Run** in the *Query Based Selection* dialog box. Always click **Finish** to save the results.

10) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

About Query Based Portfolio Security

When you run a query, the query finds all items or portfolios that match the criteria from the items and portfolios that the user can see. Only the category values for which the user has Read Data permission are considered.

While the queries don't return the value of a specific category, they could be used to expose the values of restricted data. For example, "include all the projects with budgets over a million dollars" might list categories that are restricted. In order to avoid such an exploit of the system, all queries must have Read Data permission on their source categories.

To grant someone the right to define the query you must have Admin permission on the query-based portfolio. The query will have the same permissions to access data as the specified user.

By default, the query has the same permissions as the user who created the QBP. In some cases, the user who creates the query might want to specify a different permissions level so as to limit the access to items or portfolios that are restricted from the target user group. Bear in mind, however, that if a user's permissions are not sufficient, the resulting QBP will not contain some of the intended items or portfolios.

Any user with Edit permission on the portfolio can see the full query (even if they do not have access to some of the categories) and edit the query. When editing the query, you will be able to select only those categories for which you have Read permission.

Note: Anyone with Edit permissions on the Portfolio can run the query and cause the portfolio to be refreshed with up-to-date results. The permissions of the person who runs the query do not affect the scope of the results in any way. The scope is set only by the permissions of the user that was selected in the Query Permissions dialog box.

Viewing and Editing In Portfolios Information

The In Portfolios tab of the Portfolio Wizard enables you to select the portfolio's home portfolio and view any other portfolios that contain the portfolio.

To view and specify the portfolio's home portfolio, and to view other portfolios that contain the portfolio:

1) On the **In Portfolios** tab of the Portfolio Wizard, view the **Home Portfolio** field and the **Others** list.

   Every portfolio has a single home portfolio. The Home Portfolio field displays the name of the portfolio to which the new portfolio will be added. By default, a portfolio inherits its security settings from its home portfolio.

   If the portfolio was added to other portfolios, those portfolios are listed in the Others list. A new portfolio will not be referenced in any other portfolios.
2) To change the default home portfolio, click **Browse** and choose the desired portfolio. Alternatively, if the desired home portfolio name already appears in the Others list, you can simply select it there and click **Define as Home Portfolio**. The selected portfolio becomes the item's home portfolio, and the previously defined home portfolio is now listed in the Others table.
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Entering Portfolio Life Cycle Information

To select a life cycle for the portfolio:

1) On the **Life Cycle** tab of the Portfolio Wizard, from the **Life Cycle** list, select the life cycle for the portfolio.

   The phases of the life cycle are shown in the **Phases** area, and the description of the life cycle is shown in the **Description** area.

   One of the options in the **Life Cycle** list is **New Life Cycle**. Select this option to access the New Life Cycle Wizard. For more information on using the New Life Cycle Wizard, refer to ***Adding Life Cycle Phases*** (on page 151).
2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Defining Security Permissions

To define security permissions for the portfolio:

1) On the **Security** tab of the Portfolio Wizard, select or deselect the **Inheriting settings from** option.

   By default, new portfolios inherit their security permissions from their home portfolios. This option is selected by default and indicates the name of the home portfolio.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).
3) Click **Finish** to close the Portfolio Wizard and add the new portfolio.

Selecting Portfolios

This section provides an example illustrating how to access the **Select a Portfolio** pop-up window to select a portfolio. Within this window, portfolios are organized in a hierarchy.

In the Investor and Scorecard modules, portfolios are displayed in the Portfolio pop-up list. Portfolios appear with icons indicating an open or closed status. For more information on status icons, refer to ***Investor Module Overview*** (on page 223).

You can resize the **Select a Portfolio** pop-up window to view longer names. In addition, you can use the scroll wheel on your mouse to move up and down in the pop-up list.

1) Click the **Investor** module tab.
2) In the Portfolio field of the Investor map, on the toolbar, click the drop-down list. The **Select a Portfolio** pop-up window appears.
3) Select a portfolio from the pop-up window. The selected portfolio appears in the Investor map.

> **Note:** The currently selected portfolio is highlighted whenever you open the **Select a Portfolio** pop-up window to assist you in locating it within the hierarchy.

4) To search for a portfolio, click the **Search** tab in the pop-up window. A **Search** field appears. Type in a search string (not case sensitive) and click **Search**. The results of the search appear in the workspace.

> **Note:** The result lists all portfolios that begin with the requested string first, followed by any portfolio that contains the string. The number of retrieved portfolios is limited, so you may need to refine your search.

Non-Calculating Portfolios

It is possible to create a portfolio that does not automatically perform the categories' summary. This portfolio type is called Non-Calculating Portfolio. Creating a non-calculating portfolio is convenient whenever the calculations are an unnecessary overhead, for example, in an organizational portfolio.

> **Note:**
>
> - Once you create a non-calculating portfolio, you may change it to a regular portfolio, but the action is irreversible. If you **uncheck** the **Do not perform summary calculations for this portfolio** checkbox, you receive a warning message.
> - Although it is impossible to convert a calculating portfolio into a non-calculating one, you can create a new portfolio and check the **Do not perform summary calculations for this portfolio** checkbox; move all of the items (or portfolios) from the calculating to the non-calculating portfolio; or delete the calculating portfolio.

For more information on the summary row, refer to Summary Row in ***Tour of Scorecards*** (on page 250).

Query-Based Portfolios

Query-Based Portfolios are collections of related items or portfolios that were selected automatically by the system using a predefined query.

You define a query by specifying a set of conditions that the items must satisfy in order to be included in the portfolio. The query results are all the items (or portfolios) that meet the defined criteria.

This section describes how to create new Query-Based Portfolios using the *New Portfolio Wizard*.

Creating a Query-based Portfolio

Entering General Portfolio Information

To enter general information about the query-based portfolio, including the portfolio name, description, manager and status:

1) Open the *New Portfolio Wizard*, as described in Step 1.

> **Note:** When you create a query-based **Portfolio of Items** the second step in the wizard is called **Items** and the icon on the bottom left of the dialog box depicts a portfolio of items. When you create a query-based **Portfolio of Portfolios**, the second step in the wizard is called **Portfolios** and the icon on the bottom left of the dialog box depicts a portfolio of portfolios.

2) In the **Name** field, enter a name for the query-based portfolio.
3) In the **Description** field, enter a brief description of the portfolio. You can include hypertext in the description.
4) In the **Manager** field, from the drop-down list of available users, select the manager of the query-based portfolio.

> **Note:** For more information on adding new users, refer to ***Users*** (on page 156).

5) In the **Start** field, enter the query-based portfolio's start date or select the portfolio's start date from the pop-up calendar.
6) In the **End** field, enter the query-based portfolio's completion date or select the completion date from the pop-up calendar.
7) In the **Status** field, from the drop-down list, select the status of the portfolio. A portfolio can be either **Open** or **Closed**.

> - **Note:** Changing the Status of a portfolio may affect whether that portfolio is included in specific vertical functions (e.g. sum, average, etc.). The inclusion or exclusion of the portfolio depends on the definition of the specific function. For more information on functions, refer to ***Vertical Function*** (on page 121), in Working with

Categories.

8) In the **Domain** field, from the drop-down list, select the domain for this portfolio. The list of available domains can be modified by editing the Domain value list. For more information on value lists, refer to ***Value Lists*** (on page 145).

Note: By assigning a domain for this portfolio, users can relate to the portfolio members as entities other than items, or portfolios, for example, *Clients* or *Initiatives*. The selected domain appears above the Summary Bar in an Investor map in portfolio view mode.

9) Many query based portfolios do not need the portfolio summary calculations, which impose an unnecessary load on the system. Check the **Do not perform summary calculations for this portfolio** check box to prevent automatic summation of this portfolio. As soon as you check the box the portfolio icon changes color to denote its new status.

Note: Once you create a non-calculating portfolio, you may change it to a regular portfolio, but the action is irreversible. If you **uncheck** the **Do not perform summary calculations for this portfolio** checkbox, you receive a warning message:

For more information, refer to ***Non-Calculating Portfolios*** (on page 45).

10) Click **Next** to proceed to the next step in the New Portfolio Wizard, where you select the items or portfolios to be included in the new portfolio.

Using a Query to Enter Items and Portfolios

Query-based selection is used when you want to define a portfolio that includes all of the items that comply with the query's definition.

You can use query-based selection to define the portfolio and then convert the portfolio to manual selection for editing and updating.

To use a query to specify which items to include in the portfolio:

1) On the **Items** tab of the Portfolio Wizard, select **Query**.
2) In the **Query Scope** area, define the scope of the query.

   To include all the portfolios in the query, select **All Portfolios**.

   To limit the query to specific portfolios, select **Limit to Selected Portfolios** and then click **Select**. In the **Portfolios** dialog box, choose the portfolios that you want to query and then select **OK**. To select more than one portfolio, hold down the Shift or Ctrl key while selecting.

   After you select portfolios, select **Edit** to add or remove portfolios from the query. To add portfolios to the query, select **Add**. To remove a portfolio from the query, select it and then select **Remove**.

   Click **OK** to save your selections and return to the *Items* (or *Portfolios*) step.
3) In the **Query Definition** area, define the conditions that the items or portfolios must satisfy.

   For each condition, specify the following information:

- **Category**: The category of the condition. Each category type has a predefined set of operators and values that populate the drop-down lists when the category is selected. If the category includes indicator values, additional operators are available.
- **Operator**: The operator for the condition.
- **Value**: The value or values for the condition. You can select multiple values with the **Ctrl** or **Shift** keys. If the value is a date, you can select it from a calendar.
- **And /Or**: The relationship between the query and the subsequent query.

You may group conditions and set logical relations between the groups by adding separator lines. To turn a blank line into a separator line, choose an **And/Or** value for the line and then select another field in the next line.

Select the **up** or **down arrows**, or select **Remove** to move or delete a selected criterion.

4) Click **Permissions** to view or change the query permissions (to read more about query permissions see ***About Query Based Portfolio Security*** (on page 43). The Query Permissions dialog box appears.
5) In the **User** list, select a user. You can select any user from the list as long as you can provide a password for the selected user.
6) In the **Password** field, enter the selected user's password and click **OK** to save the query permissions.
7) In the **Periodic update** list, specify how often you want the query to be updated. You can select *None* if you don't want the query to be updated, select *Standard, Frequent, or Customized* to have the query automatically updated. The administrator can control the frequency with which query based portfolios are updated. For more information on scheduling tasks, refer to ***Scheduling Tasks*** (on page 433) .
8) Click **Run** to run the query. The query results appear in the **Query Results** area. Query results include all the data that matches the criteria entered in the Query Definition area.

   The date and time of the last instance the present query was run, and the name of the person who ran the query, appear at the bottom of the *Items* (of *Portfolios*) step.
9) To convert items selected by the query to manually selectable items, click **Convert**.

Notes:

- Converting the selection method for the current portfolio is irreversible. The next time you wish to edit that portfolio, the *Manual Selection* dialog box will appear.
- Query based portfolios can also be refreshed and updated by clicking **Run** in the *Query Based Selection* dialog box. Always click **Finish** to save the results.

10) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Viewing In Portfolios Information

To view In Portfolios information for the query-based portfolio:

1) On the **In Portfolios** tab of the Portfolio Wizard, view the following information:

- Every portfolio has a single home portfolio. The *Home Portfolio* field displays the name of the home portfolio of the new portfolio. By default, a portfolio inherits its security settings from its home portfolio.
- If the portfolio has been added to other portfolios, those portfolio names are displayed in the *Others* table.

2) To change the default home portfolio, click **Browse** and select the desired portfolio.
3) Alternatively, if the desired home portfolio name already appears in the *Others* table, you can simply select it and click **Define as Home Portfolio**. The selected portfolio becomes the item's home portfolio. The previously-defined home portfolio is listed in the *Others* table.
4) Click **Next** to proceed to the next step of the *New Portfolio Wizard*, where you select a life cycle for the portfolio.

Entering Portfolio Life Cycle Information

To select a life cycle for the portfolio.

1) From the *In Portfolios* step, click **Next**. The *Life Cycle* step of the *New Portfolio Wizard* appears.
2) In the **Life Cycle** field, from the drop-down list, select the life cycle for the new portfolio from the list of available life cycles. The phases of the life cycle appear in the **Phases** area, and the description of the life cycle appears in the **Description** area.

> **Note:** One of the options in the drop-down list is **New Life Cycle**. Select this option to access the *New Life Cycle Wizard* in order to create a new life cycle. For more information on using the New Life Cycle Wizard, refer to ***Adding Life Cycle Phases*** (on page 151).

3) Click **Next** to proceed to the next step of the *New Portfolio Wizard*, where you define the portfolio's security permissions.

Defining Security Permissions

You can define security permissions for the portfolio.

By default, new portfolios inherit their security permissions from their home portfolio. Thus, the Inheriting settings from box at the top of the *Security* step is selected and indicates the name of the home portfolio.

On the Security tab, you can add, remove, or edit security permissions. For information on working with security permissions, refer to ***About Query Based Portfolio Security*** (on page 43).

About Query Based Portfolio Security

When you run a query, the query finds all items or portfolios that match the criteria from the items and portfolios that the user can see. Only the category values for which the user has Read Data permission are considered.

While the queries don't return the value of a specific category, they could be used to expose the values of restricted data. For example, "include all the projects with budgets over a million dollars" might list categories that are restricted. In order to avoid such an exploit of the system, all queries must have Read Data permission on their source categories.

To grant someone the right to define the query you must have Admin permission on the query-based portfolio. The query will have the same permissions to access data as the specified user.

By default, the query has the same permissions as the user who created the QBP. In some cases, the user who creates the query might want to specify a different permissions level so as to limit the access to items or portfolios that are restricted from the target user group. Bear in mind, however, that if a user's permissions are not sufficient, the resulting QBP will not contain some of the intended items or portfolios.

Any user with Edit permission on the portfolio can see the full query (even if they do not have access to some of the categories) and edit the query. When editing the query, you will be able to select only those categories for which you have Read permission.

> **Note:** Anyone with Edit permissions on the Portfolio can run the query and cause the portfolio to be refreshed with up-to-date results. The permissions of the person who runs the query do not affect the scope of the results in any way. The scope is set only by the permissions of the user that was selected in the Query Permissions dialog box.

Investor Maps

The Investor Map is the strategic center of the application. It provides a strategic planner that enables you to create maps that display defined business goals and parameters in a single, easy-to-understand map format.

For instructions on how to create Investor Maps, refer to ***Creating an Investor Map*** (on page 50).

Creating an Investor Map

This section describes how to create an Investor Map using the Map Wizard.

Creating an Investor Map with the Map Wizard

To create an investor map with the Map Wizard.

1) From the **Setup** list, select **Setup**.
2) In the **Setup** field, select **Maps**.
   The **Maps** folder hierarchy appears.
3) In the **navigation pane**, select a folder. This will be the default home folder for the map.
4) From the **New** drop-down list, select **Map**.
   The Map Wizard appears.
5) In each tab of the Map Wizard, add and edit information for the map.

Entering General Map Information

To enter general information about the map, including the map name, description, owner, and version:

1) On the **General** tab of the Map Wizard, enter the following information:
   - **Name**: The name of the map.
   - **Description**: A brief description of the map. The description can include hypertext.
   - **Owner**: The owner of the map. Only users who have administrator privileges can choose who owns a map.
   - **Data as of**:The version of the map to apply. The default setting is < *User-selected* >. You may also create a new version. If a version is selected here, the map will always be displayed with the data as of the version selected here. The map background will be the regular background color. Only areas showing versioned data as a result of the end-user selecting a version in the Select a Version popup are colored using a standard neutral peach color.
2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Entering Map Axes Information

To enter information that defines the parameters for the map axes:

> **Note:** Axes categories can be set in the *Map Axes* step and the *Axes Labels* step. A change in either of these steps updates the information in both steps.

1) On the **Map Axes** tab of the Map Wizard, from the **Portfolio** drop-down list, select the portfolio that you want to use to preview your map.
2) From the **X axis** drop-down list, select the category for the X axis.
3) From the **Y axis** drop-down list, select the category for the Y axis.
4) From the **Color** drop-down list, select the category according to which item bubbles are colored.

   The color is determined by the indicator of the selected category.
5) From the **Size** drop-down list, select the category according to which item bubbles are sized.
6) From the **View** list, select a view mode in order to preview your map.

   If you are viewing a portfolio of items, **Item view mode** is the only mode available.

   If you are viewing a portfolio of portfolios and you want to view the distribution of portfolios rather than the items they contain, select **Portfolio view mode**.
7) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Entering Axes Labels Information

To enter information that defines the labels of the map axes:

1) On the **Axes Labels** tab of the Map Wizard, view or change the category selection of each of the **Axes** fields.

   This step is optional. You should have already specified the Axes on the Map Axes tab, but you can change them on the Axes Labels tab too. If you change the axes on one of these tabs, that change is visible on the other.

2) For each of the **Axes** fields, edit the **Labels** field. Labels appear next to the axes in the map display. To change a Label, click in the field and type the desired name.

   Labels do not need to be unique.

   By default, category labels are <follows name>, mirroring the category name. That way, if you change the category name, the Label automatically changes accordingly.
   If a label differs from the category name and you'd like it to revert back to <follows name>, you can either delete the label, or replace it with the exact category name.

3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Entering Alternative Axes Information

To define alternative color and size axes for your map:

1) On the **Alternative Axes** tab of the Map Wizard, by the **Color** or **Size** lists, select **Add** to add additional sorting categories.

   In each list of categories, select the category or categories that you want to add. To select multiple categories, hold down the **Shift** or **Ctrl** key on your keyboard as you select additional categories.

2) For each row in each table, edit the **Label** field.

   Labels do not need to be unique.

   By default, each category label mirrors its corresponding name but is shown on the list as "<Name>." If a label differs from its name and you'd like it to revert back, delete it.

   To remove categories from the **Color by** or **Size by** boxes, select the categories and click **Remove**.

3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Entering Dashboard Information

You can define drill-down dashboards from a specific map. The dashboard is accessed when right-clicking a bubble, and choosing the **Dashboard** option from the menu. For more information on this menu refer to ***Accessing the Item Menu*** (on page 237).

As some graphs are relevant only for portfolios, you can define one dashboard for items and another for portfolios.

1) In the **Dashboard** step of the Map Wizard, in the **Item Dashboard** area, select one of the following options:
   - **None:** Select this option if you do not want a dashboard to be available when selecting an item bubble on the Investor map.

- **Automatic (default):** Select this option to generate an automatic dashboard when selecting an item bubble on the Investor map. An automatic dashboard is generated for each of the four categories that are used as the map axes.
- **Other:** Select this option if you want to associate an existing dashboard to the item bubble. Select the required dashboard from the drop-down list, and then select the tab that will be seen first.

2) In the **Portfolio Dashboard** area, select one of the following options:
   - **None:** Select this option if you do not want a dashboard to be available when selecting a portfolio bubble on the Investor map.
   - **Automatic (default):** Select this option to generate an automatic dashboard when selecting a portfolio bubble on the Investor map. An automatic dashboard is generated for each of the four categories that are uses as the map axes.
   - **Other:** Select this option if you want to associate an existing dashboard to the bubble. Select the required dashboard from the drop-down list, and then select the tab that will be seen first.
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Viewing and Editing In Folders Information

The In Folders tab of the Map Wizard enables you to select the map's home folder and view any other folders that contain the map.

To view and specify the map's home folder, and to view other folders that contain the map:

1) On the **In Folders** tab of the Map Wizard, view the **Home Folder** field and the **Others** list.

   Every investor map has a single home folder. The **Home Folder** field displays the name of the home folder of the new investor map. By default, all maps inherit their security settings from their home folders.

   If the investor map was added to other folders, those folders are listed in the **Others** list. A new investor map will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the investor map. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the investor map's home folder, and the previously defined folder is listed in the Others table.
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Defining Security Permissions

To define security permissions for the map:

1) On the **Security** tab of the Map Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the map's home folder.

2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions for maps, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the portfolio and exit the wizard.

Entering Knowledge Information

The Knowledge tab enables you to provide information about how maps should be used in your information. Many of the maps included in your system already have knowledge content. You can view this content while you are working with a map. You can also create your own knowledge content and add to existing knowledge content. Knowledge content must be plain text. It cannot be formatted with italics, underlined text, bold text, etc.

To view and edit Knowledge content for a map:

1) On the **Knowledge** tab of the Map Wizard, in the **Knowledge** text area, enter the information that you want to be available for this map.
2) Select **Preview** to view the hint you have created and any other existing hints for this object.
3) Select **Close** to close the dialog box and return to the Knowledge tab of the Map Wizard.
4) Select **Finish**.

   The new map is saved to the list of available maps.

Scorecards

The *Scorecard* module is the tactical center, and core management console. Scorecards use a table format in order to provide you with both a quick and comprehensive look at company performance as well as early warning signs of potential problems. The *Scorecard* enables you to easily see the general performance of single, or multiple items in a portfolio, or the performance of a particular category, based on general areas of business activity, geographic location, or any other predefined criteria.

The *Scorecard* is a versatile and dynamic tool. Various types of categories and items can be viewed simultaneously, including qualitative, quantitative, subjective and data-driven indicators and values.

For instructions how to create Scorecards, refer to ***Creating a Scorecard*** (on page 54), in Working with Scorecards.

Creating a Scorecard

You can create a new scorecard using the *Scorecard Wizard*. Scorecards are essentially tables comprised of categories used to evaluate the performance of items or portfolios.

Creating a Scorecard with the Scorecard Wizard

To create a scorecard with the Scorecard Wizard:

1) In the **Setup** list, select **Setup**.

2) In the **Setup field**, select **Scorecards**.
3) In the **navigation pane**, select a folder. This will be the default home folder for the scorecard.
4) From the **New** drop-down list, select **Scorecard**.

   The Scorecard Wizard appears.
5) In each tab of the Scorecard Wizard, add and edit information for the scorecard.

Entering General Scorecard Information

To enter general scorecard information:

1) On the **General** tab of the Scorecard Wizard, enter the following information:
   - **Name**: The name of the scorecard.
   - **Description**: A brief description of the scorecard. You can include hypertext in the description.
   - **Owner**: The owner of the scorecard.
   - **Default Dynamic List Type**: Select the dynamic list type to be associated with this scorecard from the list.
2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the map and exit the wizard.

Defining Scorecard Categories

The **Categories** tab of the Scorecard Wizard shows a table that lists categories. Every row in this table represents a column in the scorecard. You use the Categories tab to create columns in the scorecard:

To define the categories for the scorecard:

1) On the Categories tab of the Scorecard Wizard, view the category table. It includes the following columns:
   - **Name**: The actual name of the category.
   - **Data as of**: The date on which category data is seen in the scorecard. <User-selected> is the default definition.
   - **Name Label**: The label that appears in the column header in the scorecard. By default, each **Name Label** value mirrors the corresponding category name, and it is shown as <Name>.
   - **Date Label**: By default, no date labels are shown in the scorecard. If a version or date is selected in the **Data as of** cell, or if a date label is entered directly, the label is shown below the Name Label in the scorecard's column header.
   - **Val:** Check this option to show the category value in the scorecard cell.
   - **Ref:** Check this option to show the category reference information in the scorecard cell.
   - **Ind:** Check this option to show the category indicator in the scorecard cell.
   - **Bgc**: Check this option to change the background color of the cell instead of displaying the indicator. This option is only used for indicators derived from functions.

> **Note**: Each value must have the **Val** or the **Ind** setting selected.

2) To add categories, click **Add**, choose the categories that you want to add, and then click **OK**.
   To select multiple categories, hold down the **Shift** or **Ctrl** key on your keyboard as you select additional categories.
   For more information on various options available in this wizard step see ***Additional Options*** (on page 56).
3) Select **Next** to proceed to the next tab of the wizard, or click **Finish** to save the map and exit the wizard.

Additional Options

This subsection discusses additional options for defining Scorecard categories.

Copying a Row in the Scorecard

To copy a row in the scorecard:

You may use the same category multiple times, defining different dates for each instance.

1) Select the desired category row and select **Copy**.
2) To insert the copied category row into the scorecard below the focused category line, click **Paste**.
3) To insert the copied category elsewhere in the scorecard, select the category line above the desired location, and then select **Paste**.

> **Note:** You can paste a category as many times as you like.
> To create a new category click on the New button. For more information on adding new categories, refer to ***Creating or Editing a Category*** (on page 101), in Working with Categories.

Changing a Name Label in the Scorecard

To change a Name Label in the scorecard:

Name Labels appear in the column headings of the scorecard.

1) To change a **Name Label**, select a category row.
2) Type the desired name in the **Name Label** cell.

> **Notes:**
>
> - Labels need not be unique.
> - If a name label differs from the category name and you want it to revert back to <Name>, you can either delete the label, or replace it with the exact category name.

Changing a Date Label in the Scorecard

To change a Date Label in the scorecard:

The Date Label appears as part of the column headings of the scorecard. By default, no date labels are shown. If a version or date is selected in the **Data as of** cell, or if a date label is entered directly, the label is shown in the scorecard's column header, below the Name Label.

1) To change a Date Label, select the category row.
2) Type the desired label in the Date Label cell.

Notes:

- By default, the Date Label is set to mirror the Data as of definition. This way, if you change the Data as of definition, the Date Label automatically changes accordingly.
- If a Date Label differs from the Data as of definition and you want it to revert back to the default, open the calendar and select the Data as of date.

Changing the Order of the Columns in the Scorecard

To change the order of the columns in the scorecard:

1) Each row in the wizard's table is shown as a column in the scorecard. Focus on a row and select the desired Move Row option:
   - **Move to Top**- moves the selected row to the top. The top most row is shown as the first of the category columns in the scorecard.
   - **Move Up**- moves the selected row up one row.
   - **Move Down**- moves the selected row down one row.
   - **Move to Bottom**- moves the selected row to the bottom. The bottom-most row in the list is the last column in the scorecard.

Viewing and Editing In Folders Information

The In Folders tab of the Scorecard Wizard enables you to select the scorecard's home folder and view any other folders that contain the scorecard.

To view and specify the scorecard's home folder, and to view other folders that contain the scorecard:

1) On the **In Folders** tab of the Scorecard Wizard, view the **Home Folder** field and the **Others** list.

   Every scorecard has a single home folder. The **Home Folder** field displays the name of the home folder of the new scorecard. By default, all scorecards inherit their security settings from their home folders.

   If the scorecard has been added to other folders, those folders are listed in the **Others** list. A new investor map will not be referenced in any other folders.

2) To change the default home folder, click **Browse** and select the desired folder. Alternatively, if the desired home folder name already appears in the **Others** table, you can simply select it and click **Define as Home Folder**. The selected folder becomes the scorecard's home folder. The previously-defined folder is listed in the Others table.
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the scorecard and exit the wizard.

Defining Security Permissions

To define security permissions for the scorecard:

1) On the **Security** step of the Scorecard Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).
3) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the scorecard and exit the wizard.

Entering Knowledge Information

The Knowledge tab enables you to provide information about how scorecards should be used. Knowledge content must be plain text. It cannot be formatted, so no italics, underlines, bold text, etc.

To view and edit Knowledge content for a scorecard:

1) On the **Knowledge** tab of the Scorecard Wizard, in the **Knowledge** text area, enter the information that you want to be available for this scorecard.
2) Select **Preview** to view the hint you have created and any other existing hints for this object.
3) Select **Close** to close the dialog box and return to the Knowledge tab of the Map Wizard.
4) Select **Finish**.

Viewing Sub-Items in a Scorecard

To view sub-items in a scorecard:

1) In the **navigation pane**, select **Scorecard Module**.
2) In the **Scorecard** list, select **Edit...** to edit an existing scorecard.

   The **Scorecard** wizard displays.
3) In the **General** tab, select a **Default Dynamic List Type** to associate this scorecard with a specific type of sub-items. For example, select *Contracts*.
4) Select **Finish** and return to the Scorecard page.
5) In the **View** list, select **Show Sub Items**.
6) In the **Sub-Items** page, you can perform any of the following actions:

- In the **Name** column, click the **+** plus or **-** minus buttons to expand or collapse items below a sub-item.
- In the **Filter By** list, you can further shorten the list of sub-items by selecting the categories within the scorecard.
- Click **Export** to export the results to a .csv file. In addition to the scorecard categories, the following columns are available in the exported file:
  - **Name**: The name of the sub-item.
  - **Type**: The type of sub-item. Valid values include: **Portfolio**, **Sub-Item**, and **Item**.
  - **Dynamic list Type**: The dynamic list type associated with the sub-item.
  - **Status**: The status of the item or portfolio or the status of the sub-item.

Tabs

Tabs are the main building block for both forms and dashboards. A tab is a single display page containing data components arranged in group boxes. There can be as many as twenty tabs on a form or a dashboard, but only one tab is seen at a time. The same tab can be used in many different forms or dashboards.

A tab contains one or more group boxes. Group boxes are visual aids used to separate and organize a tab's components into manageable areas. Group boxes contain various types of data components, such as text or numeric fields, tables, graphs and lists.

Designing a Tab

Tabs are the main building block for both forms and dashboards. A tab is a single display page containing data components arranged in group boxes. There can be as many as twenty tabs in a form or a dashboard, but only one tab is seen at a time. The same tab can be used in many different forms or dashboards. For more information on tabs, refer to ***Creating a Tab*** (on page 59), in Working with Tabs.

Creating Tabs

Tabs are used to define both forms and dashboards. A tab is a single display page containing data components arranged in group boxes. There can be as many as twenty tabs in a form or a dashboard, but only one tab can be seen at a time. The same tab can be used in many different forms or dashboards.

For instructions how to create tabs, refer to ***Creating a Tab*** (on page 59).

Creating a Tab

This section describes how to create and design a tab using the **Tab Wizard.**

> **Note:** *Inserting Tab Components* (on page 65) describes how to design and add the components that make up the tab.

Creating a Tab with the Tab Wizard

To create a tab with the Tab Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Tabs**.
3) In the **navigation pane**, select the folder to which you want to add the tab.
4) From the **New** list, select **Tab**.
   The Tab Wizard appears.
5) In each tab of the Tab Wizard, add and edit information for the tab.

Entering General Tab Information

To enter general tab information:

1) On the **General** tab of the Tab Wizard, enter the following information:
   - **Name**: The name of the tab.
   - **Description**: A brief description of the tab. You can include hypertext in the description.
   - **Owner**: The owner of the tab.
2) Select **Next** to proceed to the next tab of the wizard, or select **Finish** to save the tab and exit the wizard.

Components Tab Overview

The Components tab of the Tab Wizard is where you design the tab. On the Components tab, you use a table to define the layout of the tab, its group boxes, and the data components that the group boxes contain.

Action Buttons

To select a row on the Components tab, click the # field in that row.

These action buttons are used to define rows in the Tab Components table:

- **Insert**: Inserts a new row above the selected row.
- **Edit...**: Opens the wizard that enables you to modify the properties of the selected component. Any changes made will affect all instances of the selected component, wherever it is used in the system.
- **Copy**: Copies the selected row to the clipboard.
- **Paste**: Pastes the copied line from the clipboard to the row above the selected row.
- **Remove**: Removes the selected row.
- **Move Row Control**:
  - Move to Top- moves the selected row to the top.
  - Move Up- moves the selected row up one row.
  - Move Down- moves the selected row down one row.
  - Move to Bottom- moves the selected row to the bottom.

Group box rows move as a single unit, with their included components. Therefore, when you move a group box row up or down, the selected group box moves above or below the neighboring group box.

Components Table Columns

The Tab Components table includes these columns:

- ***# Order Number Column*** (on page 61)
- **** Required Field Column*** (on page 61)
- ***Read-Only Column*** (on page 62)
- ***Component Column*** (on page 62)
- ***Name Column*** (on page 62)
- ***Data as of Column*** (on page 63)
- ***Label Column*** (on page 63)
- ***Category Related Columns*** (on page 63)
- ***Ann (Annotation) Column*** (on page 63)
- ***Prm (Prompt) Column*** (on page 63)
- ***Height Column*** (on page 64)

Order Number Column

The # Order Number column shows the positions of group boxes on the tab and elements within group boxes.

Whole numbers in this column represent group boxes. Decimal numbers represent components within group boxes. For example, say the table shows a row with an Order Number value of 1 and another row with an Order Number value of 1.1. The row with the Order Number value of 1 represents a group box, and the row with the Order Number value of 1.1 represents a component within the group box. A group box with an Order Number value of 1.2 would represent another component within the group box.

If you want to use your own numbering scheme instead of the automatic numbering provided by the Tab Wizard, select **Hide group box numbers** and add your own numbers in the **Label** cell.

* Required Field Column

An asterisk (*) in any column indicates that the corresponding component is mandatory. If selected, an asterisk will appear next to the label to indicate that the component is required. If the user has entered no data in a required field, the system indicates this error by underlining the field's name with a red wavy line.

By default required fields are not enforced. You can define the degree of enforcement of required fields. Enforcement options are as follows:

- **Must be completed on all tabs**: users must fill in all of the required fields on all the tabs of the form. In this option, if users enter data in any tab, they must fill all required fields in all the tabs before submitting the form.

- **Must be completed on modified tabs only**: the user must fill all of the required fields on any of the modified tabs. In this option, if the user must fill all required fields only in the tabs he has modified, before submitting the form.
- **Are not enforced**: This option regards required fields as recommendation only. If required fields are not filled, a message will appear, but the form can be submitted.

Read-Only Column

Check the Read-Only column to indicate that the data in the component is read-only and therefore, cannot be changed by the user.

Component Column

A component is any element that you can enter data into or view data about. The component type is shown in the Component column. Double click on a Component cell to select the type of component from the drop list, or to create a group box.

This table illustrates which Components Table columns are relevant for each component:

Component	Required	Read-Only	Data as of	Label	Name	Val	Ref Ind		Ann	Prompt	Height
Category: Both	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Category: Indicator	✓	✓	✓	✓	✓			✓	✓	✓	✓
Category: Value	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Category (text area)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Item name	✓			✓						✓	
Item parent	✓			✓						✓	
Table			✓	✓	✓						
Graph			✓	✓	✓				✓	✓	
Dynamic List		✓		✓							✓
Transfer Tool				✓							✓
Phases list		✓		✓							✓
Deliverables list		✓		✓							✓
Dependencies list		✓		✓							✓
Links list - Category		✓		✓							✓
Links list - Items		✓			✓						✓
Web portlet		✓		✓							✓
Empty row			✓								

Name Column

In the Name column you select the specific component from the relevant drop list. For example, after selecting "Graph" as the component type, double click on a Name cell to select which graph to show, from the graph list.

Data as of Column

The default Data as of column is **< User-selected >** which enables the user to define the version or date of the data shown in the component. Select a specific version to disable user selection.

Label Column

A label appears next to the component. In most cases, the system suggests a label automatically, according to the component type or category name you have selected. You may change or replace the suggested label.

Category Related Columns

If you have selected a Category component or a Cat. (text area) component, you may use these columns to determine which attributes of the category will be displayed. You can define the attributes of a category in the Category Wizard. These attributes are described below. For more information on the Category Wizard, refer to ***Step 1: Creating a Category with the Category Wizard*** (on page 101) in Working with Categories

You can display all or only some of a category attributes. You can select whether to display the value, reference, indicator or annotation attributes, in addition to a prompt.
In the figure below, each category attribute, as well as a prompt, is displayed.

The Category Related Columns are:

- **Val (Value)**
  Check Value to view the data entry field for category component in the tab. The Value cell of category components is checked by default
- **Ref (Reference)**
  Check Reference to display the reference value field together with the data entry field. This enables you to compare the two values. You can assign a reference value to any category using the Category Wizard (refer to ***Categories*** (on page 100)).
- **Ind (Indicator)**
  Check Indicator to display a status indicator associated with the selected category for the data entry field.

Ann (Annotation) Column

Check the Ann (Annotation) column to display a text box in which the user can enter notes or comments. You may also specify the height of the text box, defining the default number of lines shown before a vertical scroll appears.

Prm (Prompt) Column

The Prm (Prompt) column displays next to category related components, set in a smaller font. You can use a prompt to explain specific components. A prompt can be set for the following components: Category, Cat. (text area), Item name, Item Parent, Graph and Transfer Tool. To define a prompt enter the required text into the Prompt box on the bottom right of the Components table. After the text is entered, a check mark appears in the table's Prompt cell.

Height Column

The Height column is measured in rows. You can adjust the height of a component in order to provide a better view of the information it contains. For example, you may increase the size of text boxes to show more text. The height of the following fields is set to "2" and "4" respectively.

> **Note:** Height is a relative measurement that helps approximate the total vertical size of a component and its surrounding margins in the final display. Generally speaking, a category data entry field, including its top and bottom margins, is measured as a height of 1. The number in the Height column represents the defined number of rows for the component.

To reduce the number of dynamic list rows displayed in a tab, enter a minimum height value of *5*. This will display only 3 rows in a dynamic list.

Components Table Rows

The Components Table rows display a numbered list of all the components included in the Tab. Group box rows are gray, data component rows are white.

Group Box Rows

Group boxes are used to organize components in separate areas. Group boxes can contain any type of component.

Each tab can contain up to ninety nine group boxes. There are four group box widths, relative to the screen's width: 4/4 (full screen), 3/4, 2/4 (half screen) and 1/4. Group boxes are automatically arranged according to their order and size.

To create a group box:

1) Select a row in the Components Table above which you wish to insert a row.
2) Click **Insert** to insert a new row above the selected row.

> **Note:** You can also add a row to the Components Table by double-clicking the next available row and entering relevant details.

3) Double-click the cell in the Component column of the new row and select the appropriate group box size from the bottom of the Component drop-down list.
4) Double-click the cell in the Label column and enter a name for the group box.

> **Note:** The height of the group box appears in the height column. It is calculated automatically by summarizing the total height of all the components included in the group box.

Data Component Rows

Data components are displayed within a group box. The data components available in a Tab are:

- Category
- Category (text area)
- Item name
- Item parent
- Table
- Graph
- Dynamic List
- Transfer Tool
- Phases list
- Deliverables list
- Dependencies list
- Links list
- Web portlet
- (Empty row)

The above components are described in detail in ***Inserting a Component*** (on page 66).

Display Area

There are two options in the Display Area:

- **Hide Group Box Numbers**: Group box numbers are shown on by default. Hide Group Box Numbers hides the group box number on the displayed form or dashboard. The numbers will still appear in the Components Table, but will be hidden in the form or dashboard view.

  If you want to use your own numbering scheme, rather than the automatic numbering provided by the Tab Wizard, select **Hide group box numbers**, and add your own numbers in the **Label** field.
- **Display Width**: Set the width of a tab according to the expected screen resolution of the end-user. Tabs can be set to 800, 1024, 1366, 1680, or 1920 pixels.

  If you expect a screen resolution of 800 X 600 pixels, select 800. If you expect a screen resolution of 1024 X 768 pixels, select 1024. Tabs wider than the screen resolution will still be viewed using a horizontal scroll.

Additional Text Areas

There are two additional text areas:

- **Description Box**: When the selected component has a description, it is shown in the Description box.
- **Prompt Box:** The prompt is shown next to category related components, set in a smaller font. You can use a prompt to explain specific components. A prompt can be set for the following components: Category, Cat. (text area), Item name, Item Parent, Graph and Transfer Tool. To define a prompt enter the required text into the Prompt box. After the text is entered, a check mark appears in the table's Prompt cell.

Inserting Tab Components

On the Components tab, you can add the following components:

Inserting a Component

To insert a component in a table:

1) Select a row in the Components Table above which you wish to insert a row.
2) Click **Insert** to insert a new row above the selected row.

> **Note:** You can also add a row to the Components Table by double-clicking the next available row and entering relevant details.

3) Double-click the cell in the Component column of the new row and select the desired component type from the Component drop-down list.
4) If applicable, double-click the Name cell of the new row and select the specific object to be displayed. The pop-up list shows relevant objects according to the selected component type. You can also choose to create a new object of the selected type.
5) As you select the object, a default label, based on the object name, is automatically entered in the Label cell.
6) Double-click the Label cell if you want to change the default label.
7) If you want to define the component as required, check the * cell. If you want to define the component as read-only, check the (-) cell.
8) Select a **Data as of** version. The default Data as of is **< User-selected >** which enables the user to define the version or date of the data shown in the component. Selecting a specific version will disable the option of user selection.
9) For Category related components, click to check the **Reference**, **Indicator**, or **Annotation** cells to display their respective fields alongside the category.
10) When the **Edit** button is enabled, additional properties of the selected component can be defined.
11) Enter or edit the description of the category component in the **Description of** field. A description can be set for the following components: Category, and Cat. (text area).
12) If you want to add a prompt, enter the required text in the **Prompt** field. After the text is entered, a check mark appears in the table's **Prompt** cell. The prompt will be shown next to category related components, set in a smaller font. You can use a prompt to explain specific components. A prompt can be set for the following components: Category, Cat. (text area), Item name, Item Parent, Graph and Transfer Tool.

> **Note:** If a prompt is too long to fit in a group box, adjust the width of the group box. You may also increase the height of the text box to allow additional prompt text to fit beside it. For information on group box sizing, refer to ***Group Box Rows*** (on page 64).

Inserting a Category Component

Category components are used to view and update values of categories. Generally, you would want to display the value of the category; however, you may also specify a version of the value (Data as of), restrict access to read-only, or display other attributes of the category in the same row (for example, a reference value and an indicator). You may also display an annotation or a prompt.

To insert a Category field:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Category** from the Component drop-down list.
3) In the **Description of** field, enter a description of the Category (Text Area) component being added. This will display as a tooltip when you hover over it on a form or a dashboard.
4) Check the Reference, Indicator, or Annotation cells to display their respective fields alongside the category value or instead of it.

Inserting a Category (Text Area) Component

A Category (Text Area) component is used to display and update text categories when longer textual entries are expected. A Category (Text Area) component is a text box where long texts can be read, copied from or pasted.

> **Note:** For text categories that contain a short string, such as a serial number or a name, use the regular category fields (see previous topics). For text categories consisting of a single paragraph or more, it is preferable to use the Category (Text Area) component (as described in this topic).

To insert a Category (Text Area) field:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Cat. (Text Area)** from the Component drop-down list.

> **Note:** Only text type categories appear in the **Name** pop-up list.

3) In the **Description of** field, enter a description of the Category (Text Area) component being added. This will display as a tooltip when you hover over it on a form or a dashboard.
4) Double-click the Height cell and adjust the displayed height for the field accordingly.

Inserting an Item Name Field Component

An Item Name field enables the end user to rename the relevant item or portfolio. An Item Name field is, by default, a required field. When a new item or portfolio is created, the user is required to enter a name for it before submitting the form or dashboard. Therefore, if you are building a form for creating new items or portfolios, you must include the Item Name component on the form's first tab.

To insert an Item Name field:

Select **Item Name** from the Component drop-down list. The * cell is automatically checked to indicate that the field is required. The label `Item Name' is automatically entered in the Label cell.

Inserting an Item's Parents Field Component

Each item or portfolio only has one home portfolio from which the item or portfolio inherits its security settings. Items and portfolios can be included in other parent portfolios.

The Item's Parents field can be displayed in the following modes:

- **Home Portfolio** (default) - allows you to select a single portfolio as the home portfolio of the item.

Note: You must have a Home Portfolio field for a new item.

- **All Portfolios** - allows you to select a single portfolio as the home portfolio and also display an editable list of all other parent. This mode should be when it is important to review the item's portfolio relationships in the system, such as in administrative or item reviews.

For more information on Item's Parents fields, refer to ***Entering Data in an Item's Parents Field*** (on page 299) in Working with Forms.

To insert an Item Parent field:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Item Parent** from the Component drop-down list. Home Portfolio is the default mode. The label `Home Portfolio' is automatically entered in the Label cell, and `1' is automatically entered in the Height cell. A check is automatically entered in the * cell to indicate that the field is required.
3) To change the default mode, select the item parent row and click **Edit**. The Item's Parents dialog box is displayed.
4) Choose one of the following options:
   - **Home Portfolio** - the default is Home Portfolio, showing a single field where one portfolio can be selected.
   - **Other Portfolios** - choose this option if you want to display a list of the all the other portfolios containing the item. The default label for this field is `Other Portfolios'. You may change the default label. The label appears next to the "Other Portfolios" field.
5) Click **OK** to exit the dialog box.
6) For All Portfolios mode, double-click the Height cell to adjust the height of the Item's Parents field. If the height is too short to show all the portfolios in the list, a scroll bar will be shown.

Inserting a Table Component

Tables enable you to view multiple category values in a single component. The arrangement of data in columns and rows allows you to easily scan the data and make comparative evaluations and summaries.

To insert a Table:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Table** from the drop-down list in the Component column.
3) Click the **Edit** button to define the table properties. For more information about working with tables refer to ***Tables*** (on page 87) in Configuring the System Components.

Inserting a Graph Component

Graphs enable you to view category values graphically, providing insight as well as making comparative evaluations easier.

To insert a Graph:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Graph** from the drop-down list in the Component column.
3) Click the Annotation cell of the new row to enter an annotation field for the graph.

Note: An annotation field is part of the Graph Details pop-up. Any text entered in the field is displayed as a tool tip, when hovering above the graph, within the tab.

Inserting a Dynamic List Component

Dynamic lists is a table like component into which the user can enter new rows. Data entries can be edited and reordered.The entire contents of a Dynamic list can be set to be automatically transferred to another dynamic list, via the Transfer tool component.

To insert a Dynamic List:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Dynamic List** from the drop-down list in the **Component** column.
3) To configure the dynamic list, click **Edit**. For more information on editing a dynamic list refer to ***Customizing Dynamic List Components*** (on page 377) in Working with Dynamic Lists.

Inserting a Transfer Tool Component

The transfer tool enables you to automatically transfer data from one dynamic list to another dynamic list.

To insert a Transfer Tool:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Transfer Tool** from the drop-down list in the Component column.
3) To configure the transfer tool, click **Edit**. For more information on editing a transfer tool refer to ***Customizing Transfer Tool Components*** (on page 379) in Working with Dynamic Lists.

Inserting a Phases List Component

Phases List displays the list of phases as defined in an item's life cycle, with additional data on thesephases.

For a description of the columns in a Phases List, refer to ***Entering Data in a Phases List*** (on page 305) in Working with Forms.

To insert a Phases List:

Note: Phases Lists must be defined within 4/4 group boxes.

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Phases List** from the Component drop-down list.
3) Adjust the Height cell if you want more than the default five rows. A scroll bar will be shown when the Life Cycle has more phases than the number of defined rows.

Inserting a Deliverables List Component

The Deliverables List allows you to track deliverables associated with the selected item/portfolio. Deliverables can be filtered, listing only the defined type. The list displays the deliverable's name and additional related information, such as the deliverable owner's name and the due date.

For a description of the columns in a Deliverables List, refer to ***Working with a Deliverables List*** (on page 306) in Working with Forms.

To insert a Deliverables List:

> **Note:** Deliverables List must be defined within 4/4 group boxes.

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Deliverables List** from the Component drop-down list.

> **Notes:**
>
> - The system will also add a description of the filter settings to the label name. The description will appear in parenthesis. For example: `Deliverables List (due in 30 days)'.
> - The default filter settings for a Deliverables List is to display all deliverables associated with current phase and all deliverables that have past due dates.

3) Adjust the Height cell if you want more than the default six rows. A scroll bar will be shown when there are more deliverables than the number of defined rows.
4) Set a filter for the Deliverables List by clicking the **Edit** button.. The Deliverables List dialog box opens.
5) Select from the options listed in the Deliverables List dialog box to set a filter for your Deliverables List. The following filters are available:
   - **Due in 30 days** - The list will include all deliverables with due dates within the next 30 days.
   - **Due in 60 days** - The list will include all deliverables with due dates within the next 60 days.
   - **Of current phase** - The list will include all deliverables that are associated with the current phase. (Default setting.)
   - **All** - The list will include all the deliverables available for the item.
   - **None**- The list will include only deliverables with due dates that have passed.

   Include additional deliverables by checking either, or both of the following options:
   - **Include past due deliverables** - Check this option to include all the deliverables that have due dates that have already passed.
   - **Include deliverables with no dates** - Check this option to include all the deliverables that have not yet been assigned due dates.
6) Click **OK**.

Inserting a Dependencies List Component

A Dependencies List allows you to manage and analyze dependencies between items/portfolios, regardless of their grouping. You can set the Dependencies List to display items/portfolios that an item depends on, and items/portfolios that the item supports.

> **Note:** Functions can be used to make calculations on the content of the list (i.e., Average Health can be calculated based on the item's health and the health of the item's dependencies).

For a description of the columns in a Dependencies List, refer to ***Working with a Dependencies List*** (on page 308) in Working with Forms

To insert a Dependencies List:

> **Note:** A Dependencies List must be defined within 4/4 group boxes.

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Dependencies List** from the Component drop-down list. The listed items are described in two types of columns: Dependency Properties, and Item Properties. By default the Dependency columns include Type, Weight, Cost and Annotation. These columns are used to describe the dependency relationship. The Item Properties describe the listed item itself.
3) To customize **this instance** of the Dependencies list, click **Edit**. The Dependencies List dialog box opens.
4) In the Direction field, define the direction of the dependency from the drop-down list:
   - **Depends on**: the item that is focused in the form depends on the listed items/ portfolios.
   - **Supports**: the item that is focused in the form supports the listed items/ portfolios.
5) The information in the Type field filters the dependencies shown; e.g., software/hardware/ firmware; or, mandatory/ optional. Select the desired dependency type from the drop-down list.

   > **Note:** Type is a user-definable value list. For more information about customizing the value list refer to ***Entering Values to a Value List*** (on page 146) in Configuring the System Components

6) In the Displayed Elements area select which columns will be displayed in the Dependencies List. Check or uncheck the Type, Weight, Cost, Annotation column, Annotation box and Add, Edit and Remove buttons checkboxes to view or hide these elements on the specific list.

   > **Note:** The default Dependency column names Type, Weight and Cost can be changed in the Admin, General Dependency Options dialog box. The labels defined there will be shown throughout the application. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

7) Customizing Item Properties--In the Item Properties area, select the scorecard that will be used for the Item Properties columns in the Dependencies List from the drop-down list.

   When selecting the scorecard consider the following:

   - There is a default scorecard called "Workbook Item Properties" specifically defined for this purpose.

- If you select the None option, the Item Properties area of the Dependencies list will disappear and the Dependency Properties area can be expanded to the full width of the group box.
- You may select an existing scorecard or create a new one. Click Edit to change the properties of the selected scorecard. You may edit the categories (that serve as the Item Properties columns) by clicking Edit. The wizard for the scorecard you selected opens in the Categories step. For more information on the Categories step, refer to ***Defining Scorecard Categories*** (on page 55) in Working with Scorecards.

8) Drill-down-- When the user right clicks on an item listed in the Dependencies list, the Dependencies option in the menu will drill-down to that item's dependencies list. You can define the label and target of the drill down link.
   - **Label**: enter the text that will be the right-click menu entry when focusing on the defined dependencies list. The default text is Dependencies.
   - **Links to**: there are two options for the drill-down:
   - **Workbook:** selected by default, the **Dependencies** tab in the **Workbook** module is the drill-down target.
   - **Form:** if selected, the **Forms** module will be the drill-down target. Select the **Form** and **Tab** from the corresponding drop-down lists. This option adds flexibility as you can add data fields around the dependencies list, or provide the ability to add descriptions.

     Note: Customize the default dependencies drill down because:

   - Some users are accustomed to working with forms.
   - Some users are not authorized to access workbooks.
   - Users may want to display additional information next to the dependencies list using other form components.
9) Click **OK**.
10) Double-click the Label cell to change the default label.

    Note: The dependency's direction and type automatically appear in the list's title, on the right hand side. The default label is Dependencies.

11) Double-click the **Height** cell to adjust the height of the dependencies list accordingly. The default height displays up to five dependencies before adding a scrollbar.

Inserting a Links List Component

This component shows links to documents that were uploaded to the server, document on the network, and item related web sites.

This capability allows organizations to overcome existing network/firewall limitations that prevent dispersed users and departments from sharing documents.

A Links List can be one of the following types:

- **Item Links** - Stores and displays links associated with the item or portfolio. The same content in the item's links list also appears in the Links tab of the item's Workbook. You can display an item's Link List to help user's manage and view the links associated with the item.

- **Category Links** - The list stores and displays links associated with an item within a specific category. For example, if you have the category Budget, there might be a Links List associated with an item in the Budget category. The Links List displays links to documents associated with item's Budget (i.e., spreadsheets). You can add to the form or dashboard a prompt for the user to link spreadsheets that are associated with the item's Budget. After defining the List type as Category Links, you should select the relevant category from the Name cell's pop-up list.

> **Note:** Category links are not displayed in the Links tab of the item's Workbook.

For a description of the columns in a Links List, refer to ***Working with a Links List*** (on page 311) in Working with Forms.

To insert a Links List:

> **Note**: A Links List can only be used inside 4/4 group boxes.

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select **Links List** from the Component drop-down list.
   - If the default Links type is **Item Links**, then `Item Links' is automatically entered in the Label cell.
   - If the default Links List type is **Category Link**, then `Links List' is automatically entered in the Label cell.
3) To change the links type, click **Edit**. The Links List dialog box is displayed, .
4) Select the Links List type and click **OK**.
5) If the Link List type is Category Links, double-click the Name cell and select a category from the pop-up list. The name of the selected category appears in the Name and Label fields.
6) Double-click the Height cell to adjust the height of the Links List accordingly. The default height is 3 link rows and 3 description rows.

Inserting a Web Portlet Component

The web portlet component is used to display web pages within a tab. It can be configured to show information or images from external sources such as internet web sites, corporate intranet systems, or any other source that can be accessed by specifying a URL.

The web portlet can be used to retrieve information relevant to an item from a target web server. The server retrieves specific information for each item using the web portlet.

Example 1: In a system where items represent companies, a web portlet can be configured to display information from a stock market site relevant to the company (such as stock history chart). The item should carry the stock symbol in a pre-configured category.

Example 2: In a system where items represent products, a web portlet can be configured to display the image of a product directly from an inventory related web site. Assuming that the web site needs a product number (SKU) in the URL to display the correct image, each item (product) should carry the relevant SKU in a pre-configured category.

To insert a Web Portlet:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).

2) Select Web Portlet from the **Component** drop-down list. The label `Web Portlet' is automatically entered in the Label cell.
3) To configure the Web Portlet, click **Edit**.

   The **Web Portlet** dialog box appears.
4) Enter the desired URL (http address) in the **Link** field.

> **Note:** When creating a Web Portlet, be sure that the users have access to the site you are defining.

In the **Additional Query String** table, you can add URL parameters that contain information from categories or items. These parameters are appended to the URL in the **Link** field. The system will automatically determine if a question mark is needed to separate the address part from the query string in the URL. Specify the parameter name, as required by the URL and select the category from which the parameter gets its value.

Item name and the item id are not category values. To include the item name or the item id in the URL, check the relevant box and select the parameter name from which the parameter gets its value.

> **Note:**
>
> - You may set a maximum of five parameters that receive values from categories per web portlet. The URL in the Link field may include additional parameters that have fixed values (not values from categories).
> - Make sure that the parameter names are recognized by the web server you are accessing.

5) For each category parameter name, double-click the Category cell to the right of the parameter. A pop-up list of categories appears. Choose the category for that parameter. The value of the parameter is appended to the URL link when the system tries to access the URL location. For example, to add the parameter symbol to a URL, enter the parameter name **symbol** in the Parameter Name column and select the category **StockSymbol** in the Category column. For example, if the StockSymbol of the item was ORCL, then the system appends the string symbol=ORCL to the URL.
6) You may check the Item ID check box and enter a parameter name. The item's ID will be added to the web portlet's URL address.
7) You may check the Item Name check box and enter parameter name. The item's name will be added to the web portlet's URL address.
8) Enter a description of the web portlet in the Description box.

> **Note:** The description will be seen only in the Web Portlet dialog box, not on the tab.

9) Click **OK** to return to the Tab.
10) Double-click the Height cell to adjust the height of the Web Portlet. The default height is 12 rows.

Inserting an Empty Row Component

Empty Row is a layout component. Adding Empty Rows helps to align fields and group boxes of different heights. It is also useful for setting spaces between components included in a group box.

To insert an Empty Row:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Select (Empty Row) from the **Component** drop-down list.

> **Note:** A dash in the remaining cells of this row indicates that they are not applicable to the selected component.

3) Enter the desired height of the Empty Row in the Height cell.

Inserting a Label/Prompt Row Component

You can insert a row that contains only a label or a prompt to be used as a header or an instructions row for the fields below it.

To insert a title row:

1) Follow the general steps described in ***Inserting a Component*** (on page 66).
2) Do not select a component. Enter a label or text in the Prompt box.

Viewing and Editing In Folders Information

The In Folders tab of the Tab Wizard enables you to select the tab's home folder and view any other folders that contain the tab.

To view and specify the tab's home folder, and to view other folders that contain the tab:

1) On the **In Folders** tab of the Tab Wizard, view the **Home Folder** field and the **Others** list.

   Every tab has a single home folder. The **Home Folder** field displays the name of the home folder of the new tab. By default, all tabs inherit their security settings from their home folders.

   If the tab has been added to other folders, those folders are listed in the **Others** list. A new tab will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and select the desired folder. Alternatively, if the desired home folder name already appears in the **Others** table, you can simply select it and click **Define as Home Folder**. The selected folder becomes the tab's home folder. The previously-defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the tab and exit the wizard.

Defining Security Permissions

1) On the **Security** tab of the Tab Wizard, select or deselect the **Inheriting settings from** option.

By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the tab's home folder.

2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the tab and exit the wizard.

> **Note:** The security settings defined in the Tab Wizard control whether the user can view and access the tab. The security of the data shown in the tab is determined by the settings on the relevant categories. Therefore, if a user is authorized to view a tab that contains the budget category, but not authorized to view the data in the budget category of a specific item, the user will see the tab, but a lock icon will replace the value, indicator, or annotation of the budget.

Editing an Existing Tab

This section describes how to edit an existing tab.

Accessing the Tab Wizard

You can edit the existing Tab from within the Setup, Forms, or Dashboards module.

Editing an Existing Tab in the Setup Module

To edit an existing tab in the Setup module:

1) From the **Setup** module's top drop-down list, select Tabs. The **Tabs** folder hierarchy is displayed.

> **Note:** The Tabs are listed by name. If you are unsure of the name of a tab you want to edit, but remember the form or dashboard it is included in, open the form or dashboard wizard. the wizard lists all the tabs included in the form or dashboard.

2) Double-click on the relevant tab in the list or click the **Edit** icon from the Setup toolbar. The Tabs Wizard appears.

Editing an Existing Tab in the Forms Module

To edit an existing tab in the Forms module:

1) Select the form in which the tab is included.
2) Make sure the tab you need is selected.
3) Select **Edit Tab** from the **Form** menu.

Editing an Existing Tab in the Dashboards Module

To edit an existing tab in the Dashboards module:

1) Select the dashboard in which the tab is included.
2) Make sure the tab you need is selected.
3) Choose **Edit Tab** from the **Dashboard** menu.

Entering General Tab Information

In the General step you can edit the tab Name, Description, and Owner. For more information on the General step refer to ***Entering General Tab Information*** (on page 60), in Creating a New Tab.

Editing Tab Components

In the Components step you may add new group boxes, add, remove, rearrange and change properties of all components. For more information on Components refer to ***Inserting Tab Components*** (on page 65), in Creating a New Tab.

Viewing In Folders Information

In the In Folders step you can view the home folder of the tab and any other folders containing the tab. For more information on In Folders refer to ***Viewing and Editing In Folders Information*** (on page 75), in Creating a New Tab.

> **Note:** Editing the In Folders definitions is also possible in the Setup module. For more information refer to ***Moving Objects*** (on page 215) in Organizing Hierarchies.

Editing Security Permissions

In the Security step, you can add, remove, or edit security permissions. For more information on the Security step refer to ***Defining Security Permissions*** (on page 75), in Creating a New Tab. For information on working with security permissions, refer to ***Security*** (on page 443).

Forms

You can view the same data in a variety of ways. Forms are designed for entering or reporting the data of one specific item or portfolio at a time. This data is then integrated into "big picture" formats that provide you with an overall view of your portfolio, such as Investor Maps and Scorecards.

Creating a Form

This section describes how to create a form using the *Form Wizard*.

Creating a Form with the Form Wizard

To create a form with the Form Wizard:

1) From the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Forms**.
3) In the **navigation pane**, select a folder. This will be the default home folder for the form.
4) From the **New** list, select **Form**.
   The Form Wizard appears.
5) In each tab of the Form Wizard, add and edit information for the form.

Entering General Form Information

To enter general form information:

1) On the General tab of the Form Wizard, enter the following information:
   - **Name**: The name of the form.
   - **Description**: A brief description of the form. You can include hypertext in the description.
   - **Owner**: The owner of the form.
   - **Domain**: The kind of information the form is used to create or display information about.
   - **Default form for this domain**: Determines whether the form is the default form to be used with the domain specified in the **Domain** field.

     This checkbox is disabled if the Domain field is set to **All Domains**.

     If another form was set as the default form of the specified domain, you will be prompted to override the existing default.
2) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the form and exit the wizard.

Adding, Editing, and Removing Tabs

Every form contains one or more tabs. You can customize a form by selecting any tabs you wish from the tabs library. Forms and dashboards share the tabs library. Each tab can appear in one or more forms or dashboards.

Every tab has a unique name and a customizable label. The label is shown in forms as tab's title. By default, the tab's label is the same as its name. If you want the tab's label to differ from its name, enter a label for it. Labels are often used when the tab name is too long to display. This section describes how to select the tabs that will constitute your new form.

To select tabs:

1) On the **Tabs** tab of the Form Wizard, view the tab list.
2) To add existing tabs, click **Add**.
   In the list of tabs, choose the tab or tabs that you want to add to the form.
   To choose multiple tabs, hold down the **Shift** or **Ctrl** key on your keyboard as you choose tabs.
   When you have chosen the tab or tabs that you want to add, click **OK**.
3) To add new tabs, click **New**.
   This will open the Tab Wizard, where you can create a new tab. For more information on creating tabs, refer to ***Creating a Tab*** (on page 59).

4) To edit a tab in the tab list, choose that tab and then click **Edit**.

   This will open the Tab Wizard, where you can edit the tab. For more information on editing tabs, refer to ***Editing an Existing Tab*** (on page 76).

5) To remove a tab, choose the tab you want to remove and then click **Remove**.
6) To change the position of a tab in a form (to change the order of the tabs), select a tab and then use the arrows to move it up or down on the list.
7) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the form and exit the wizard.

Setting Form Defaults and Required Field Enforcement

To set defaults for your form and the degree to which required fields are enforced:

1) On the **Defaults** tab of the Form Wizard, click **Allow Creation of New Items** if you want to enable users to create new items with the form.

   This activates the New button on the Forms module toolbar.

   In order for New Items to be created in the form, the form's first tab must contain both an Item Name and Item Parent components. Alternatively, you can define a Default Home Portfolio in this wizard step instead of an Item Parent component. For more information on tab components, refer to ***Inserting Tab Components*** (on page 65).

2) Below the **Allow Creation of New Items** checkbox, specify which types of new objects users can create with the form: **New Candidates**, **New Items**, **New Portfolios of Items**, or **New Portfolios of Portfolios**.
3) From the **Default Home Portfolio** list, select a portfolio.
4) Under **When a Tab has been modified, Required Fields...**, specify how required fields are enforced:
   - **Must be completed on all Tabs**: The user must fill out all of the required fields on **all** of the tabs of the form. With this option selected, users who enter data in any tab must fill out all required fields in all the tabs before saving the form.
   - **Must be completed on modified Tabs only**: The user must fill out all of the required fields on any of the tabs that have been modified. With this option selected, users who enter data in a tab must fill out all required fields that tab before saving the form.
   - **Are not enforced**: With this option selected, the user is only advised to complete required fields but can save the form without completing them. If required fields are not completed, the system will display a message, but the form can still be saved.
5) To remove default values that may be assigned to the form, click **Remove**. For more information on default values, refer to ***Assigning Default Values*** (on page 317).

Viewing In Folders Information

To view the folders in which the form belongs or is referenced:

1) On the **In Folders** tab of the Form Wizard, view the **Home Folder** field and the **Others** list.

   Every form has a single home folder. The **Home Folder** field displays the name of the home folder of the new form. By default, all forms inherit their security settings from their home folders.

If the form was added to other folders, those folders are listed in the **Others** list. A new folder will not be referenced in any other folders.

2) To change the default home folder, click **Browse** and choose the desired folder. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the investor map's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the form and exit the wizard.

Defining Security Permissions

To define security permissions for the form:

1) On the **Security** tab of the Form Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the map's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions for maps, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the portfolio and exit the wizard.

Entering Knowledge Information

The Knowledge step provides the user information about how to use the form. Many of the forms included with your system already have knowledge content. You can view this content while you are working with a form. You can also create your own knowledge content and add to existing knowledge content. Knowledge content must be plain text. It cannot be formatted with italics, underlined text, bold text, etc.

To view and edit Knowledge content for a form:

1) On the **Knowledge** tab of the Form Wizard, in the **Knowledge** text area, enter the information that you want to be available for this form.
2) Click **Preview** to view the hint you have created and any other existing hints for this object.
3) Click **Close** to close the dialog box and return to the Knowledge tab of the Form Wizard.
4) Click **Finish**.

   The new form is saved to the list of available forms.

Duplicating a Form

You can duplicate a form to create a new form with similar content and settings as an existing form. When you duplicate a form, the new form is completely separate from the original form. Changing one does not affect the other.

To duplicate a form:

1) In the **Forms** solution module, from the **Setup** list, select **Forms**.
2) In the **Setup** module, in the **navigation pane**, select the folder that contains the form you want to duplicate.
3) In the **list area**, choose the form that you want to duplicate.
4) Click **Duplicate**.

   The Form Wizard appears. The name of the new form is identical to that of the duplicated form, except it is preceded by "copy of."
5) In the **Name** field, enter a name for the form.
6) Click **Finish** to exit the Form Wizard and save the new form, or click **Next** to proceed to the next tab of the wizard and further modify the form.
7) For information on editing tabs, refer to ***Editing an Existing Tab*** (on page 76).

Dashboards

Dashboards are collections of graphs that are composed and customized in order to track and assess the status of items or portfolios. In the Dashboards module you can see a broad and comprehensive view of information stored in the system. Dashboards share the same tabs library as forms. Although they share the same components, the Dashboards module concentrates on **viewing** data, while the Forms module concentrates on **entering** data.

For instructions how to create Dashboards, refer to ***Creating a New Dashboard*** (on page 81).

Creating a New Dashboard

The topics below describe how to create a new dashboard.

Creating a Dashboard with the Dashboard Wizard

To create a dashboard with the Dashboard Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Dashboards**.
3) In the **navigation pane**, select the folder to which you want to add the dashboard.
4) From the **New** list, select **Dashboard**.

   The Dashboard Wizard appears.
5) In each tab of the Dashboard Wizard, add and edit information for the dashboard.

Entering General Dashboard Information

To enter general dashboard information:

1) On the General tab of the Dashboard Wizard, enter the following information:
   - **Name**: The name of the Dashboard.
   - **Description**: A brief description of the dashboard. You can include hypertext in the description.

- **Owner**: The owner of the dashboard.
- **Domain**: The domain showing this dashboard. The list of available domains can be modified by editing the Domain value list. For more information on editing value lists, refer to ***Value Lists*** (on page 145).
- **Default dashboard for this domain**: When this option is selected, the dashboard is the default dashboard for the domain specified in the Domain field. This option is not available if All Domains is the domain.

2) Click **Next** to proceed to the next tab of the wizard.

Adding Tabs

A dashboard contains one or more tabs. Dashboards and Forms share the tab library. You can customize a dashboard by selecting any combination of tabs. Each tab can appear in one or more dashboards or forms.

Every tab has a unique name and a customizable label. The label is shown in the dashboard as the tab's title. By default, the tab's label is the same as its name. If you want the tab's shown title to be different from its name, enter a label for it. Labels are often used when the tab name is too long to display. Labels do not have to be unique.

To add tabs to the dashboard:

1) On the **Tabs** tab of the Dashboard wizard, select **Add** to add tabs from the tab library, or select **New** to create a new tab and add it to the dashboard.

   In the **Add tabs to dashboard** dialog box, you can select multiple tabs by holding down the **Shift** or **Ctrl** keys as you select tabs.

   For more information on creating tabs, see ***Creating a Tab*** (on page 59).

   To adjust a tab on the tab list, select it and then select **Edit**.

   To remove a tab from the tab list, select it and then select **Remove**.

2) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the dashboard and exit the wizard.

Defining Defaults

The Defaults tab is used to define the end user's ability to create new items and portfolios from within a form or dashboard. As dashboards concentrate on displaying graphs, the creation of new items or portfolios is usually unnecessary.

For information on defining defaults, refer to ***Setting Form Defaults and Required Field Enforcement*** (on page 79).

Viewing and Editing In Folders Information

The In Folders tab of the Dashboard Wizard enables you to select the dashboard's home folder and view any other folders that contain the dashboard.

To view and specify the dashboard's home folder, and to view other folders that contain the dashboard:

1) On the **In Folders** tab of the Dashboard Wizard, view the **Home Folder** field and the **Others** list.

   Every dashboard has a single home folder. The **Home Folder** field displays the name of the home folder of the new dashboard. By default, all dashboards inherit their security settings from their home folders.

   If the dashboard was added to other folders, those folders are listed in the **Others** list. A new dashboard will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the dashboard. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the dashboard's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the dashboard and exit the wizard.

Defining Security Permissions

1) On the **Security** tab of the Dashboard Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the portfolio and exit the wizard.

Entering Knowledge Information

The Knowledge tab enables you to provide information about how dashboards should be used. Knowledge content must be plain text. It cannot be formatted, so no italics, underlines, bold text, etc.

To view and edit Knowledge content for a dashboard:

1) On the **Knowledge** tab of the Dashboard Wizard, in the **Knowledge** text area, enter the information that you want to be available for this dashboard.
2) Click **Preview** to view the hint you have created and any other existing hints for this object.
3) Click **Close** to close the dialog box and return to the Knowledge tab of the Dashboard Wizard.
4) Click **Finish**.

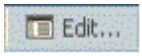
Editing a Dashboard

To edit an existing dashboard using the Dashboard Wizard. You can access the Dashboard wizard in either of the following ways:

1) In the Dashboards module select **Edit** from the Dashboard menu.

   OR

   In the Setup module select **Dashboards** from the Setup drop-down list. The Dashboards folder hierarchy is displayed.

2) Select a dashboard from the list of available dashboards and double-click, or click 

from the toolbar. The Dashboard Wizard is displayed.

The Dashboard Wizard includes the following steps:

- **General:** In the General step you can edit the dashboard Name, Description and Owner. For more information refer to ***Entering General Dashboard Information*** (on page 81).
- **Editing Tabs:** In the Editing Tabs step you may add new tabs to the dashboard, remove existing tabs, or create a brand-new tab. For more information refer to ***Adding Tabs*** (on page 82)

  Notes:

  - This checkbox is disabled if the Domain field contains All Domains.
  - If another dashboard was set as the default dashboard of the specified domain, you will be prompted to override the existing default.

- **Editing Defaults:** In the Editing Defaults step you can view or change the current Defaults definition. For more information refer to ***Defining Defaults*** (on page 82).
- **Viewing In Folders Information:** In the In Folders step you can view the home folder of the dashboard and any other linked folders, if there is any. For more information refer to ***Viewing and Editing In Folders Information*** (on page 82).
- **Editing Security Permissions:** In the Security step, you can add, remove, or edit security permissions. For information on refer to ***Security*** (on page 443).
- **Editing Knowledge Information:** In the Knowledge step you can edit existing hints and information about the dashboard. For more information refer to ***Entering Knowledge Information*** (on page 83).

Versions

This section describes how to create a new version using the *New Version Wizard*.

Note: When any field or component in the system is pre-configured with a version, that field or component will always be displayed with the Data as of that version, and will not change as a result of the end-user selecting a different version in the Select a Version popup. The background of these fields and components will be the regular background color. Only areas showing versioned data as a result of the end-user selecting a version in the Select a Version popup are colored using a standard neutral peach color. It is not possible to change this color or to assign different background colors to different versions.

Creating a Version

Creating a Version with the Version Wizard

To create a version with the Version Wizard:

1) From the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Versions**.
3) In the **navigation pane**, select the folder to which you want to add the version.
4) From the **New** list, select **Version**.
   The Version Wizard appears.
5) In each tab of the Version Wizard, add and edit information for the version.

Entering General Version Information

To enter general version information:

1) On the General tab of the Version Wizard, enter the following information:
   - **Name**: The name of the version
   - **Description**: A brief description of the version. You can include hypertext in the description.
   - **Owner**: The owner of the version.
2) Click **Next** to proceed to the next step of the wizard.

Defining the Version Date

To define an absolute or relative date for the version:

1) On the **Date** tab of the Version Wizard, select **Absolute date** or **Relative date**.
2) Specify the absolute or relative date.
   To specify an **Absolute date**, enter a specific date for the version in the Absolute date field. You can enter the date in the format mm/dd/yyyy, or select a date with the date picker.
   To define a **Relative date**, enter the following information:
   - **When:** Choose Past, Current, or Future.
   - **Number:** Enter the number of units relative to the current date to define the version.
   - **Unit:** Enter a unit of time. Choose Days, Weeks, Months, Quarters, or Years.
3) If you chose **Relative date** and set the **Unit** field to any value other than Days, select the **Anchor to** option and then set the date field or fields below the Anchor to option.
4) (Optional) If you chose **Relative date**, click **Calculate** to display the version relative to today's date. For example, if today were January 4, 2016, and you defined a relative version date of "Past 90 Days," the calculated date would show "Relative date for today's date: Oct 6, 2015" as a preview.

When the **Unit** field is set to *Weeks, Months, Quarters,* or *Years*, you may wish to specify an anchor point to enforce consistency for more precise comparisons. For example, when working with quarterly versions, anchor them to a uniform day within each quarter. Anchor versions spanning different years to a specific month and day.

5) For relative dates only, click the **Calculate** button to display the version relative to today's date. For example, if today were November 6, 2010, and you defined a relative version date of "Past 90 Days" the calculated date would show "Relative date for today's date: Aug 8, 2009" as a preview.
6) Click **Next** to proceed to the next step of the wizard, or click Finish to save the version and exit the wizard.

Viewing and Editing In Folders Information

The In Folders tab of the Version Wizard enables you to select the version's home folder and view any other folders that contain the version.

To view and specify the version's home folder, and to view other folders that contain the version:

1) On the **In Folders** tab of the Version Wizard, view the **Home Folder** field and the **Others** list.

   Every version has a single home folder. The **Home Folder** field displays the name of the home folder of the new version. By default, all versions inherit their security settings from their home folders.

   If the version was added to other folders, those folders are listed in the **Others** list. A new version will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the version. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the version's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the version and exit the wizard.

Defining Security Permissions

To define security permissions for the version:

1) On the **Security** step of the Version Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* option at the top of the *Security* step is selected and indicates the name of the home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the version and exit the wizard.

Your version can now be used throughout the interface with scorecards, maps, tables, dynamic lists, and other objects with the **Data as of** field. The application prevents you from accidentally removing any versions that are actively applied to any module. If you attempt to delete a version that is applied, you will be prompted with information about all the objects. Remove all references to a version in order to delete it.

Note:

Versions cannot be applied to portfolio content. There is no record of items that have been added to or removed from a portfolio.

The interface provides these indications that a version has been applied to data:

- The version name is shown in the Data as of field.
- The background color for areas showing versioned data as a result of the end-user selecting a version in the Select a Version dialog box are colored using a standard neutral peach color.
- A version cursor appears whenever your mouse pointer is directly over a version-specific category cell in a scorecard or a version-specific category, text area, graph, or cell in a table, dynamic list, or dependency list in a dashboard or form.

When any field or component is preconfigured with a version, that field or component will always be displayed with the data as of that version, and it will not change as a result of the end-user selecting a different version in the Select a Version dialog box. The background of these fields and components will be the regular background color. Only areas showing versioned data as a result of the end-user selecting a version in the Select a Version dialog box are shaded neutral peach.

Tables

This section describes how to create a new table using the *Table Wizard*.

Creating a Table

Creating a Table with the Table Wizard

To create a table with the Table Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Tables**.
3) In the **navigation pane**, select the folder to which you want to add the table.
4) From the **New** list, select **Table**.
   The Table Wizard appears.
5) In each tab of the Table Wizard, add and edit information for the table.

Entering General Table Information

This section describes how to enter general information about the new table, including the list name and description.

1) On the **General** tab of the Table Wizard, enter the following information:
   - Name: The name of the table.
   - Description: A brief description of the new table. You can include hypertext in the description.
   - Owner: The owner of the new table from the list of available users.
   - Preferred Width: The screen resolution for the table view.
   - Preferred Group Box Size: The size of the table in cells, expressed as length/width.
2) Click **Next** to proceed to the next step of the Table Wizard, or click **Finish** to save the table and exit the Wizard.

Entering Table Properties

To define the properties of a table:

1) Open the **Properties** tab of the Table Wizard. It is divided into these areas:
   - **Table Display**: This table lists all parts of the table that you are designing. It lists all of the columns, rows, and specific cells that make up the table.
   - **Table Controls**: This area includes the following controls:
     - **View:** Defines the display mode for the table. In the **Design** table view, you can see the defined cell properties. In the **Preview** table view, you can see the table as users will see it.
     - **Header:** When you select this option, the table will display a header row. Select the height of the header row from the **Height** list.
     - **Row**: Use the Row controls to add, remove, and reposition rows that represent elements in your table.
     - **Column**: Controls the number of columns in the table. Click the **Insert** or **Delete** buttons to add or remove columns. Reposition the selected column by clicking the left or right arrow buttons. Enter a numeric width in pixels in the **Width** field to set the size of a column. You can also resize a column by directly dragging its left or right boundary in the header row at the top of the table.
   - **Cell controls**: In this area, you can define the cell *Type* and *Background*, and then set options in dynamic fields that adjust depending on the selected cell Type.
   - **Type**: Possible cell types are *Label, Category Value, Category Indicator, Category Annotation*, and *Text*. Each cell type is represented by a corresponding icon. The first column in the table is defined as a Label column by default.
   - **Background:** There are three background styles for the cells; Light (Normal) appears white, Dark (Title) appears gray, and Medium (Summary) appears beige.
   - **Mandatory** or **Read Only**: Click any one option to indicate whether a field in a table is read-only or required.

     Note: When a column heading is marked **Mandatory**, and a row of that

column is marked **Read-Only**, then the corresponding cell in that column is **Read-Only**.

- **To Row and To Column:** These buttons apply the current *Type* and *Background* selections (if their corresponding check boxes are checked) to the current *Row* or *Column*.
- **Dynamic Cell Controls:** These controls share a common theme; however, only the ones that apply to your current selections appear. These include:
  - **Label**: For label cells, the name of the cell.
  - **Title**: For table header rows, the name of the column appearing at the top of the table.
  - **Text**: For text cells, the data you want to appear in the cell.
  - **Category**: For category cells (which includes *Category Value, Category Indicator*, and *Category Annotation* types), this field displays the name of the category in use by the cell. To switch to another category, click directly on a cell in the table in Design view mode.
  - **Description**: For Label and Title cells, an informative description of the label. This will display as a tooltip when you hover over it.
  - **Category Description**: For category cells, a read-only description for the current category.
  - **Data as-of**: For category cells, the version applied to the category in the cell.
  - **Edit...**: For category cells, click the **Edit** button to open the Category wizard to make changes to the selected category.

2) Click on a header cell and then type Column Title: in the **Title** field. Notice that the header row is updated as you type and that the cell **Type** is automatically set to Title.
3) Double-click on a cell in the first column and enter a label directly in the cell or in the **Label** field.
4) Double-click on any cell in the table and then click on <*Select a Category*> or the drop-down arrow.
5) From the **Select a Category** pop-up window, select the desired category.
6) Repeat the steps above as many times as necessary to create the desired table. You can use the *Cell* and *Table Controls* to modify your selections at any time.
7) When the table is complete, click **Next** to proceed to the next step of the wizard or click **Finish** to save the table and exit the wizard.

Viewing and Editing In Folders Information

To view and specify the table's home folder, and to view other folders that contain the table:

1) On the **In Folders** tab of the Table Wizard, view the **Home Folder** field and the **Others** list.

   Every table has a single home folder. The **Home Folder** field displays the name of the home folder of the new table. By default, all tables inherit their security settings from their home folders.

   If the table was added to other folders, those folders are listed in the **Others** list. A new table will not be referenced in any other folders.

2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the table. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the table's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the table and exit the wizard.

Defining Security Permissions

To define security permissions for the table:

1) On the **Security** tab of the Table Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish** to save the table and close the wizard. The new table is added to the *Tables* list.

Graphs

Graphs display historical or current information graphically. The data is displayed with its indicator or value colors enabling an instant recognition of areas requiring attention.

Graph Types

There are six types of graphs:

- **Column/Bar Graph:** Column/Bar graphs can elegantly transform a table into a clustered or stacked column, or bar graph.
- **Scatter Graph:** Displays data as scattered points indicating values on the x-axis and y-axis. Scatter graphs reflect the distribution of the items in a portfolio according to two defined parameters.
- **Distribution Graph:** Displays the distribution of the items in a portfolio according to the values of a specific category. These graphs apply only to portfolios. *Distribution* graphs can be either pie or column. Following are sample *Indicator Distribution* graphs:
- **Trend Graphs:** Display the performance of at least one category over time.
- **Radar Graphs**: Display information about three or more properties on a chart where the magnitude of each property is represented by its position on a line that extends from the center of the chart.

- **Pareto Distribution Graphs**: Show incremental quantities of one category in descending order with bars, and the cumulative total percentage of the same category, over the same period, with a line.

Accessing the Graph Wizard

You can begin creating a new graph in several ways:

1) In the Setup module select **Graphs** from the *Setup* drop-down list. The *Graphs* folder hierarchy appears.
2) In the toolbar, click **New** and then select the type of graph you want to create.

> **Note:** The Graph Wizard can also be accessed when editing Tabs in the Forms and Dashboards modules. Focus on a graph component within the tab and click Properties. For more information on accessing the Graph Wizard from within Edit Tab, refer to ***Editing an Existing Tab*** (on page 76).

Entering General Graph Information

The *General* step in the *Graph Wizard* is shared by all graph types. In this step you define the graph name and owner and enter a description of the graph.

After selecting the graph type from the list, the *General* step appears. The selected graph type is shown in the icon in the lower left corner of the Graph Wizard.

1) In the **Name** field, enter a name for the graph.
2) In the **Description** field, enter a brief description of the graph. You can include hypertext in the description.
3) In the **Owner** field, from the drop-down list, select the owner of the new graph from the list of available users.
4) Click **Next** to proceed to the next step, ***Defining Data Source*** (on page 92).

To enter general graph information:

1) On the General tab of the Graph Wizard, enter the following information:
   - **Name**: The name of the graph.
   - **Description**: A brief description of the graph. You can include hypertext.
   - **Owner**: The owner of the graph.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the graph and exit the wizard.

Defining Data Source

This section includes topics that describe how to specify which data is shown in each graph type:

- ***Defining Data Source for Column/Bar Graph*** (on page 92)
- ***Defining Data Source for Scatter Graph*** (on page 93)
- ***Defining Data Source for Distribution (Pie or Column) Graph*** (on page 93)
- ***Defining Data Source for Trend Graph*** (on page 93)
- ***Defining Data Source for Radar Graph*** (on page 94)
- ***Defining Data Source for Pareto Graph*** (on page 94)

Defining Data Source for Column/Bar Graph

Column and bar graphs translate tables into graphs.

To define the data source of a column or bar graph:

1) On the **Data** step, in the **Data Based On** drop-down list, select a table. A preview graph of the selected table appears in the *Preview box*.
2) Select a **Direction** and **Sequence** for the graph. The preview box automatically updates to show the effect of your selections.

   There are four possible Direction-Sequence combinations:

   - **Columns/Clustered**: The values in the graph are displayed vertically as clustered columns.
   - **Columns/Stacked**: The values in the graph are displayed vertically as stacked columns.
   - **Bars/Clustered**: The values in the graph are displayed horizontally as clustered bars.
   - **Bars/Stacked**: The values in the graph are displayed horizontally as stacked bars.
3) Click **Next** to proceed to the next step, ***Choosing Colors*** (on page 96).

Column/Bar Graph Definitions

Column Graph: When the table is transformed into a column graph, the following definitions apply:

- The X-axis labels display all but the first of the column titles.
- The scale of the Y-axis is determined by the highest value in the table. The value points are calculated accordingly.

Bar Graph: When the table is transformed into a bar graph, the following definitions apply:

- The scale of the X-axis is determined by the highest value in the table. The value points are calculated accordingly.
- The Y-axis displays all but the first of the column titles.

Column & Bar Graphs:

- The first table column is used to create the graph legend.
- Every cell in the table is displayed as a segment of a stack or cluster in the graph.

Defining Data Source for Scatter Graph

To define the data source of a scatter graph:

1) On the **Series** step, in the **X Axis** drop-down list, choose the numeric category that you want to define the X axis.
2) (Optional) In the **Label** field beneath the X Axis field, enter a new name for the X Axis label.
3) In the **Y Axis** drop-down list, choose the numeric category that you want to define the Y Axis.
4) (Optional) In the **Label** field beneath the Y Axis field, enter a new name for the Y Axis label.
5) Click **Next** to proceed to the next step, ***Defining Display Settings for Scatter Graph*** (on page 95).

Defining Data Source for Distribution (Pie or Column) Graph

To define the data source of a distribution graph:

1) In the **Series** step, from the **Distributed By** drop-down list, select the category by which the pie chart will be divided.

   The description of the selected category is shown in the *Description* field.
2) (Optional) In the **Label** field beneath the **Distributed By** field, enter a custom label for the graph.
3) From the *Data Type* radio buttons, select either **Values** or **Indicators**.

> **Note:** When the **Values** radio button is selected, only Value categories are available on the drop-down list. When the **Indicator** radio button is selected, only Indicator categories are available on the drop-down list.

4) From the *Weighted By* drop-down list, select the category according to which the chart will be weighted.

> **Note:** Only categories with numeric values can be used for this operation.

5) (Optional) In the **Label** field beneath the **Weighted By** field, enter a custom weighted by label.
6) From the *Display* area select either **Pie** or **Column** radio buttons.
7) From the *Display* area select what units the graph will show. You can define either **Percentage** and/or **Raw Numbers** by checking either or both checkboxes.
8) Click **Next** to proceed to the next step, ***Defining Display Settings for Distribution Graph*** (on page 95).

Defining Data Source for Trend Graph

Trend graphs show the performance of categories over time. In a trend graph, the X-axis displays time period, the Y-axis shows the value or the indicator, and each category added to the graph appears as a line in the graph.

To define the data source of a trend graph.

1) In the **Series** step, from the **Categories** radio buttons, select either **Values** or **Indicators**.

> **Note:** When the Values radio button is selected only Value categories are available on the drop-down list. When the Indicator radio button is selected, only Indicator categories are available on the drop-down list.

2) Click **Add** to select categories to use in the graph. A list of categories appears.
3) In the list of categories, select the category or categories you want to add. To select multiple categories, hold down the **Enter** or **Ctrl** key on your keyboard as you select additional categories.
4) Click **OK**. The *Series* step is displayed, with the new categories listed in the **Selected Categories** area.
5) To change the order of the categories in the list, select a category from the **Selected Categories** list and use the *Move Row* controls to place the row in the desired location.
6) To remove a category from the list, select the category from the **Selected Categories** list and click **Remove**.

> **Note:** The Categories List can show only one type of categories-either value or indicator categories. Changing the Use Categories radio buttons between Values and Indicators erases previously selected categories.

7) Click **Next** to proceed to the next step, ***Defining Display Settings for Trend Graph*** (on page 96).

Defining Data Source for Radar Graph

To define the data source of a radar graph:

1) On the **Data** step, from the **Data based on** list, select the table on which you want the graph to be based. The categories in the table you choose will be represented in the radar graph.
2) Click **Next** to proceed to the next step, ***Choosing Colors*** (on page 96).

Defining Data Source for Pareto Graph

To define the data source of a Pareto graph.

1) On the **Data** step, select **Table** or **Series**.

   If you want the graph data to be based on a table, select **Table**.

   If you want the graph to be based on a series that is distributed by one category and optionally weighted by another category, select **Series**.
2) If you selected **Table** in the previous step, in the **Graph based on** list, select the table on which you want the graph to be based. The table you choose can only have one row, and it can only include positive, numerical values. The categories in the table you choose will be represented in the Pareto graph.

   If you selected **Series** in the previous step:

   a. In the **Distributed By** list, select the category by which the bars of the graph will be distributed. The category you choose here must be a value list. You cannot choose a category that has only indicators.

In the **Label** field below the Distributed By field, enter a custom label for the distribution. This label will appear on the graph.

b. (Optional) In the **Weighted By** list, select the category according to which the chart will be weighted.

In the **Label** field below the Weighted By field, enter a custom label for the Weighted By value. This label will appear on the graph.

c. If you want each bar of the graph to include a label that shows its percentage of the total, select **Percentages**.

d. If you want each bar of the graph to include a label that shows its raw data value, select **Raw Numbers** and then specify the number format in the **Format** field.

3) Click **Next** to proceed to the next step, ***Viewing In Folders Information*** (on page 97).

Defining Display Settings

This section includes topics that describe how to specify display settings for Scatter Graphs, Distribution (Pie or Column) Graphs, and Trend Graphs:

- ***Defining Display Settings for Scatter Graph*** (on page 95)
- ***Defining Display Settings for Distribution Graph*** (on page 95)
- ***Defining Display Settings for Trend Graph*** (on page 96)

Defining Display Settings for Scatter Graph

You can customize the minimum value, maximum value, and interval of the X and Y axes. You can also specify whether you want the graph to show item names for points.

This topic explains how to modify the display settings of your scatter graph.

1) On the **Display** step, if you want the graph to show an item name for each point, select **Display Item Names**.
2) If you want to modify the scales and minimum and maximum values of your graph, deselect **Use all default scales**.
3) For each scale in each axis, select **Default**, or select **Custom** and enter a custom scale or value.
4) Click **Next** to proceed to the next step, ***Viewing In Folders Information*** (on page 97).

Defining Display Settings for Distribution Graph

This topic explains how to customize the display settings of your Distribution graph.

1) On the **Display** step, in the **Visual** area, choose **Pie** or **Column** to specify whether the distribution is presented as a pie chart or a column distribution chart.
2) In the **Numeric** area, select **Percentages** if you want the graph to show percentages.
3) Select **Raw Numbers** if you want the graph to show raw numbers.

If you select Raw Numbers, you can also choose the number format from the **Format** drop-down list and the number of decimal places from the **Decimal Places** drop-down list.

4) Click **Next** to proceed to the next step, ***Choosing Colors*** (on page 96).

Defining Display Settings for Trend Graph

This topic explains how to define display settings for the trend graph.

1) On the **Display** step, select which optional properties you want the trend graph to display:
   - Select **Show Reference Categories** to display additional graphs for the reference category related to the selected categories, as defined in ***Creating Categories*** (on page 101). If you select *Show Reference Categories*, the reference category will be seen as a dotted line on the graph in the same color as the selected category.
   - Select **Show Indicators Boundaries** to display the boundaries of each indicator value if an indicator formula is assigned. Indicator boundaries are shown as colored areas-pink, light yellow and light green.
   - Select **Show Phases** to display the phases of the item life cycle. Phases are shown as light-blue areas, beginning with a blue vertical line with the name of the phase set vertically on the top. The current phase is emphasized by a black line and bold type.
2) From the **Graph Style** drop-down list, choose one of the following trend graph styles:
   - **Line**: The shortest line segment possible connects adjacent data points of the same category to produce a standard trend line
   - **Step Line**: Data points of the same category are connected with vertical and horizontal segments only, producing a trend line that resembles steps or plateaus
   - **Spline**: A curving spline is drawn through all data points
   - **Fast Line**: A trend line is drawn across all data points, but data points themselves are not shown
   - **Area**: Data points are connected with a standard trend line, and the area beneath the trend line is shaded
   - **Spline Area**: Data points are connected with a curving spline, and the area beneath the spline is shaded
   - **Stacked Area**: An area chart with more than one data series, the space beneath each trend line is shaded with a unique color
   - **100% Stacked Area**: An area chart with more than one data series, and in which areas are stacked to fill the chart
3) Click **Next** to proceed to the next step, ***Choosing Colors*** (on page 96).

Choosing Colors

You can choose color templates for column/bar, distribution, radar, and trend graphs after you specify their data and display settings.

To choose the colors of your column/bar, distribution, radar, or trend graph:

1) On the **Colors** step of the *Graph Wizard*, select **System Defined Color Template** to have the system assign its default color template to the graph, or select **User Defined Color Template** to assign a custom color template to the graph.

If you select **System Defined Color Template**, then click **Next**. You do not need to do anything else on the *Colors* step. If you select **User Defined Color Template**, then proceed to the next step and choose a color template.

2) Choose a color template from the **Color Template** menu or select **Private Template** to create a new color template that will be applied to this graph only.

   If you selected **Private Template**, you can edit the template right in the *Graph Wizard*. After you make your changes, select **Save As...** to save your changes in the *Color Template Wizard* , where you can also specify other properties of the template.

   If you want to make changes to the color template itself, click **Edit** (if available). This opens the chosen template in the *Color Template Wizard*.

   For information on editing color templates, refer to ***Color Templates*** (on page 98).

3) Click **Preview** to see how the graph appears with the chosen color template.

4) Click Next to proceed to the next step, ***Viewing In Folders Information*** (on page 97).

Viewing In Folders Information

The **In Folders** step displays the following information:

- Every graph has a single home folder. The Home Folder field displays the name of the home folder of the new graph. By default, a graph inherits its security settings from its home folder.
- If the graph has been added to other folders, those folder names are displayed in the Others table.

To change the default home folder:

1) Click **Browse** and select the desired folder.

   Alternatively, if the desired home folder name already appears in the *Others* table, you can simply select it and click **Define as Home Folder**. The selected folder becomes the graph's home folder. The previously-defined folder is listed in the *Others* table.

2) Click **Next** to proceed to the next step, ***Defining Security Permissions*** (on page 97).

Defining Security Permissions

To define security permissions for the graph.

By default, new objects inherit their security permissions from their home folder. Therefore, the **Inheriting** settings box at the top of the **Security** step is selected and indicates the name of the home folder.

You can add, remove, or edit security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).

When you are done viewing and editing security permissions, click **Next** to proceed to the next step, ***Entering Knowledge Information*** (on page 98).

Entering Knowledge Information

The *Knowledge* step provides information about the graph being created, in terms of how the graph is used within your organization. Many of the graphs included with your system will already have knowledge bundled with the application. You can view this knowledge while you are working with a graph. You can also create your own or add to existing knowledge. Knowledge can be entered in plain text, which cannot be formatted (italics, underlines, and so on).

1) In the **Knowledge** field, enter the required hint information for this object.
2) Click **Preview** to view the hint you have created and any other existing hints for this object.
3) Click **Close** to return to the *Knowledge* step of the *Graph wizard*.
4) Click **Finish** when all required knowledge has been added. The new graph is displayed in the list of available graphs in the *Graphs* list.

Color Templates

Color templates allow you to create, modify, and reuse color schemes for graphs. With the Color Template Wizard, you can make color templates for both normal and high contrast display modes.

Creating a Color Template

Creating a Color Template with the Color Template Wizard

To create a color template with the Color Template Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Color Templates**.
3) In the **navigation pane**, select the folder to which you want to add the color template.
4) From the **New** list, select **Color Template**.
   The Color Template Wizard appears.
5) In each tab of the Color Template Wizard, add and edit information for the color template.

Entering General Color Template Information

To enter general color template information:

1) On the General tab of the Color Template Wizard, enter the following information:
   - **Name**: The name of the color template.
   - **Description**: A brief description of the new color template. You can include hypertext.
   - **Owner**: The owner of the color template.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the color template and exit the wizard.

Defining the Colors

To add and modify colors in your color template.

1) On the **Colors** tab of the Color Template Wizard, make sure the **Normal Mode** tab is selected. You will define colors for normal display settings first.
2) Add or remove colors.

   To insert a color, select **Insert**. To remove a color, select it and then select **Remove**. Make sure you have as many colors as you think the graphs that use the color template will need.
3) Modify the colors.

   In any color row, select **Modify** in the **Picker** column to open the color picker, where you can visually select a color. Alternatively, you can manually specify the hexadecimal code for each color in the **Code** column.

   To revert the colors back to the default system colors, click **System Colors**.
4) Use the arrows to reorder the colors. Their order in the Color Template Wizard determines their order in graphs that use the color template.
5) Click **Preview** and choose a graph style to see how it would appear with the color template.
6) When you are done editing colors on the Normal Mode tab, click the **High Contrast Mode** tab.
7) Follow steps two through five to define the colors that the application will display when set to High Contrast Mode.
8) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the color template and exit the wizard.

Viewing and Editing In Folders Information

To view and specify the color template's home folder, and to view other folders that contain the color template:

1) On the **In Folders** tab of the Color Template Wizard, view the **Home Folder** field and the **Others** list.

   Every color template has a single home folder. The **Home Folder** field displays the name of the home folder of the new color template. By default, all color templates inherit their security settings from their home folders.

   If the color template was added to other folders, those folders are listed in the **Others** list. A new color template will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the color template. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the color template's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the color template and exit the wizard.

Defining Security Permissions

To define security permissions for the color template:

1) On the **Security** tab of the Color Template Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.

2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).

3) Click **Finish** to save the color template and close the wizard. The new color template is added to the Color Templates list.

Categories

Categories are the basic building blocks of the system. Like a column in a spreadsheet, a category either contains or calculates the data of items and/or portfolios.

The category might display a numeric or textual value and/or a colored indicator.

Values and Indicators

Every category has a *data type* which can be defined as one of the following options:

- **Value:** shows the actual value of the category whenever the category is displayed. Possible value types are: integer, float, text, date, value list, or user name.
- **Indicator:** the category is symbolically represented by a colored icon (for example, a red circle, yellow diamond, green star, black triangle, or another defined indicator).
- **Both (the default):** the category will show both its value and its indicator wherever possible.

The way the category will be used determines whether values, indicators, or both are appropriate.

For example, a category called *Monthly Budget* needs to show its numeric values as the actual numbers are the most relevant information.

A category called *Item Health* could be represented by indicators, because the color coding can easily exhibit the health of the item.

A category called *Planned versus Actual Budget* could be represented by both values and indicators. The values would reflect the actual budget, while the indicators would reflect the adherence to the planned budget.

The value and/or indicator can represent a single data element associated with a single item; it can be a summary of data elements for a group of items (portfolio), or a group of portfolios (super-portfolio).

A cell is a specific category value of a specific item.

The value and/or indicator contained in a cell can be entered and updated either:

- Manually (this is the default option)
- Through a calculation
- Imported from an external database table

Indicator Colors and Shapes

While three (3) default indicators are initially enabled for use in the application, administrators must configure a minimum of two (2) and may configure a maximum of seven (7). The system allows customization of both the shape (choose from seven allowable shape types) and color (choose from 16 pre-defined colors).

The indicators selected by the administrator will be used for all categories in the entire application.

Creating Categories

Categories are the basic building blocks of the system. Like a column in a spreadsheet, a category either contains or calculates the properties of items and/or portfolios.

A category can hold a value and/or a color indicator.

Categories are used throughout the system: They appear as objects in the Investor Maps, as values in the Workbook, Scorecards and Forms, and as graphs in Dashboards.

For instructions how to create categories, refer to ***Creating or Editing a Category*** (on page 101), in Working with Categories.

Creating or Editing a Category

This section describes how to create and edit categories using the *Category Wizard*.

Step 1: Creating a Category with the Category Wizard

To create a category with the Category Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Categories**.
3) In the **navigation pane**, select the folder to which you want to add the category.
4) From the **New** list, select **Category**.
   The Category Wizard appears.
5) In each tab of the Category Wizard, add and edit information for the category.

Step 2: Entering General Category Information

This section describes how to enter new category information, including the category identifier, name, and description.

1) Open the *New Category Wizard*, as described in Step 1. The *General* step of the *New Category Wizard* appears.
2) In the **Identifier** field, enter an identifier for the new category.

> **Note: The Identifier field is mandatory**. Identifiers are used by the Packager, Add-ons, and other external applications to identify the category. Elsewhere in PPM (scorecards, maps, forms etc.), the Name is used rather than the Identifier. When you wish to rename a category, it is recommended to modify the Name rather than the Identifier.

3) In the **Name** field, enter a name for the new category, if you want a name that is different from the Identifier.

> **Note:** By default, category names are <follows identifier>, mirroring the identifier. That way, if you change the identifier, the category name automatically changes accordingly. If a category name differs from the identifier and you'd like it to revert back to <follows name>, you can either delete the category name, or replace it with the exact identifier string.

4) In the **Description** field, enter a brief description of the new category. You can include hypertext in the description.
5) In the **Owner** field, from the drop-down list, select the owner of the new category from the list of available users. Your login is the default owner.
6) Click **Next** to proceed to the next step of the *New Category Wizard*, where you enter information about the properties of the new category.

Step 3: Defining Category Properties

Category properties include:

- **Data Type:** value, indicator or both.
- **Value Type:** integer, float, text, date, value list and user.
- **Validation:** defines the confines for the selected value type. There are different validation options for different value types. For more information on validation refer to ***Category Validation*** (on page 110)
- **Value Unit:** e.g. currency types.
- **Reference Value:** the value of another category that is used as a reference for the new category.

To define the new category's properties:

1) In the *New Category Wizard*, click **Next**. The *Properties* step of the *New Category Wizard* appears.
2) Select the data type for the new category. Data can be displayed as values, indicators, or both values and indicators. For more information on values and indicators see ***Values and Indicators*** (on page 100).

> **Note:** Once the category data type is selected and you click **Finish** to save the settings, the data type cannot be changed.

3) In the **Value Type** field, select the new category's value type from the drop-list that includes the following options:

- **Integer:** A numeric value that is a whole number. For example, 1, -2, 45 and so on.
- **Float:** A numeric value that includes a decimal point. For example, 1.50, .8999 and so on. If you select **Float** as the value type for the new category, an additional field appears in which you select the maximum number of decimal points to be displayed in the scorecard and saved in the database.
- **Text:** Alphanumeric content, such as words or phrases.
- **Date:** A calendar date value indicating when an event occurs (e.g., May 10, 2012).
- **Value List:** Defined lists of values used to rate a category. For example, a value list may be named Quality and the values in the list may be *high, medium* and *low*. If you select *Value List* as the value type for the new category, you need to define which value list to use (either existing or new) and whether the value list is to be filtered.

  Note: To create a new value list, click on the arrow next to the **Name** field. The *Select Value List* dialog box opens with New Value List as the top-most option. Select this option to access the Value List Wizard, in order to create a new value list. For more information on value lists, refer to ***Entering General Value List Information*** (on page 146) in Configuring the System Components.

- **User:** A user. For example, a category called **Technical Consultant** would have a user as its value.
  - **Filtered By**: Select *None* or *Custom* from the list to create a list of users with a specific role. For more details, see ***Filtering Users*** (on page 104).

The following table provides the database limitations per value type.

Value Type	Database Limitations
Integer	SQL Server: -2^31 (-2,147,483,648) to 2^31 - 1 (2,147,483,647). Oracle: -2^31 (-2,147,483,648) to 2^31 - 1 (2,147,483,647).
Float	SQL Server: -1.79E + 308. Oracle: 38 digits before the decimal point, and 126 digits after the decimal point.
Date	SQL Server: From January 1, 1753 to December 31, 9999. Oracle: From January 1, 1753 BCE to December 31, 4712 CE.

4) Define (or copy) the **Validation** parameters for the selected Value Type. For more information on validation refer to ***Category Validation*** (on page 110).
5) In the **Value Units** field, enter the type of units, if applicable. Examples of unit types are percentages, currencies, or time units.

> **Note:** Value units are displayed to the right of the value in some graphic modes.

6) From the **Reference Value** drop-down list, select a reference value for the new category, as required. A reference value is the value of another category, which supplies additional information and improves the visibility of the current category's data. For example, if the category is *Actual Length of Current Phase*, a reasonable reference value could be the *Planned Length of the Current Phase*. The displayed value is in the form Actual Time/Planned Time, such as 40/20, enabling the user to easily discern that the allocated time for the phase has been seriously exceeded.
7) Click **Next** to proceed to the next step of the *New Category Wizard*, where you enter scheduling information for the new category.

Filtering Users

To limit the number of users displayed for a specific user role enter the following information in the **Filter Users** dialog box, :

1) In the **Type** field, select the type of list being searched. Choices include: *Users* or *Groups*.
2) In the **Search** field, enter a search string.

   In the **Available Users** column, a list of users or groups who satisfy the search criteria display.
3) In the **Available Users** column, select the subset of users from the list, and then select **Add**.

   The selected users display in the **Filtered Users** column.
4) To remove users from the **Filtered Users** column, select **Remove**.
5) Select **OK**.

   The list of filtered users now display for a specific role.

Step 4: Setting Up a Schedule

You can set a default schedule for category's cell updates, which are displayed in the *My Updates* tab of the To-Do module, as described in ***To-Do Module Overview*** (on page 329). The schedule defines when a category's data is marked as out-of-date, and is intended to prompt the user responsible for performing the update.

To set a default schedule for category's cell updates:

1) From the *Properties* step, click **Next**. The *Schedule* step of the *New Category Wizard* appears.

   In the **Schedule** field, from the drop-down list, select how often the new category will be updated. Depending on the schedule selected, an additional field may appear enabling you to select the day of the update. The format of this field depends on whether you selected *Weekly, Monthly, Quarterly,* or *Yearly* in the **Schedule** field.

> **Note:** It is not recommended to change a category schedule once values for the category have been created. Changing the schedule can cause confusion in the *Trend* tab and scorecard values for the category cells, and it will not be clear in the values whether they are from before or after

the change. In addition, if the data source for the category is a function, and the schedule is changed, the change in value is not automatically calculated. Rather, new values are calculated only when source cell values are updated.

2) Select the default option, **Data is valid for the defined period only**, in order to remove out-of-date data from the application, rather than simply marking it as out-of-date. This would be appropriate for categories such as **Monthly Budget**, in which the value from the last month does not automatically carry over to the next month.
3) Or, select **Data remains valid until newer data is entered** to keep the current data indefinitely, until it is replaced by newer data.
4) Click **Next** to proceed to the next step in the *New Category Wizard*, where you enter information about the new category's data source.

Step 5: Entering Data Source Information

This section describes how to define the data source of the new category. The available data source options are Manual, Calculated, and Imported.

Accessing the Data Source Dialog Box

From the Schedule step, click **Next**. The Data Source step of the New Category Wizard appears.

Defining a Data Source for a Cell Type

A different data source can be assigned to each Cell Type. The cell types include:

- **Cell Value:** The category value component of the cell which is applicable for an item or sub-item.
- **Cell Indicator:** The category indicator component of the cell which is applicable for an item or sub-item.
- **Summary Value:** The category value component of the cell which is applicable for a portfolio.
- **Summary Indicator:** The category indicator component of the cell which is applicable for a portfolio.

To define a data source for a cell type:

1) Select the required cell type and then click **Edit**. The appropriate Data Source dialog box appears.
2) In the **Data Source** field, from the drop-down list, select the data source for the new category. Depending on the data source you choose, additional fields are displayed in which you define the details of the data source.

Note: For a description of the available data sources for each cell, refer to the following topic, ***Available Data Sources*** (on page 106).

3) In the **Description** field, enter a brief description of the data source.
4) Click **OK**. The **Data Source** dialog box closes, returning you to the Data Source step of the New Category Wizard.

5) Repeat these steps for each cell type entry as necessary.
6) Click **Next** to proceed to the next step of the New Category Wizard, where you enter information for generating dashboards for the new category.

> **Note:** For detailed information on setting up functions, refer to ***Defining Functions*** (on page 114).

Available Data Sources

Depending on the cell type selected, different data sources are available, as described in the following sub-topics.

Cell Value Data Sources

There are three types of data sources available for cell values (applicable only for sub-items and items), as follows:

- **Manual:** No further information is required to be entered in this dialog box. The value is set manually in the *Cell Update* dialog box.
- **Calculated:** Data is calculated using the following function options, which are further described in ***Defining Functions*** (on page 114):
  - **Horizontal Function:** In a horizontal function, the cell's value is calculated from other categories in the same sub-item, item or portfolio. For more information, refer to ***Horizontal Function*** (on page 116).
  - **Over-Time Function:** In over-time functions, the cell's value is calculated from a different category's trend values in the same sub-item, item or portfolio. For more information, refer to ***Over-Time Function*** (on page 122).
  - **Advanced Function:** An advanced function requires you to define a JavaScript function, which calculates and returns the value for the cell. For more information, refer to ***Advanced Function*** (on page 124).
- **Imported Data:** Imported data is mined from sources outside the system, such as your legacy systems. For more information, refer to ***Defining Imported Data*** (on page 143).

> **Note:** Only users with the appropriate security permission can define categories with imported data source.

Cell Indicator Data Sources

There are two types of data sources available for cell indicators (applicable only for sub-items and items), as follows:

- **Manual:** No further information is required to be entered in this dialog box. The indicator is set manually by a user in the *Cell Update* dialog box.
- **Calculated:** Data is calculated using the following function options, which are further described in ***Defining Functions*** (on page 114).
  - **Indicator Function:** An indicator function enables you to map a value of a cell to the indicator that represents that value. For more information, refer to ***Indicator Function*** (on page 118).

- **Advanced Function:** An advanced function requires you to define a JavaScript function, which calculates and returns the indicator for the cell. For more information, refer to ***Advanced Function*** (on page 124).

Summary Value Data Sources

There are several types of data sources available for summary values (applicable only for portfolios), as follows:

- **Manual:** No further information is required to be entered in this dialog box. The value is set manually by a user in the *Cell Update* dialog box.
- **Calculated:** Data is calculated using the following function options, which are further described in ***Defining Functions*** (on page 114):
  - **Horizontal Function:** In a basic formula, the cell's value is calculated from other categories in the same portfolio. For more information, refer to ***Horizontal Function*** (on page 116).
  - **Vertical Function:** In a summary function, the cell's value is calculated from all the portfolio items or portfolio values for a single category. For more information, refer to ***Vertical Function*** (on page 121).
  - **Vertical Function (Advanced):** An advanced summary function is a function that is calculated from the portfolio's items or portfolios in different categories, using a JavaScript function. It adds the ability to filter the view according to Status. For more information, refer to ***Vertical Function (Advanced)*** (on page 140).
  - **Over-Time Function:** In over-time functions, the cell's value is calculated from a different category's trend values in the same portfolio. For more information, refer to ***Over-Time Function*** (on page 122).
  - **Advanced Function:** An advanced function requires you to define a JavaScript function, which calculates and returns the value for the cell. For more information, refer to ***Advanced Function*** (on page 124).
- **Imported Data:** Imported data is mined from sources outside the system, such as your legacy systems. For more information, refer to ***Defining Imported Data*** (on page 143).

> **Note:** Only users with the appropriate security permission can define categories with an imported data source.

Summary Indicator Data Sources

There are several types of data sources available for summary indicator values (applicable only for portfolios), as follows:

- **Manual:** No further information is required to be entered in this dialog box. The indicator is set manually by a user in the *Cell Update* dialog box.
- **Calculated:** Data is calculated using the following function options, (which are further described in ***Defining Functions*** (on page 114):
  - **Indicator Function:** An indicator function enables you to map a value of a cell to the indicator that represents that value. For more information, refer to ***Indicator Function*** (on page 118).

- **Vertical Function (Advanced):** An advanced summary function is a function that is calculated from the portfolio's items or portfolios in different categories using a JavaScript function. It adds the ability to filter the view according to Status. For more information, refer to ***Vertical Function (Advanced)*** (on page 140).
- **Advanced Function:** An advanced function requires you to define a JavaScript function, which calculates and returns the indicator for the cell. For more information, refer to ***Advanced Function*** (on page 124).

Step 6: Entering Dashboard Information

To select dashboards (collections of graphs) that are relevant for the new category:

1) From the *Data Source* step, click **Next**. The *Dashboard* step of the *New Category Wizard* appears.
2) The default option for **Item Dashboard** is *Automatic*. This option automatically generates a dashboard when drilling down from each item cell for this category.
   - Select *None* if you do not want a dashboard to be available when drilling down from each item cell for this category.
   - Or
   - Select an existing dashboard and tab from the Other drop-down lists. When drilling down from each item cell for this category, the pre-defined dashboard and tab are displayed.

   > **Notes:** You can access the *New Dashboard Wizard* through the <*New Dashboard*> option at the top of the **Other** drop-down list.

   For more information on creating dashboards, refer to ***Working with the Dashboard Wizard*** (on page 324), in Working with Dashboards.
3) The default option for **Portfolio Dashboard** is *Automatic*. This option automatically generates a dashboard when drilling down from each item cell for this category.
   - Select *None* if you do not want a dashboard to be available when drilling down from each portfolio cell for this category.
   - Or
   - Select an existing dashboard and tab from the Other drop-down lists. When drilling down from each item cell for this category, the pre-defined dashboard and tab are displayed.

   > **Notes:**
   >
   > - The **Other** drop-down list also provides <*New Dashboard*> and <*New Tab*> options at the top of the list, enabling you to access the *New Dashboard Wizard*.
   > - For more information on creating dashboards, refer to ***Dashboards*** (on page 81).
4) Click **Next** to proceed to the next step of the *New Category Wizard*, where you view the new category's home folder.

Dashboards specified in this step can be accessed from the cell menu in the *Scorecard* and *Workbook* modules. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).

Step 7: Viewing In Folders Information

This section describes how to view the folders in which the category belongs or is referenced.

1) From the *Dashboard* step, click **Next**. The *In Folders* step appears.
2) The *In Folders* step displays the following information:
   - Every category has a single home folder. The *Home Folder* field displays the name of the home folder of the new category. By default, a category inherits its security settings from its home folder.
   - If the category has been added to other folders, those folder names are displayed in the Others table.
3) To change the default home folder, click **Browse** and select the desired folder.

   Alternatively, if the desired home folder name already appears in the Others table, you can simply select it and click **Define as Home Folder**. The selected folder becomes the category's home folder. The previously-defined folder is listed in the *Others* table.
4) Click **Next** to proceed to the next step of the *New Category Wizard*, where you define the category's security permissions.

Step 8: Defining Security Permissions

To define security permissions for the category:

1) From the *In Folders* step, click **Next**. The Security step of the *New Category Wizard* appears.
2) There are two ways to define data security settings: Either **Items or portfolios define data security** (for the category), or the **Category defines data security for all items and portfolios**. You can select either of these two options for the new category in the box at the top of the Security step of the *New Category Wizard*. For a more detailed explanation, refer to ***Setting Data Security*** (on page 452) in Security.
3) In the *Security* step, you can add, remove, or edit security permissions for the category. For information on working with security permissions, refer to ***Security*** (on page 443).
4) Click **Next** to proceed to the next step of the *New Category Wizard*, where you enter Knowledge Information.

Step 9: Entering Knowledge Information

This section describes how to enter knowledge information about the object being created.

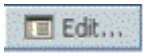
1) From the *Security* step, click **Next**. The *Knowledge* step of the *New Category Wizard* appears.
2) In the **Knowledge** field, enter the required information for this category.
3) Click **Preview** to view the information you have entered and any other existing information for this object.
4) Click **Finish** when all required information has been entered. The new category now appears in the *Categories* hierarchy in the Setup module and is available for use.

Editing a Category

This section describes how to edit an existing category using the *Category Wizard*. You can access the *Category Wizard* in either of the following ways:

1) In the Scorecard module double-click on a category name.

Or

1) In the Setup module select **Categories** from the *Setup* drop-down list. The *Setup Categories* hierarchy appears.
2) Select a category from the list of available categories and click 

from the toolbar. The *Category Wizard* appears.

The Category Wizard includes the same steps used when creating a new category:

- **Step 1- General:** In the *General* step you can edit the category *Name, Identifier, Description* and *Owner*. For more information refer to ***Step 2: Entering General Category Information*** (on page 101).
- **Step 2-Defining Category Properties:** describes how to set the data properties, including data type, value type, validation and reference value for the category. For more information refer to ***Step 3: Defining Category Properties*** (on page 102).
- **Step 3 - Setting up a Schedule:** describes how to set the default schedule for category updates. For more information refer to ***Step 4: Setting Up a Schedule*** (on page 104).
- **Step 4-Entering Data Source Information:** describes how to set up calculations for the data source of the category. For more information refer to ***Step 5: Entering Data Source Information*** (on page 105).
- **Step 5-Entering Dashboard Information:** describes how to set up dashboard links for the category. For more information refer to ***Step 6: Entering Dashboard Information*** (on page 108).
- **Step 6-Viewing In Folders Information:** describes how to view category's current home folder or determine a new one. For more information refer to ***Step 7: Viewing In Folders Information*** (on page 109).
- **Step 7-Defining Security Permissions:** involves defining access rights to the data displayed in the item cells and is described in ***Security*** (on page 443).
- **Step 8-Entering Knowledge Information:** describes how to enter knowledge for the object. For more information refer to ***Step 9: Entering Knowledge Information*** (on page 109).

Category Validation

Category validation pertains to defining category properties. For information on entering validation data, refer to ***Step 3: Defining Category Properties*** (on page 102).

A category with the data type of integer, float, text, or date can have predefined limits called validation. These validation limits provide a logical framework for future manual input into the category.

The data input into a category can be validated in two ways:

- **Masking (for text categories):** allows the user to create an input mask. For example, a phone number format mask. If the input is not within the masking definition for the category, the system prompts for the expected input.
- **Data Validation:** the data in the cell is checked for compliance with the predefined limits. For example, if the input has to be a positive number, negative numbers will be rejected.

Data validation is performed in the **Forms**, **Dashboards**, and **Scorecards** modules as well as the **Cell Properties** dialog box.

> **Note:** Data validation is performed for manual data entry only. There's no validation if data is entered by functions calculation, etc.

Copy Validation

It is possible to copy validation rules from one category to another. This means that once you define the desired validation parameters for a given category, it can be used for other categories with the same data type.

In the **Properties** step of the *Category Wizard* click **Copy Validation**. The **Categories** dialog box opens so that you can select a category in which the desired format parameters are already defined. This is the Source Category.

The validation parameters associated with the Source Category (Max/Min Values, Mask type) will be copied to the active category.

Copying the validation parameters is a one-time operation- there is no residual connection to the source category. This means that changing the validation of the source category has no effect on categories that copied its validation parameters.

Value Types

The **Properties** step of the *Category wizard* changes depending on the value type selected. Validation can be added to the following value types:

- Integer describes the validation options for integer categories.
- Float describes the validation options for float number categories.
- Text describes the validation options text categories.
- Date describes the validation options date categories.

Integer

For value type Integer the **Properties** step displays.

You may define a value in the Min Value and/or Max Value field. Future input into the category will be validated to fit within the lower and/or upper limit you defined.

Float

For value type Float the **Properties** step displays.

You may define a value in the Min Value and/or Max Value field. Future input into the category will be validated to fit within the lower and/or upper limit you defined.

Define the number of decimal points to display. If you do not want to limit the input of more decimal spaces, check the **Allow input of more decimals** checkbox.

Select if the expanded or rounded input will be stored, by clicking on either **Store entire input** or **Store rounded input**.

Text

For value type Text the **Properties** step displays different options. The default option is Length, with no validation value (blank).

Length defines the total number of characters one may enter wherever the category is available. The drop-list includes a blank- no length option plus three preset lengths: Short =0-250 characters, Medium=0-500 characters and Long=0-2500. The preset length values can be customized by the Oracle Primavera Professional Services team.

Selecting the Custom button opens a dialog box in which you may enter a custom length definition. Entering positive integers in both fields determines the number of characters the text field will accept.

The custom length definition is displayed in the Length field in the following format: "Custom: <min-max> characters".

> **Note:** The custom definition is added temporarily to the Length drop list. Selecting one of the predefined options and clicking Next will erase the custom definition.

Selecting Mask lets you define the input format.

The following masking elements can be used:

Masking Element	Description
0	Digit, required
9	Digit, optional
T	Letter, required
t	Letter, optional
R	Uppercase letter, required
r	Lowercase letter, required
&	Character, required
?	Character, optional
A	Alphanumeric character, required
a	Alphanumeric character, optional

\	Escape. Escapes a mask character, turning it into a literal. "\\" is the escape sequence for a backslash.
All other characters	Literals. All non-mask elements will appear as themselves within **masked fields**.

There are several masking options available:

- **Blank**- this is the default option. No mask is applied to the field.
- **Predefined Masks**- a number of predefined masks are "factory-supplied". The current list of predefined masks includes: Phone Number; SSN#, Zip Code and e-mail.

  E-mail is a special case. In order not to limit the possible address options, the Mask for e-mail will simply show name@domain. If necessary, special e-mail masks can be created by the PPM Professional Services team.
- **Custom**- you may create a custom mask by entering custom masking characters (detailed above) into the Format field.
- **Advanced**- this is an option for advanced users only. Selecting the Advanced button opens the Advanced Mask Formats dialog box seen below:

  In the Advanced Mask Formats dialog box it is possible to enter multiple mask formats and/or use Regular Expression syntax to define the Custom mask format.
  - Multiple Mask Formats: Allows the definition of more than one mask format (as defined in the Mask Table above) for the field. Each line in the Mask Format box defines an optional input format. The input needs to match just one of the mask definitions for validation.
  - Regular Expression: Checking the RegExp checkbox gives you the option to create a custom mask using Regular Expression syntax in the Advanced Mask Formats box. The rules for Regular Expression syntax are the same as for JavaScript Regular Expressions. This option is added to support complex validation functionality.
  - Hint: Defining a hint is mandatory for Advanced masks. The description entered in this free text area becomes the advanced mask formats' tooltip.

The Hint button opens the Hint Text dialog box. In this dialog box you can enter a free-text hint or sample text for the format used in the masked text field. The hint entered here will show up as a tool tip when hovering above masked fields in the Forms module (except in table fields). It is also the error message for the field in the Scorecards and Workbook modules.

Date

If the Value Type is Date, the Properties step displays. The options in the Date drop list are:

- Any date- any date input is acceptable.
- Date Range- only dates within the defined From - To range are acceptable.
- Today or future dates- only today or future dates are acceptable.
- Only future dates- only future dates are acceptable.
- Today or past dates- only today or past dates are acceptable.
- Only past dates- only past dates are acceptable.
- Today's date- only today's date is acceptable.

Category Representation

Categories are used in the following areas:

- **Investor Map**-in the Investor module categories are used to define the X-axis, the Y-axis, as well as determine the size and color of the bubbles. For more information on the Investor module, refer to ***Investor Module Overview*** (on page 223).
- **Scorecards** - in the Scorecard module categories are used to define the columns of the scorecard. The end-user can select whether to see the category's value, indicator, or both. For more information on the Scorecard module, refer to ***Scorecard Module Overview*** (on page 248).
- **Workbook-**the Workbook module includes a single scorecard line showing the focused item's data, as viewed through its related categories. For more information in the Workbook module, refer to ***Workbook Module Overview*** (on page 278)
- **Forms**- in the Forms module, categories related to the item that the form is viewing are used as the form's components. Several categories can be grouped together to make up a table.

  When the form includes a dependency list, it is possible to view categories associated with items that are interdependent on the item being viewed.

  When inserting a web portlet into a form it is possible to use a category as a parameter making up the URL.
  For more information on the Forms module, refer to ***Forms Module Overview*** (on page 294).
- **Dashboards**-in *Dashboards*, graphs show a composite picture of the categories related to the item or portfolio being viewed. For more information on the Dashboards module, refer to ***Dashboards Module Overview*** (on page 317).
- **To Do**-in the To Do module it is possible to manage update requests for categories related to specific items. For more information on the To Do module, refer to ***To-Do Module Overview*** (on page 329).
- **Query Based Portfolios**-in QBPs items or portfolios that fit condition(s) that are defined by a category for a portfolio (or a super-portfolio). For example, a portfolio of all the items manufactured in China. For more information on Query Based Portfolios, refer to ***Query-Based Portfolios*** (on page 46) in Configuring the System Components.
- **Alerts**- it is possible to create an alert that is based on certain category values. For example, an alert can be issued for all items that will get an "approved" value for a category called: `Funding Status'. For more information on Alerts, refer to ***Configuring Alerts and Notifications*** (on page 188).
- **Functions**-categories are the building blocks of functions. For more information on functions, refer to ***Defining Functions*** (on page 114).

Defining Functions

This section describes how to define functions for various cell types. For information on the various *Data Source* options refer to ***Data Source Dialog Box*** (on page 115).

Data Source Dialog Box

This section describes the various manifestations of the *Data Source* dialog box. The dialog box opens when you choose to edit a cell type in the *Data Source* step of the *Category wizard*. For more information on the *Data Source* step refer to ***Step 5: Entering Data Source Information*** (on page 105).

A category can be an indicator, a value, or both. These data types determine the options available in the *Data Source* step.

There are three *Data Source* options:

- Manual Data Source (Refer to ***Defining a Manual Data Source*** (on page 115).)
- Calculated Data Source (Refer to ***Defining a Calculated Data Source*** (on page 115).)
- Imported Data Source, for value-type categories only (Refer to ***Defining an Imported Data Source*** (on page 143).)

Defining a Manual Data Source

The Data Source can be defined as Manual for data types Value, Indicator, Summary Value, or Summary Indicator.

To define a Manual data source:

1) Select **Manual** from the Data Source drop list.
2) You may enter text describing the data source in the Description text box. The description you enter here will appear when the cell type is selected in the Data Source step.
3) Click **OK** to return to the Data Source step of the Category wizard.

Defining a Calculated Data Source

The Data Source can be defined as Calculated for data types Value, Indicator, Summary Value, or Summary Indicator.

To define a Calculated data source:

1) Select **Calculated** from the Data Source drop list. The Data Source dialog box changes to the default calculation, Horizontal Function.
2) If necessary, select a different function from the Calculation drop list.

3) The Data Source dialog box changes to reflect your choice. The following table shows which function types are available for each data type:

	Horizontal	Indicator	Vertical	Vertical (advanced)	Over Time	Advanced
Value	√				√	√
Indicator		√				√
Summary Value	√		√	√	√	√
Summary Indicator		√		√		√

Horizontal Function

In a horizontal function the cell's value is calculated from other categories in the same sub-item, item or portfolio.

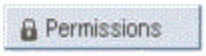
A horizontal function requires you to enter a single formula (JavaScript syntax expression) with which the data for the cell is to be calculated. If you select **Horizontal function** as your data source, additional fields are displayed in the Data Source dialog box.

The Data Source dialog box for a horizontal formula includes the following features:;

- Select categories: If a category value is required for the formula, the category name is included in the formula. Select the required category from the Select Categories list, and click the adjacent button. You can also enter the category name manually in the Formula area, with quotation marks. For example, if the required category is Budget, type "Budget".
- Formula: In the Formula area, enter the formula for the data source using a single JavaScript expression embedded with PPM syntax, which is described in ***Horizontal Function Syntax*** (on page 117).
- Operators: Click the required operator button to include it in the formula. Operators can also be entered manually in the Formula area.
- Formula Description: In the Formula Description area, enter a brief description of the formula. The description entered here is seen in the Data Source step by the Configurator.

  In the Functions Log Report and the Functions Integrity Report the description is seen by the system administrator and in the Cell Properties dialog box by the end-user.
- Test Button : Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).

Note: It is recommended that you test every function before saving it to the database.

- Permissions Button 

: Enables you to define the function's permissions to access system data. For more information, refer to ***Changing Function Permissions*** (on page 141).

Horizontal Function Syntax

With the proprietary Oracle Primavera Portfolio Management (PPM) syntax, the following methods which can be used when defining horizontal functions:

Category	**(Syntax)**
Syntax	"category"
Arguments	category A name of a category
Description	Represents the current value of the category cell.
Example	"income" - "expense" Income and expense are categories in PPM.

getValueList (Syntax)	
Syntax	getValueList("valuelist","value")
Arguments	valuelist A name of a value list. value A name of a value in the specified value list.
Description	Returns a float that specifies the value's weight. This syntax can be used to compare value list variables.
Example	If "Risk" is a value list category with "High", "Medium" and "Low" values, then the following horizontal formula is valid: ("Risk" == getValueList("Risk","High"))?1:0 ?: is the JavaScript conditional operator. The formula returns 1 if the items Risk is high, otherwise it returns 0.

Reserved Words

today (Reserved Word)

Syntax	today
Description	today is an integer that represents the current date. This property returns the number of days since 1753 until the current date, which can be compared with the any other date type parameter.
Example	"End Date" - today In this example, if the result is positive, the cell displays the number of days left until the planned end date. If the result equals 0, then the planned end date is today. If the result is a negative number, then the cell displays the number of days that have passed since the end date.

red / yellow / green (Reserved Words)	
Syntax	red yellow green
Description	red, yellow, and green are integers that represent the different indicator values. Note that the indicators must be written in lowercase letters only.
Example	("Health" == red)?0:1 ?: is the JavaScript conditional operator. The formula returns 0 if the items Health is red, otherwise it returns 1.

Indicator Function

An indicator function enables you to map a value of a cell to the indicator that is used to represent that value. If you select **Indicator Function** as your data source, additional fields are displayed in the *Data Source* dialog box. These fields vary according to whether you select **Cell Value** or **% Difference from Reference Category** in the *Data Source* dialog box.

Data Source Indicator Function Dialog Box

The components of the Data Source dialog box affect calculated indicator functions.

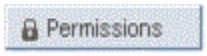
The Data Source dialog box includes the following components:

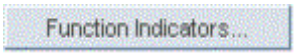
- **Cell Value**: Enables you to define an indicator function that maps the cell values to indicators, as described in ***Cell Value Function*** (on page 119).

- **% Difference from Reference Category**: Enables you to define an indicator function that compares the cell values to another cell and displays an indicator that reflects the variance between the two cells, as described in ***Percent (%) Difference from Reference Category Function*** (on page 120).
- **Graphical Calculation Area**: Enables you to graphically represent the function and map the cell values to the indicator colors as described in***Cell Value Function*** (on page 119) and ***Percent (%) Difference from Reference Category Function*** (on page 120).
- **Function Description**: Enables you to enter a description of the indicator function.
- **Test Button**

: Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).

  - **Note:** It is recommended that you test every function before saving it to the database.

- **Permissions Button** 

: Enables you to define the function's permissions to access system data. For more information, refer to ***Function Permissions*** (on page 140).
- **Function Indicators Button** 

: Enables you to select the indicators used in the function.

Cell Value Function

To define an indicator function based on cell values:

1) From the Data Source dialog box, select the **Cell Value** option. The Graphical Calculation Area displays the Cell Value options.
2) In the text box above the green segment, enter a low threshold value. Any number less than or equal to this number will be represented by the green star indicator. Any number greater than this number will be represented by the applicable yellow or red segment.
3) In the text box above the red segment, enter a high threshold value. Any number greater than or equal to this number will be represented by the red circle indicator. Any number less than this number will be represented by the applicable yellow or green segment.

   For example, with a category such as "Current Open Bugs", you may want to define that less than 40 open defects at this stage is good, between 40 and 90 is acceptable, and more than 90 open defects is cause for concern.

Notes:

- The indicators shown (green, yellow, and red in this example) are those selected when hitting the "Functions Indicator Button", which, by default, are those selected by the Administrator for the system.
- In the example above, high values are red and low values are green. If the number entered in Step 0 is greater than the number entered in Step 3 high values will be green and low values will be red.
  The rule is that all numbers entered should be ascending from left to right, or descending from left to right, but never mixed. If this rule is not followed, an error message will appear and the function will not be saved.
- The direction of the flags shows which comparison is inclusive. In the above example, any number less or equal to 40 will be represented as green indicator; any number larger or equal to 90 will be represented as red. You cannot control the direction of the flags.

Percent (%) Difference from Reference Category Function

You can define an indicator function based on the comparison between two categories. This means that a reference category is used, and the indicator is determined according to the deviation of the cell value from the reference value. The deviation can be measured in terms of absolute value, which means that it makes no difference if the cell value is over or under the reference value. Or, the deviation can be measured using ranges above and below the reference value, which are asymmetrical. This means that you can determine the required range for each indicator.

To define an indicator function based on the comparison between two categories:

1) From the Data Source dialog box, select **% Difference from Reference Category**. The Graphical Calculation Area displays the Cell Value options.
2) In the Reference Category field, from the drop-down list, select the category to which the cell value is to be compared.
3) Enter values into the Graphical Calculation Area.

   For example, if the category measures actual budget expenditures versus planned budget expenditures, you may determine that a deviation of up to 2% (under or over the budget) is excellent, 10% is good, between 10% and 25% is acceptable, and over 25% is cause for concern.

Notes:

- The colors shown in the indicator are those selected when hitting the "Functions Indicator Button", which, by default, are those selected by the Administrator for the system.
- It is possible to use the same absolute numbers for each indicator color. This is not required; you can enter different negative and positive deviation values.
- The numbers entered should be ascending left to right. If you enter numbers that do not follow this rule, an error message will appear and the function will not be saved.
- The direction of the flags shows which comparison is inclusive. For example, any deviation larger than or equal to 25% may be represented by a red indicator; any deviation less than 25% and greater than 10% may be represented by a yellow indicator; any deviation less than or equal to 10% and larger than 2% may be represented by a green indicator; etc. You cannot control the direction of the flags.

Vertical Function

In a vertical function, the cell's value is calculated from all the portfolio's items or portfolios values for a single category.

Vertical functions provide summary data for an entire portfolio of items or a portfolio of portfolios. If you select Vertical Function as the data source for the new category, additional fields appear in the **Data Source** dialog box.

The **Data Source** dialog box for a vertical function includes the following areas:

- **Type:** Select a type of vertical function to provide for the category values of all the items or portfolios in a selected portfolio, from the following options:

  Note: For all examples, let P1, P2, ... Pn be all the source values.

  - **Sum of portfolio member values:** The values of the items or portfolios are simply added up, and a total is provided. For example, if each item or portfolio = P, the formula for the cell value would be:

    Cell Value = P1 + P2 +...+ Pn

  - **Average of portfolio member values:** The values of the items or portfolios are added up, and divided into the number of included items or portfolios. For example, if each item or portfolio = P, the formula for the cell value would be:

    Cell Value = (P1 + P2 +...+ Pn) / n

  - **Weighted Average by:** The average value for the category, weighted by the value of a category that you select from the drop-down list in the **Weighted by** field. The formula for a weighted average is:

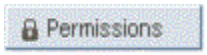
    (W1*V1) + (W2*V2) +...+ (Wn*Vn) / W1 + W2 +...+ Wn

Where
V - the value of each item or portfolio
W - the value of each item or portfolio in the category by which the average is weighted.

- **The maximum of portfolio member values:** Returns the highest value out of all the values of the member items or portfolios.
- **The minimum of portfolio member values:** Returns the lowest value out of all the values of the member items or portfolios.

- **Operate On:** Place a checkmark in one or more of the **Open, Closed**, or **Candidates** boxes to select which items and portfolios will be included in the calculation of the vertical function value. You can choose any combination of statuses.

> **Note:** You can open or close items in the **Status** field of the *General* step of the *Item Wizard*. For more information on how to modify item status, refer to ***Items*** (on page 37) in *Configuring the System Components*.

- **Description:** Displays a brief description of the selected function.
- **Test Button:** Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).
  - **Note:** It is recommended that you test every function before saving it to the database.
- **Permissions Button** 

: Enables you to define the function's permissions to access system data. For more information, refer to ***Function Permissions*** (on page 140).

Over-Time Function

In over-time functions, the cell's value is calculated from a different category's trend values in the same sub-item, item or portfolio.

An over-time function requires you to enter source and time period information that is used to calculate the cell value. Only one operation can be selected from the displayed options. If you select **Over-Time Function** as your data source, additional fields are displayed in the *Data Source* dialog box.

The *Data Source* dialog box for an over-time function includes the following areas:

- **Source Category:** From the drop-down list, select the category to provide the source values for the function.
  The source values are all the values in the source category within the defined time period (as can be seen in the Trend tab of the source cell's *Cell Properties* dialog box. For more information on working with cell properties, refer to ***Working with Cell Properties*** (on page 261) in *Working with Scorecards*).
- **Operation:** Select an operation to perform on the source value over time, from the following options:

> **Note:** For all examples, let P1, P2, ... Pn be all the source category values within the time period.

- **Sum of the values over time:** The values are added cumulatively for each time period selected. For example, the formula for the sum of the values over time is:

  Cell Value = P1 + P2 +...+ Pn

- **Average of the values over time:** The values for each time period are added up, and divided into the number of time periods. The formula for the average of the values over time is:

  Cell Value = (P1 + P2 +...+ Pn) / n

- **Weighted average by:** The average value over time, weighted by the value of a category that is selected from the drop-down list in the **Weighted by** field. The formula for a weighted average is:

  [(W1*V1) + (W2*V2) +...+ (Wn*Vn)] / (W1 + W2 +...+ Wn)

  Where:
  V is the value at each time period
  W is the value of the category the average is weighted by at each time period.

- **The maximum value:** Returns the highest value of the source category in the selected time period.
- **The minimum value:** Returns the lowest value of the source category in the selected time period.
  - **Time Period:** Select the time period for which to calculate the over-time function from the following options:

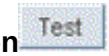
> **Note:** If the target category has a schedule, then only that time period will be available for selection to be used by the Over Time function for the `previous' option and only longer schedules for the `current to date' option.
> For example:
> If the category has a monthly schedule, then the Over Time function time period is:
> - current quarter | year to date
> OR
> - previous x months (where x is a positive integer)
> For example: previous 2 months.
> The user can select any option (weekly, monthly, etc.) on all categories regardless of their schedule.

- **Current:** From the drop-down list, select a time period ending on the current date, beginning on the first day of the current week, month, quarter or year. In other words, if you select **Week to date**, the value is calculated beginning exactly on Monday until the current date. For example, if today is Tuesday, July 18, the value is calculated from Monday, July 17 until Tuesday, July 18. If you select **Month to date,** the value is calculated from July 1 to July 18, and so on.

- **Previous:** The time period in this case is a defined, complete, calendar unit. The calendar unit can be weeks, months, quarters or years. In other words, each time unit is a full week, month, quarter or year, up to the last completed unit of time. For example, if you select **Years** as your time units, and today is July 18, 2000, the value will be calculated for the selected number of years, up to 1999, since that is the last completed calendar year.

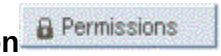
  Notes:

  - Unlike the **Current** option, in the **Previous** option you can select multiple units. For example, you can calculate the cell value for the previous 10 weeks or previous 3 years, and so on.
  - The beginning date of the quarter time period is defined during installation.

- **Function Description:** Enter a brief description of the function.
- **Test Button** 

: Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).

  Note: It is recommended that you test every function before saving it to the database.

- **Permissions Button** 

: Enables you to define the function's permissions to access system data. For more information, refer to ***Function Permissions*** (on page 140).

Advanced Function

The advanced function provides you with additional flexibility. The function requires the use of the syntax described in ***Advanced Function Syntax*** (on page 126) and the entry of a JavaScript function according to which the data for the cell is to be calculated.

Advanced function parameters can be saved and reused in a variety of ways.

This section describes various aspects of working with advanced functions.

Data Source Advanced Function Dialog Box

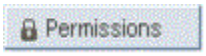
The components of the Data Source dialog box affect advanced functions.

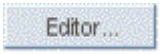
The Data Source dialog box when defining advanced functions includes the following elements:

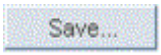
- Data Source: Select Calculated from the drop-down list. For more information on possible data sources refer to ***Data Source Dialog Box*** (on page 115).
- Calculation: Select the type of calculation for your function from the drop-down list. For more information on possible data sources refer to ***Defining a Calculated Data Source*** (on page 115).
- Test Button

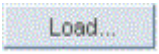
: Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).

Note: It is recommended that you test every function before saving it to the database.

- Permissions Button 

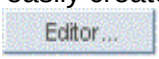
: Enables you to define the function's permissions to access system data. For more information, refer to ***Changing Function Permissions*** (on page 141).
- Editor Button 

: Access the Advanced Functions Editor dialog box which enables you to easily create and edit advanced functions. For more information, refer to ***Using the Advanced Functions Editor*** (on page 125).
- Save Button 

: Enables you to save the advanced vertical function for use in the future by clicking the Save button and entering a descriptive name.
- Load Button 

: Enables you to load a saved advanced vertical function to reuse for another category or cell, or to use as a template for the creation of new functions.
- Script: In this area, enter the body of the function. The function is comprised of JavaScript and of unique PPM syntax, as described in ***Advanced Function Syntax*** (on page 126).
- Function Description: Enter a brief description of the function.

Using the Advanced Functions Editor

The Advanced Functions Editor dialog box provides you with a tool to easily create and edit functions. To access the Advanced Functions Editor dialog box, click 

from the Data Source dialog box (refer to ***Advanced Function*** (on page 124) and ***Vertical Function (Advanced)*** (on page 140).

You can type your advanced function directly into the Script area, and/or select values from the Expression Builder and Properties List. The Advanced Functions Editor dialog box includes the following fields:

- Expression Builder: Select the values in the Expression Builder area and click to add the values to the function in the Script area.
  - Method: The values available in the Method drop-down list are dependent on whether you are creating an Advanced Function for cell value (items and sub-items), or for a summary value (portfolios).
  - Indicator: Select an indicator from the drop-down list. This field is only available if you select the getIndicator method.
  - Category: Select a category from the drop-down list.
  - Value List: Select a value list from the drop-down list.
  - Value: The values available in the Value drop-down list are dependent on the Value List you select.
- Properties List: The Properties List contains Object Properties that are relevant depending on the syntax used. Objects appear in bold in the list followed by their Properties. To insert a Property to the script, double-click the Property, or select the Property and click .
- Script: In this area, enter the function. The function is comprised of JavaScript and unique PPM syntax, as described in ***Advanced Function Syntax*** (on page 126).

- Test Button

: Enables you to test the function you are defining for a category. For more information, refer to ***Testing a Function*** (on page 142).

Advanced Function Syntax

This section describes the proprietary Primavera Portfolio Management (PPM) syntax that can be used when defining functions.

The functions should be written as the body of a JavaScript function (without the definition and enclosing brackets). The function should include a `return' statement. Example:

```
var sum = 0;
for (var i = 0; i < 10; i++)
{
sum += i;
}
return sum;
```

The return value should match the value type of category (integer/float/text/values list/date/user). See also ***Data Type Representation in Functions*** (on page 142).

> **Note:** The functions are being executed in a background process. Do not attempt to use any external resources (such as COM objects, etc) from within the advanced functions.

Methods

The following methods are described below:

- getCell
- getChildren
- getSubItems
- getDependsOnItems
- getSupportsItems
- getValueList
- getPhases
- getIndicator
- setAnnotation
- getItemName
- getSubItemParent
- getHomePortfolio
- getUser

getCell

getCell (Method)	
Syntax	`getCell("category")`
Arguments	`category` A name of a category

Description	Returns the cell, of the specified category, of the item or portfolio on which the function is running. The return value is an object of the Cell type. Refer to the Cell table in ***Objects*** (on page 133).
Applies to	Advanced function only.
Example	`getCell("Budget Plan").Value`

getChildren

getChildren (Method)	
Syntax	`getChildren ("category")`
Arguments	`category` A name of a category
Description	Returns an array of cells, of the specified category, of all children of the portfolio on which the function is running.
Applies to	Advanced and Vertical function (Advanced).

Example	`// sums up the portfolios planned budget`
	`var sum = 0;`
	`var bud = getChildren(":Budget Plan");`
	`for (var i = 0; i < bud.length; i++)`
	`{`
	`if(bud[i].Value != null)`
	`sum += bud[i].Value;`
	`}`
	`return sum;`

getSubItems

getSubItems (Method)	
Syntax	`getSubItems ("category")`
Arguments	`category` A name of a category
Description	Functions can be used to analyze sub-items. For example, they can calculate an item's budget by summing budget of its `Milestone' sub-items. A function can access the sub-items using any category as source data (including the target category itself). The information returned is an array of cells that belongs to the specified category. The elements of this array are objects of the SubItemCell type. Refer to the SubItemCell table in ***Objects*** (on page 133).
Applies to	Advanced function only.

Example	`var budgetList = getSubItems("Budget 2008");`
	`var totalBudget = 0;`
	`var MILESTONES = getValueList("Sub-Item Type", "Milestones");`

	for (var i = 0; i < budgetList.length; i++)
	{
	if (budgetList[i].SubItemType == MILESTONES)
	totalBudget += budgetList[i].Value;
	}

getDependsOnItems

getDependsOnItems (Method)	
Syntax	getDependsOnItems ("category")
Arguments	category A name of a category
Description	Functions can be used to analyze the impact of the dependencies. For example, they can calculate a project's health by considering the weighted impact of its dependencies. A function can access the item's associated dependencies using any category as source data (including the target category itself). This is true in both the `Depends On' and `Supports' directions. The item (or portfolio) that the function operates on may depend on other items (or portfolios). If such dependencies exist, the getDependsOnItems method returns information about the other item(s) or portfolio(s). The information returned is an array of cells that belongs to the specified category. The elements of this array are objects of the DependencyCell type. Refer to the DependencyCell table in ***Objects*** (on page 133).
Applies to	Advanced function only.

Example	// sums up the planned budget
	// for items that this item is dependent on
	var sum = 0;
	var bud = getDependsOnItems ("Budget Plan");
	for (var i = 0; i < bud.length; i++)
	{
	if(bud[i].Value != null)
	sum += bud[i].Value;
	}
	return sum;

getSupportsItems

getSupportsItems (Method)	
Syntax	getSupportsItems ("category")
Arguments	category A name of a category
Description	Functions can be used to analyze the impact of the dependencies. For

	example, they can calculate a project's health by considering the weighted impact of its dependencies. A function can access the item's associated dependencies using any category as source data (including the target category itself). This is true in both the `Depends On' and `Supports' directions. The item (or portfolio) that the function operates on may support other items (or portfolios). If a supporting relationship exists, the getSupportsItems method returns information about the other item(s) or portfolio(s). The information returned is in the form of an array of cells that belongs to the specified category. The elements of this array are objects of the DependencyCell type. Refer to the DependencyCell table in ***Objects*** (on page 133).
Applies to	Advanced function only.

Example	`// sums up the planned budget`
	`// for items that this item supports`
	`var sum = 0;`
	`var bud = getSupportsItems ("Budget Plan");`
	`for (var i = 0; i < bud.length; i++)`
	`{`
	`if(bud[i].Value != null)`
	`sum += bud[i].Value;`
	`}`
	`return sum;`

getValueList

getValueList (Method)	
Syntax	`getValueList ("valuelist","value")`
Arguments	`valuelist` A name of a value list `value` A name of a value in the specified value list
Description	Returns a float that specifies the value's weight. This syntax can be used to compare value list variables.
Applies to	Advanced and vertical function (advanced). Note: The `getValueList` syntax does not work with the "Indicators" system values list.
Example	If Risk is a value list category with High, Medium, and Low values, then the following horizontal formula is valid: ("Risk" == getValueList("Risk","High"))?1:0 ?: is the JavaScript conditional operator. The formula returns 1 if the item's Risk is High; otherwise it returns 0. This syntax may be used in an advanced function, as illustrated in the following example: `var risk_score=getCell("Risk").Value;`

	`if (risk_score == getValueList("Risk","High")) return 1;` `return 0;`

getPhases()

getPhases() (Method)	
Syntax	`getPhases()`
Description	Returns an array of phases representing the life cycle of the item or portfolio on which the function is running. The elements of this array are objects of type 'Phase'. For more information refer to the Phase table in ***Objects*** (on page 133). Note: The index for the current phase within the Phases array is stored in the CurrentPhaseIndex variable. See reserved words for more details.
Applies to	`Advanced function only.`

Example	`var ph = getPhases();`
	`...`
	`if (ph[i].Health == red) return 0;`

getIndicator

getIndicator (Method)	
Syntax	`getIndicator("name")`
Arguments	`Indicator` An indicator name.
Description	Returns the indicator, of the specified category, of the item or portfolio on which the function is running. The return value represents the cell's indicator, and is comparable to the Indicator property of a Cell.
Applies to	Advanced function only.
Examples	`Budget_Plan.Indicator==getIndicator("Blue")` `getCell("Health").Indicator==getIndicator("Black")`

setAnnotation

setAnnotation (Method)	
Syntax	`setAnnotation("Message")`
Arguments	`message` The text to display in the updated cell's annotation.
Description	Writes the annotation into the cell on which the function is running.
Applies to	Advanced and vertical function (advanced).
Example	`var enddate = getCell("End Date") Value;` `var diff = (today - enddate.Value);`

	`if (diff>5)`
	`{`
	`setAnnotation("item is" +diff+" days late");`
	`return red;`
	`} else if (diff>0)`
	`{`
	`setAnnotation("item is" +diff+" days late");`
	`return yellow;`
	`} else`
	`{`
	`setAnnotation("item is on time");`
	`return green;`
	`}`

disableTodayOptimization

disableTodayOptimization (Method)	
Syntax	`disableTodayOptimization`
Description	By default, a function which uses the today syntax propagates calculations to categories which depend on it, only if the function returns a different value than the current one. So if the category's current value is 3,000, and the categories function is triggered to return 3,000, depending functions will not be triggered and recalculated. By calling the disableTodayOptimization method, you can ensure that depending functions will be retriggered even if the result does not change the current value.
Applies to	Advanced and vertical function (advanced).

Example	`disableTodayOptimization();`
	`var daysDiff = today-getCell("Start Date").Value;`
	`if (daysDiff > 0)`
	`{`
	`return 1;`
	`} else {`
	`return 0;`
	`}`

getItemName

getItemName (Method)	
Syntax	`getItemName`

Description	Returns the name of the item or portfolio that the function runs against. When used on the Value level, getItemName can return results as item names. To run this method on Portfolios, you must first define it in the Summary Value Advanced Function.
Applies to	Advanced function only.
Example	`var itemName = getItemName;` `return itemName;`

getSubItemParent

getSubItemParent (Method)	
Syntax	`getSubItemParent`
Description	Returns the category value of the item or portfolio that contains the sub-item that the function runs against.
Applies to	Advanced function only.

Example	`var amtspent = getCell("Amount Spent on Phase").Value;`
	`var totalamt = getSubItemParent("Total Amount" Spent").Value;`
	`var percentage = (amtspent/totalamt)*100;`
	`return percentage;`

getHomePortfolio

getHomePortfolio (Method)	
Syntax	`getHomePortfolio`
Description	Returns the category value of the home portfolio that contains the item that the function runs against.
Applies to	Advanced function only.
Example	`var homeCategory = getHomePortfolio("Source1").Value;` `return homeCategory;`

getUser

getUser (Method)	
Syntax	`getUser`

Description	Returns the user properties into a category. **Note**: This method can be called only on User type categories.
Applies to	Advanced function only.
Example	`var user = getUser("Source1").Value;` `return user;`

Objects

Objects

The following Objects are described below:

- Cell
- SubItemCell
- DependencyCell
- Phase
- Deliverable

Cell

Cell	(Object)
Description	Represents a cell's data.
Properties	
`AsOf`	AsOf is an integer that refers to the date as of which the value is valid. This property returns the number of days since 1753 until the AsOf date, which can be compared with the today keyword or any other date type parameter
`DisplayValue`	DisplayValue is a string that represents the cell value as displayed on screen. This means: For cells of type integer or float - returns the string representation of the number. For cells of type Text, returns the text (identical to Value attribute) For cells of type Value List, returns the text of the displayed value For cells of type Date, returns the date as string in short format (as displayed in Scorecard cells).
`Indicator`	Indicator represents the cell's indicator, and is comparable to indicators of other cells or to predefined indicator names by using the getIndicator(`"name"`) syntax.
`ItemID`	ItemID returns the internal ID for the item on which the calculation is performed.
`UpdatedOn`	`UpdatedOn` is an integer that refers to the date when the cell value

	was updated. This property returns the number of days since 1753 until the `UpdatedOn` date, which can be compared with the today keyword or any other date type parameter.
`UpdatedBy`	`UpdatedBy` returns the integer id of the user who last updated the cell value. By using `UpdatedBy` in a function defined on a category of type user, the cells of that category will show the names of the users who last updated the cell object this property refers to.
`Value`	Value specifies the cell's value according to the category's data type. For more information refer to Functions or discussion on the format of the returned value.

Examples	`var a = getCell("2003 Funded Budget").AsOf;`
	`getCell("Risk").Indicator==getCell("Reward").Indicator`
	`getCell("Health").Indicator==getIndicator("Black")`
	`return getCell("Risk").UpdatedBy;`

SubItemCell

SubItemCell (Object)	
Description	Represents data of a Sub Item and a cell of it. `SubItemCell` objects are obtained as the result (list) of getSubItems method.
Properties	All of Cell's properties (refer to the Cell table, above) and the following:
`SerialNumber`	The order of the sub-item among other sub-items of the same item/portfolio, and of the same type. An integer starting with 1.
`SubItemType`	The type of the sub-item. This is a value from the Sub-Item Types value list. This is useful for filtering the sub-items of a specific type (corresponding to a specific dynamic list).

Example	`var budgetList = getSubItems("Budget 2008");`
	`var totalBudget = 0;`
	`var MILESTONES = getValueList("Sub-Item Type", "Milestones");`
	
	`for (var i = 0; i < budgetList.length; i++)`
	`{`
	`if (budgetList[i].SubItemType == MILESTONES)`
	`totalBudget += budgetList[i].Value;`
	`}`

DependencyCell

DependencyCell (Object)	
Description	Represents a data of a dependency, and a cell of the depending/supporting item. DependencyCell objects are obtained as the result (list) of getDependsOnItems and getSupportsItems methods.
Properties	All of Cell's properties (refer to the Cell table, above) and the following:
`Cost`	The Cost of the dependency. An integer
`Type`	The Type of the dependency. This is a value from the 'Dependency Types' value list.
`Weight`	The weight of the dependency. This is the corresponding value from the `Dependency Weights' value list.

Example	`// sum of the Costs of all dependencies`
	`var dep = getDependsOnItems("Status");`
	`var sum = 0;`
	`for(var i = 0; i < dep.length; i++)`
	`{`
	`if (dep[i].Cost != null)`
	`{`
	`sum += dep[i].Cost;`
	`}`
	`}`
	`return sum;`

Phase

Phase (Object)	
Description	Represents a life cycle's phase.
Properties	
`ActualEndDate`	`ActualEndDate` is an integer that refers to the date on which the phase ended. This property returns the number of days since 1753 until the actual end date, which can be compared with the `today` keyword or any other date type parameter.
`ActualStartDate`	`ActualStartDate` is an integer that refers to the date on which the phase actually began. This property returns the number of days since 1753 until the actual start date, which can be compared with the today keyword or any other date type parameter.
`Deliverables`	`Deliverables` is an array that holds all of the phase's Deliverable objects, refer to the Deliverable table, below. The deliverables in the array are ordered by the deliverable's due

	date.
`ForecastStartDate`	`ForecastedStartDate` is an integer that refers to the Forecasted date on which the selected phase is to start, according to the item plan. This property returns the number of days since 1753 until the Forecasted start date, which can be compared with the today keyword or any other date type parameter
`ForecastEndDate`	`ForecastEndDate` is an integer that refers to the forecasted date on which the selected phase is to be completed, according to the item plan. This property returns the number of days since 1753 until the forecasted end date, which can be compared with the today keyword or any other date type parameter.
`Health`	`Health` is an integer that specifies the Phase's indicator color (green, yellow, or red).
`Name`	`Name` returns the name of the phase. The value type is text string.
`PercentComplete`	`PercentComplete` is an integer between 0 and 100 that specifies the percentage of the selected phase that has been completed.
`PlannedEndDate`	`PlannedEndDate` is an integer that refers to the scheduled date on which the selected phase is to be completed, according to the item plan. This property returns the number of days since 1753 until the planned end date, which can be compared with the `today` keyword or any other date type parameter.
`PlannedStartDate`	PlannedStartDate is an integer that refers to the scheduled date on which the selected phase is to start, according to the item plan. This property returns the number of days since 1753 until the planned start date, which can be compared with the `today` keyword or any other date type parameter.

`Status`	Status is a float that represents the phase's status. The status can be one of the following value list entries:
	`getValueList("PhaseStatus","Not Started")`
	`getValueList("PhaseStatus","Current Phase")`
	`getValueList("PhaseStatus","Finished")`
	`getValueList("PhaseStatus","Skipped")`

`Weight`	`Weight` is a float that represents the weight of the phase within the "Phases" system value list.

Example	`var ph = getPhases();`
	`...`
	`if (ph[i].PlannedStartDate < today) ...`

Deliverable

Deliverable (Object)	
Description	Represents a Phase's deliverable. Deliverable objects are obtained as the (list) `Deliverables` property of a `Phase` object. Refer to the Phase table, above.
Properties	
`Completed`	▸ `Completed` is a Boolean value that describes whether the deliverable has been completed
`Due date`	`Due date` is an integer that refers to the date on which the deliverable is due. This property returns the number of days since 1753 until the due date, which can be compared with the today keyword or any other date type parameter.
`Mandatory`	`Mandatory` is a Boolean value that describes whether the deliverable is absolutely required.
`Name`	`Name` is a string that is the name of the deliverable.

Example	`var ph = getPhases();`
	`...`
	`if (ph[i].Deliverables[j].Completed) ...`

Reserved Words

The following tables present reserved words:

- red / yellow / green
- CurrentPhaseIndex
- Prosight.errno/Prosight.message
- DoNothing

red / yellow / green

red / yellow / green	

Syntax	`red`
	`yellow`
	`green`

Description	`red, yellow, and green` are integers that represent specific indicator values. They must be written in lowercase letters. Note: Use `getIndicator("<indicator_color_name>)` instead of these legacy reserved words. They are only supported for backward compatibility.
Example	`var health = getCell("Health)` `if (health.Indicator==red) {return(1);}`

	`if (health.Indicator==yellow) {return(2);}` `if (health.Indicator==green) {return(4);}`

CurrentPhaseIndex

CurrentPhaseIndex	
Description	The index for the current phase within the Phases array that is returned by the getPhases method. If no current phase is defined, then the default value for the CurrentPhaseIndex is -1.

Example	`var ph = getPhases();`
	`if (CurrentPhaseIndex != -1)`
	`return ph[CurrentPhaseIndex].Name`

Prosight.errno/Prosight.message

Prosight.errno Prosight.message	
Syntax	`Prosight.errno = error_level` `Prosight.message = "message"`
Arguments	`error_level` One of the numbers 0, -1 or -2 `message` The text to display as the error message
Description	Use the error object, Prosight.errno, to return an error. 0 is the default for success, -1 returns an error, and -2 returns a warning. `Prosight.message` returns a string that explains the error, and will be printed in the function log as described in ***Administration*** (on page 403) or in the result dialog box of the test button. Note: When the function returns an error or a warning, the actual value returned is null.

Example	`if (getCell("Budget").Value == null)`
	`{`
	`Prosight.errno = -1; //Get out in error`
	`Prosight.message="missing budget";`
	`return;`
	`}`

DoNothing

DoNothing	
Description	When this keyword is returned from a function, the processing of the function ceases and the cell's data is not updated or added. Note: DoNothing is a case-sensitive reserved keyword and can be used only in combination with a Return statement.
Example	`var domain = getCell("Domain").Value;`

	var application = getValueList("Domains", "Applications");
	var assets = getValueList("Domains", "Assets");
	if (domain == application) return "APPLICATIONS";
	if (domain == assets) return "ASSETS";
	return DoNothing;

Include File

The advanced function makes use of an Include File, which is a JavaScript file containing code that defines constants, common functions, etc.

Uploading the Include File

The Include File must be uploaded into the database before advanced functions can be used.

To upload the Include File:

1) In Microsoft Windows, open a command window. (Choose Start - Run and type `cmd`.)
2) Type the following psGlobalsConfig utility command:

   ```
   psGlobalsConfig /login=<USER> /pwd=<PASSWORD>
   /global=FE_IncludeFile /upload /file=<FILENAME>
   ```

   where:

   <USER> is a PPM username;
   <PASSWORD> is the corresponding password;
   <FILENAME> is the name of the function Include File.

Notes:

- If you change any information in the Include file, you must restart PPM for the change to take effect. Changes in the Include file do not cause functions depending on these changes to be re-calculated ("triggering"). These changes will only affect future calculations occurring as a result of other changes (such as value changes, Portfolio changes, etc).
- The Include file is automatically compiled when you start PPM. If an error occurs while compiling, the Include file will not be accessed by the advanced function, and a message will display in the Status tab of the Admin screen as follows.

Downloading the Include File

An Include File can also be downloaded from the database to verify, examine, or modify it.

To download the Include File:

1) Open a command window.
2) Type the following psGlobalsConfig utility command:

```
psGlobalsConfig /login=<USER> /pwd=<PASSWORD>
/global=FE_IncludeFile /download /file=<FILENAME>
```

where:

<USER> is a PPM username;
<PASSWORD> is the corresponding password;
<FILENAME> is the name of the function Include File.

Vertical Function (Advanced)

A vertical function (advanced) is the same as an Advanced function. The difference is that when *getChildren*() (refer to the getChildren table in ***Methods*** (on page 126)) is used, the filtering specified on the dialog box is applied (only the open/closed/candidate items are returned).

> **Note:** getDependsOnItems(); getSupportsItems (); and getSubItems() are not available.

The vertical function (advanced) is calculated from the portfolio's items for a portfolio of items, or from the portfolio's portfolios for a portfolio of portfolios on different categories. Each parameter represents an array of cells.

To define a Vertical Function (Advanced):

1) Select the *Data Source* step of the *Category wizard*. The *Data Source* dialog box appears.
2) Fill out the dialog box using the features described in the general ***Data Source Advanced Function Dialog Box*** (on page 124).
3) In the **Operate On** area you can define which items and portfolios will be included in the calculation of the vertical function (getChildren(...)). Check the checkbox of one or more of the following statuses: **Open**, **Closed**, and **Candidates**.

Function Permissions

To prevent functions from providing secure information to unauthorized users, functions must have Read Data permissions on their source category data.

For example, if a function calculates the Total Expenses by adding the R&D expenses and the marketing expenses, the function needs Read Data permission for both the R&D Expenses and Marketing Expenses categories.

To set function permissions when you create a function, assign a user from one of the existing users in the system to the function. The function will have the same permissions to access data as the selected user.

By default, the function has the same permissions as the user who originally defined the function on the data source. The following are examples of when the permissions of the user who created the category should be changed:

- The user who defined the function might have permissions that can be used to expose sensitive data in the system. In such a case, the definer of the function will purposefully use a known or a made up user who has a more restricted set of permissions.

- The user who defined the function might have limited permissions that are not enough to access the needed sources. For example, a programmer from the IT department may define a category using a function that calculates the Marketing department's budget. It is likely that the programmer doesn't have Read permission on the budget's components of the Marketing department's items. Therefore, the Marketing department personnel, who are authorized to view the budget, need to assign the budget category's function permissions. They do so by using the name and password of a user who has the appropriate permissions.

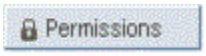
To make changes to a function's permissions, you need Admin permissions on the category.

Changing Function Permissions

For every cell type there is a function Permissions button accessible from the data source definition dialog box (within the category wizard).

Function permissions can also be set in the Value and Indicator tabs of the Cell Properties dialog box, refer to ***Values and Indicators*** (on page 100) in ***Scorecard Module Overview*** (on page 248), or in the Data Source dialog box, as described in this topic. Any user with Admin permission on the category can change the function's permissions. If you are not the currently selected user, you need to provide the password of the selected user.

To change function permissions:

1) Click 

in the Data Source dialog box.
   The Function Permissions dialog box appears.
2) Select a user from the User drop-down list. The function will be able to access the data for which the selected user has Data Read permission. You can select any user from the User list as long as you can provide a password for the selected user.

> **Note:** If you have permission to Permit Functions to access all data (set in the Modules utility of the Setup Module) then you can select Function is permitted to access all data in the system. This option enables you to override function permissions. By default, this option is checked for authorized users.

Changing a Function

Any user with Edit permission on the category can edit the function. To save changes to a function, the system must know that you are authorized to change the content of the function and are not abusing the existing function permissions. If you are not the currently selected user, you need to provide the password of the user.

To save changes to a function:

1) Click OK in the Value or Indicator tab of the Cell Properties dialog box, or in the Data Source dialog box. The Authenticate User dialog box appears.
2) Enter the password for the user shown in the User field and click OK.

Running a Function

If the function fails to run due to lack of appropriate permissions, the function returns null which appears as a dash (-) appears in the cell on which the function is run.

In the Cell Properties dialog box, the Update tab displays a Calculation Failure icon and an explanation of the source of the failure. The calculation failure tab icon (x) on one of the Cell Properties dialog box tabs indicates on what tab the problem can be solved.

Testing a Function

To test a pre-defined function, the system must know that you are authorized to run the function and are not abusing the existing function permissions.

To test a function:

1) Click **Test** in the *Value* or *Indicator* tab of the *Cell Properties* dialog box, or in the *Data Source* dialog box.
2) In the resulting *Select Item* or *Select Portfolio* dialog box, select an item or portfolio to test the function.
3) Click **OK**. The *Test Result* message box informs you of the success or failure of the function test. In either case, the actual cell is not updated.
4) Click **OK** to close the *Test Result* message box.

If a test fails to run because of insufficient security permissions, you can change them (refer to Changing Function Permissions).

Data Type Representation in Functions

This topic explains how each data type is represented in functions. In other words, it describes the means employed by PPM for interpreting the data in order to manipulate it for the execution of the function.

- **Integer:** Integers are represented as integers. In other words, PPM recognizes integers in the form they are entered into the function.
- **Float:** Floats are represented as floats. In other words, PPM recognizes floats in the form they are entered into the function.
- **Date-Time:** Dates are represented by the number of days since January 1, 1753. PPM functions count the days between an entered date and the baseline date in order to perform comparisons. Thus, if Start Date is a category with date data type, then getCell("Start Date").Value will be calculated as the number of days since January 1, 1753. If you compare
  getCell("End Date").Value - *getCell("Start Date")*.Value, the difference in the number of days is returned.

  For example: If the Start Date is June 1, 2000 and the End Date is June 4, 2000, the result is 3. If the Start Date is June 4, 2000 and the End Date is June 1, 2000, the result is -3.
- **Values List:** Value-list values are represented by their weight, as entered in the *Values List* wizard. They appear when using the getCell("<categoryname>").Value method, or when using the value list notation getValueList("<valuelistname>","<value>"). The weight can be integer or float.

Example

If **Risk** is a value list category with *High*, *Medium* and *Low* values, then the following horizontal formula is valid:

("Risk" == getValueList("Risk","High"))?1:0

?: is the JavaScript conditional operator. The formula returns 1 if the item's **Risk** is High; otherwise it returns 0.

- **Text:** Text data is represented as a string of characters. Data is read from Text cells using the *getCell("<category>").DisplayValue* syntax.
- **User:** This data type is not used in functions, but can be used by the Imported Data source.

Defining an Imported Data Source

The Data Source can be defined as Imported for data types Value or Summary Value.

To define an Imported Data Source:

1) Select **Imported** from the Data Source drop list.
2) Select the desired data base name from the Data Base Table drop-down list.
3) Select the desired table from the Table Field drop-down list.
4) Click **OK** to return to the Data Source step of the Category wizard.

Defining Imported Data

Imported data is mined from sources outside the PPM database, such as your legacy systems. Generally, other applications are used to obtain the data, which is then converted into a format that can be used by the PPM system. Once the information is in a table in the PPM database, you can import the extracted data into the category during the Midnight Process, at a custom time scheduled in the *Schedule Portfolio Management Tasks* utility, via the Admin utility, or by manually running the *psTriggerImport* utility.

> **Note:** For more information on the Midnight Process, refer to ***Administration*** (on page 403).

Entering Data Source Information

If you select Imported in the Data Source field, additional fields appear in the Data Source dialog box.

The Data Source dialog box for imported data includes:

- Data Base Table: From the drop-down list, select a predefined table in the PPM database, from which the imported data is retrieved.
- Table Field: From the drop-down list of available fields, select the column of the database table from which the imported data is retrieved.

> **Note:** Only columns of the same data type as the new category are displayed in the list.

- Imported Data Description: Enter a brief description of the imported data.

Setting Up Database Tables

You can store data mined from sources outside of PPM so that it can be used by the application.

PPM uses data transforms to get data from outside sources, such as MS Project, Excel, and so on. For example, you may require information about the current task of an item, and how many people are working on it. Data transforms automate the data mining process, and enable the "digestion" of much larger amounts of data than could be collected by manual processes.

In order for PPM to be able to use the extracted data, it must be stored in the database in a way that the system can recognize. Database tables must be set up as follows:

- Tables must be named in the following format: PSRAW_<name>. All tables must begin with PSRAW. For example, if you are importing information from MS Project, the table can be named PSRAW_MSPROJECT.
- Tables must contain the following three columns:
  - PORTFOLIO_ID, with an integer data type, or
    PORTFOLIO_NAME, with a character type.
    This column holds the ID or name of each portfolio into which data is to be imported.
  - TIMESTAMP, with a date-time data type. This column contains the time that the data was entered into the row of the table.
  - AS_OF, with a date-time data type. Indicates the time and date from which the entered data is valid.

    > **Note:** The time until which the data is valid is determined by the category schedule.

  - For phase category data import, creation of a dedicated PSRAW_PHASES table is required. This table should contain either PHASE_ID (integer data type) or PHASE_NAME (character data type) column, along with the abovementioned TIMESTAMP and PORTFOLIO_ID / PORTFOLIO_NAME mandatory columns (AS_OF isn't required).

> **Note:** For phase data import, only certain data columns can be added:
> START_DATE_PLN (Planned Start Date - Date-time type);
> END_DATE_PLN (Planned End Date - Date-time type);
> START_DATE_ACT (Actual Start Date - Date-time type);
> END_DATE_ACT (Actual End Date - Date-time type);
> START_DATE_REV (Forecast Start Date - Date-time type);
> END_DATE_REV (Forecast End Date - Date-time type);
> PART_COMPLETE (% Complete - Integer type); HEALTH (Phase Health - Integer type); ANNOTATION (Phase Annotation - Character type);
>
> The AS_OF data column cannot be used with phase data import.

The remaining table columns contain the information for the portfolio.

Each table in the database can be related to a category. The relationship is one-to-many, so it is possible to have multiple categories pointing to a single column, enabling the input of data from the database into the category.

Once the database tables are defined, you are ready to define an import method in the *Data Source* dialog box of the *Category Wizard*, as described in ***Data Source Dialog Box*** (on page 115).

> **Note:** The list of tables in the *Data Source* dialog box does not include the predefined columns, and that the list of columns includes only those of the same data type as the category.

After the import method is defined in the *Category Wizard*, the set-up process is complete. The Midnight Process automatically updates the data.

> **Note:** The import method can also be activated at any time from the Admin utility. For more information on working with the Admin utility, refer to ***Administration*** (on page 403).

Value Lists

A value list is a category data type that enables the Configurator to group specific values into a single list. Input into cells in which this category is defined is limited to choices from the predefined value list.

For example, a value list called "Region" can have "North America"; "South America"; "Europe"; "Africa"; "Asia" and "Australia" as its values. When a category uses the *Region* value list, the user's input can only be one of the predefined continents, selected from the cell's drop-down list.

It is possible to further limit the choice of input values by **filtering** the value list. This is achieved by making the value list selection in one cell determine the choices available in a different cell of the same item. For example, the value defined in the 'Manufacturing Region' cell dictates the values available for the `Manufacturing Country' cell.

The values in the list can be weighted (1, 2, 3...). The weight grows with the numbers, so 1 is the lightest weight. The weight of values in the list affects their graphic representation in the Investor Map and determines how they are used in calculations (advanced functions).

Creating a Value List with the Value List Wizard

To create a value list with the Value List Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Value Lists**.
3) In the **navigation pane**, select the folder to which you want to add the value list.
4) From the **New** list, select **Value List**.
   The Value List Wizard appears.
5) In each step of the Value List Wizard, add and edit information for the value list.

Entering General Value List Information

To enter general value list information:

1) In the General step of the Value List Wizard, enter the following information:
   - **Name**: The name of the value list.
   - **Description**: A brief description of the value list. You can include hypertext.
   - **Owner**: The owner of the value list.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the value list and exit the wizard.

Entering Values to a Value List

You can define values for the new value list. When defining the value list, note that the order of the values determines their order in the drop-down list, as it will appear later in forms, scorecards, and other objects.

Weight determines the numerical conversion for the value when used within advanced functions, as well as the graphic representation (bubbles size) in the Investor Map. By default, the weight of each value reflects its order in the list starting with "1". For more information on weight in functions, refer to the getValueList in ***Horizontal Function Syntax*** (on page 117) in *Working with Categories*.

To define values for the new value list:

1) In the **Values** step of the Value List Wizard, in the **Name** column, enter the values you want to include in the value list. All the values in a single values list must be unique, and casing doesn't matter. For example, you cannot have "Europe" and "europe" in the same values list.
2) (Optional) In the **Weight** column, change the default weight of each value.

The assigned weight helps translate a textual value in the list to a numeric value. This is needed when the value list is used as the basis for calculating a function. For example, a function can be used to convert values in a value list to different bubble sizes in the Investor Map. Each value's designated weight determines the size of the bubble in the map. Higher weight numbers receive a greater the value.

3) Click **Insert [None]** to include the value **[None]** in the value list. This enables selecting [None] as a valid value for a cell (in a Scorecard or Form).
The order of the rows determines the order of the values in the drop down list in Forms/Scorecards.
4) You can move a selected value row around by using the *Move Row* controls.
5) Click **Reset Weights** to reset the weights according to the new order in the list.
6) To **Disable** a value, select the value in the list and click **Disable**. The value will disappear from the list. Check the `Show all values' box to see all the disabled values included in the list. When a disabled value is focused, it can be enabled by clicking **Enable**.

> **Note:** When you disable a value, this value will not be available for assignment to cells. However, cells that currently have this value will continue to show this value.

7) To rename a value, select the name of the value in the **Name** column and enter a new name for the value.

> **Note:** Contrary to when you remove a value from the list, when you rename a value, all cells that currently have the old value will show the new name.

8) Click **Next** to proceed to the next step of the Value List Wizard, or click **Finish** to save the value list and exit the wizard.

Filtering Values in a Values List

You can choose to filter the active value list on the Filtered by tab.

To filter the active value list:

1) In the **Filtered by** step of the Value List Wizard, click the **Filtered by** field.
2) In the **Select Value List** dialog box, choose the list you want to use as the filtering value list. The values of the filtering value list are loaded into the *Value* drop-down list.
3) Select a filtering value from the *Value* drop-down list.
From the list on the left, select the values to be filtered. You can use the **Ctrl** and **Shift** keys to select multiple values. Click **Add** to add the selected values to the list of filtered values on the right.
4) Repeat this process as necessary using other filtering values.
Every time you add a value from the left list to the right list the value receives a (assigned value) icon. This way you can tell which values of the filtered list have already been assigned to a value in the filtering list. Unassigned values show the (unassigned) icon.

There is no limit on the number of times you may assign a value. For example, if you were to filter a value list of countries by language, Canada will appear twice—once filtered by the English list and then again filtered by the French list.

5) Click **Next** to proceed to the next step of the Value List Wizard, or click **Finish** to save the value list and exit the Value List Wizard.

Viewing and Editing In Folders Information

To view and specify the value list's home folder, and to view other folders that contain the value list:

1) In the **In Folders** step of the Value List Wizard, view the **Home Folder** field and the **Others** list.

   Every value list has a single home folder. The **Home Folder** field displays the name of the home folder of the new value list. By default, all value lists inherit their security settings from their home folders.

   If the value list was added to other folders, those folders are listed in the **Others** list. A new value list will not be referenced in any other folders.

2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the value list. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the value list's home folder, and the previously defined folder is listed in the Others table.

3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the value list and exit the wizard.

Defining Security Permissions

To define security permissions for the value list:

1) In the **Security** step of the Value List Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.

2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).

3) Click **Finish** to save the value list and close the wizard. The new value list is added to the Value List list.

Life Cycles & Phases

Each item or portfolio may have a phase, or a sequence of phases, defined as the item's life cycle. Examples of phases could be requirement analysis, design, coding and so on. Each phase may have one or more deliverables that must be completed before you can progress to the next phase.

In PPM, life cycles are defined once and then used for many different items. In the same way, phases can be defined once and then used in different life cycles.

To define item life cycles, complete the steps in Creating Phases and Creating Life Cycles.

Creating Phases

This section describes how to define the phases that comprise items.

Creating a Phase with the Phase Wizard

To create a phase with the Phase Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Phases**.
3) In the **navigation pane**, select the folder to which you want to add the phase.
4) From the **New** list, select **Phase**.
   The Phase Wizard appears.
5) In each step of the Phase Wizard, add and edit information for the phase.

Entering General Phase Information

To enter general phase information:

1) In the **General** step of the Phase Wizard, enter the following information:
   - **Name**: The name of the phase.
   - **Description**: A brief description of the new phase. You can include hypertext.
   - **Owner**: The owner of the phase.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the phase and exit the wizard.

Defining and Adding Deliverables

Deliverables are the products of a phase. For example, a phase could be market survey, and a deliverable could be a survey report.

To define deliverables and enter deliverables information:

1) In the Deliverables step of the Phase Wizard, click **New**.
   The Deliverable dialog box appears.
2) In the **Name** field, enter a name for the new deliverable.
3) In the **Description** field, enter a brief description of the deliverable. You can include hypertext in the description.
4) Select **Mandatory** to make the deliverable mandatory to the completion of the phase.
5) Click **OK**. The new deliverable is displayed in the list in the Deliverables step.
6) Repeat steps one through to five for as many deliverables as are required for the phase.
7) To remove a deliverable, select it from the list and click **Remove**.

8) Select **Next** to proceed to the next step of the New Phase Wizard, or select **Finish** to save the phase and exit the wizard.

Viewing and Editing In Folders Information

To view and specify the phase's home folder, and to view other folders that contain the phase:

1) In the **In Folders** step of the Phase Wizard, view the **Home Folder** field and the **Others** list.

   Every phase has a single home folder. The **Home Folder** field displays the name of the home folder of the new phase. By default, all phases inherit their security settings from their home folders.

   If the phase was added to other folders, those folders are listed in the **Others** list. A new value list will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the phase. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the phase's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the phase and exit the wizard.

Defining Security Permissions

To define security permissions for the phase:

1) In the **Security** step of the Phase Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish** to save the phase and close the wizard. The new phase is added to the Phases list.

Entering Knowledge Information

The Knowledge tab enables you to provide information about how phases should be used. Knowledge content must be plain text. It cannot be formatted, so no italics, underlines, bold text, etc.

To view and edit Knowledge content for a phase:

1) In the **Knowledge** step of the Phase Wizard, in the **Knowledge** text area, enter the information that you want to be available for this phase.
2) Click **Preview** to view the hint you have created and any other existing hints for this object.

3) Click **Close** to close the dialog box and return to the Knowledge tab of the Phase Wizard.
4) Click **Finish**.

Creating Life Cycles

This section describes how to define new life cycles using the New Life Cycle Wizard. For more information on using life cycles, refer to ***Working with Life Cycles*** (on page 283) in Working with Management Workbooks.

Creating a Life Cycle with the Life Cycle Wizard

To create a life cycle with the Life Cycle Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Life Cycle**.
3) In the **navigation pane**, select the folder to which you want to add the life cycle.
4) From the **New** list, select **Life Cycle**.
   The Life Cycle Wizard appears.
5) In each step of the Life Cycle Wizard, add and edit information for the life cycle.

Entering General Life Cycle Information

To enter general life cycle information:

1) On the **General** step of the Life Cycle Wizard, enter the following information:
   - **Name**: The name of the life cycle.
   - **Description**: A brief description of the new life cycle. You can include hypertext.
   - **Owner**: The owner of the life cycle.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the life cycle and exit the wizard.

Adding Life Cycle Phases

To select the phases that comprise the life cycle of an item:

1) On the **Phases** step of the Life Cycle Wizard, click **Add** to add a phase to the life cycle. A list of phases appears.
2) In the list of phases, select the phase or phases you want to add. To select multiple phases, hold down the **Shift** or **Ctrl** key on your keyboard as you select additional phases.
3) Click **OK**. The Phases tab appears, with the new phases listed in the **Selected Phases** list.

> **Note:** Click **New** to access the New Phase Wizard from this window, in order to create new phases for the life cycle. For more information on creating new phases, refer to ***Creating Phases*** (on page 149).

4) To change the order of the phases in the life cycle, select a phase in the **Selected Phases** list, and use the Move Row controls to place the row in the desired location.

5) Click **Next** to proceed to the next step of the New Life Cycle Wizard, where you view the new life cycle's home folder.

Viewing and Editing In Folders Information

To view and specify the life cycle's home folder, and to view other folders that contain the life cycle:

1) On the **In Folders** step of the Life Cycle Wizard, view the **Home Folder** field and the **Others** list.

   Every life cycle has a single home folder. The **Home Folder** field displays the name of the home folder of the new life cycle. By default, all life cycles inherit their security settings from their home folders.

   If the life cycle was added to other folders, those folders are listed in the **Others** list. A new value list will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the life cycle. Alternatively, if the desired home folder already appears in the Others list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the life cycle's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the life cycle and exit the wizard.

Defining Security Permissions

To define security permissions for the life cycle:

1) In the **Security** step of the Life Cycle Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish** to save the life cycle and close the wizard. The new life cycle is added to the Life Cycles list.

Filters

Filters are used to limit the search for items in a scorecard. It is possible to further limit the choice of input values by **filtering** the values within the filter.

Creating Filters

This section defines how to define new filters that can be used to filter items in scorecards.

Creating a Filter with the Filter Wizard

To create a new filter with the Filter Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Advanced Searches**.
3) In the **navigation pane**, select the folder to which you want to add the filter.
4) From the **New** list, select **Filter**.
   The Filter Wizard appears.
5) In each step of the Filter Wizard, add and edit information for the filter.

Entering General Filter Information

To enter general filter information:

1) In the **General** step of the Filter Wizard, enter the following information:
   - **Name**: The name of the filter.
   - **Description**: A brief description of the filter. You can include hypertext.
   - **Owner**: The owner of the filter.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the filter and exit the wizard.

Entering Filter Criteria

In the **Criteria** step of the Filter Wizard, define the filter criteria for each category used in the filter:

1) In the **Category** column, double-click and select a category.
2) In the **Operator** column, select the operator to be used for the category.
3) In the **Value** column, enter a numerical value that must be satisfied by the operator.
4) In the **And/Or** column, enter the condition as And or Or.
5) Repeat this process as necessary to add as many categories.
6) Click **Next** to proceed to the next step of the Filter Wizard, or click **Finish** to save the value list and exit the Filter Wizard.

Choosing Filters

To ensure you can select filters of your choice in a scorecard, create filters of your choice in the Setup module. These filters will then be available from the **Filter** drop-down list in a scorecard. You can select **System Filters** to have the system populate with predefined filters or select **User Filters** to assign a user-defined filter.

To create user-defined filters of your choice:

1) In the left navigation pane, select **User Filters.**
2) From the **New** menu, select **Folder** to add a folder location for the user-defined filter.
3) From the **New** menu, select **Filter** to invoke the Filter wizard.

Entering and Editing In Folders Information

To specify the filter's home folder, and to view other folders that contain the filter:

1) In the **In Folders** step of the Filter Wizard, view the **Home Folder** field and the **Others** list.

   Every filter has a single home folder. The **Home Folder** field displays the name of the home folder of the new filter. By default, all filters inherit their security settings from their home folders.

   If the filter was added to other folders, those folders are listed in the **Others** list. A new filter will not be referenced in any other folders.
2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the filter. Alternatively, if the desired home folder already appears in the **Others** list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the filter's home folder, and the previously defined folder is listed in the Others table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the filter and exit the wizard.

Defining Security Permissions

To define security permissions for the value list:

1) In the **Security** step of the Filter Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish** to save the value list and close the wizard. The new filter is added to the Filter list.

Advanced Searches

Creating Advanced Searches

This section defines how to define new advanced searches that can be used to search items in scorecards and forms.

Creating an Advanced Search with the Wizard

To create a new advanced search with the wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Advanced Searches**.

3) In the **navigation pane**, select the folder to which you want to add the advanced search.
4) From the **New** list, select **Advance Search**.
   The Advanced Search Wizard appears.
5) In each step of the Advanced Search Wizard, add and edit information for the filter.

Entering General Information for Advanced Search

1) In the **General** step of the Advanced Search Wizard, enter the following information:
   - **Name**: The name of the advanced search.
   - **Description**: A brief description about the search item.
   - **Owner**: The owner of the advanced search.
2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the advanced search and exit the wizard.

Entering Advanced Search Criteria

In the **Criteria** step of the Advanced Search Wizard, define the search criteria for each category :

> **Note**: Information in this tab is required to save the Advanced Search entry being created.

1) In the **Category** column, double-click and select a category.
2) In the **Operator** column, select the operator to be used for the category.
3) In the **Value** column, enter a numerical value that must be satisfied by the operator.
4) In the **And/Or** column, enter the condition as And or Or.
5) Repeat this process as necessary to add as many categories.
6) Click **Next** to proceed to the next step of the Advanced Search Wizard, or click **Finish** to save the value list and exit the Advanced Search Wizard.

Entering and Editing In Folders Information

To specify the home folder of the advanced search string, and to view other folders that contain the advanced search:

1) In the **In Folders** step of the Advanced Search Wizard, view the **Home Folder** field and the **Others** list.

   Every advanced search string has a single home folder. The **Home Folder** field displays the name of the home folder of the new advanced search. By default, all advanced search strings inherit their security settings from their home folders.

   If the advanced search was added to other folders, those folders are listed in the **Others** list. A new advanced search will not be referenced in any other folders.

2) To change the default home folder, click **Browse** and choose the desired folder. This can be done only when creating the advanced search. Alternatively, if the desired home folder already appears in the **Others** list, you can simply select it there and click **Define as Home Folder**. The selected folder becomes the home folder, and the previously defined folder is listed in the **Others** table.
3) Click **Next** to proceed to the next tab of the wizard, or click **Finish** to save the advanced search and exit the wizard.

Defining Security Permissions

To define security permissions for the value list:

1) In the **Security** step of the Advanced Search Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish**.

Users

This section describes how to add new users with the *User Wizard*. When you add a new user, you also define that user's privileges. The available user privilege groups are: User, Read Only, Forms Only, and Contact. These privileges are part of the security model, and provide or restrict user access rights to data, and the user's ability to create new components, or edit existing components within the system.

Creating a User

Creating a User with the User Wizard

To create a user with the User Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **Users**.
3) In the **navigation pane**, select the folder to which you want to add the user.
4) From the **New** list, select **User**.

   The User Wizard appears.
5) In each step of the User Wizard, add and edit information for the user.

Entering General User Information

This section describes how to enter general user information, including the user's name and access, and modification privileges.

1) In the **General** step of the User Wizard, enter the following information.
   - **First Name**: The user's real first name.
   - **Last Name**: The user's real last name.
   - **Owner**: The owner of the new user. The owner is able to change the security permissions for the user.
   - **Type**: The user type. Choose one of the following two types:
     - **User**: Has login and use privileges in the system.
     - **Contact**: Is not a user; cannot log into the system; cannot be an owner/manager of other system components. A contact can be assigned to an item in the item workbook.
   - **License Type**: The license type for the user. Depending on the system installation, one or more of the following types are available:
     - **View Only:** The user can (only) view the data in the main end-user modules; *Investor, Scorecard, Workbook, Forms, Dashboards, To-Do* and *Processes* and Workflows in the Guide pane.
     - **Forms Only:** The user can view and use the Forms module. All other main modules are disabled (not shown). *Processes* and *Workflows* in the Guide pane are accessible although links to other modules will not work.
     - **Full Access:** The user can view and update all parts of the system with the exception of the *Setup* module which is, by default, accessible only to administrators.
2) Click **Next** to proceed to the next step of the User Wizard.

Entering Password Information

To enter the user's login name and password:

1) In the **Password** step of the User Wizard, complete the following fields:
   - **Login Name**: Enter a unique login name for the user. This is the name the user will enter to log on to the application.
   - **Password**: Enter a password for the new user.

     Password complexity rules are set by your administrator. To change a password, the user must enter the original password.
   - **Confirm Password**: Enter the password again.
2) Click **Next** to proceed to the next step of the User Wizard, where you define the default modules for the new user.

Entering User Preferences

The Preferences tab enables you to set the default module, item, map, scorecard, dashboard and form that appear as users navigate throughout the interface. You can also select a default locale that is different from your operating system's default regional setting.

To specify default preferences for the user:

1) In the **Preferences** step of the User Wizard, specify the following default preferences:
   - **Entry Module**: The first module to be displayed when the user logs on.

- **Item**: The default item or portfolio that is automatically displayed when the user first accesses the Workbook, Scorecard, Forms, Dashboards, or Investor modules.
- **Map**: The default map that is automatically displayed when the user first accesses the Investor module.
- **Scorecard**: The default scorecard that is automatically displayed when the user first accesses the Scorecard module.
- **Form**: The default form that is automatically displayed when the user first accesses the Forms module.
- **Dashboard**: The default dashboard that is automatically displayed when the user first accesses the Dashboards module.
- **My Locale**: The default locale to be used for all regional settings in the application.
- Display Language:

2) Click **Next** to proceed to the next step of the User Wizard, where you configure user accessibility settings.

Entering User Accessibility Information

This application has three accessibility settings: Contrast Mode, Screen Reader Support, and Built-In Zoom. For more information on the accessibility options, refer to ***Accessibility Features*** (on page 363).

To set the accessibility options in the User Wizard:

1) In the **Accessibility** step of the User Wizard, set the following settings:
   - **Color Scheme**: Choose one of the following color schemes:
     - **High Contrast Mode**: Changes the display of graphs to high contrast for easier visibility.
     - **Standard Mode**: Changes the display of graphs so that it uses the standard, more subdued color scheme.
   - **Zoom**: Select the default zoom setting.
   - **Screen Readers Support Mode**: Select this option if you want the application to be more compatible with screen reading software and Braille displays.
2) Click **Next** to proceed to the next step of the User Wizard, where you enter user contact information.

Entering User Contact Information

To enter contact information for the new user:

1) In the **Contact** step of the User Wizard, edit the following information:
   - **Job Title**: The user's position.
   - **Department**: The user's department.
   - **Company**: The name of the user's company.
   - **Phone**: The user's office telephone number.
   - **Fax**: The user's office fax number.
   - **Address**: The user's business postal address.

- **Email**: The user's business e-mail address. The text entered in this field will be displayed as hypertext.
- **Receive Alerts**: If checked, alerts will be sent to this user with a minimal alert level that you select from the drop-down list. Possible levels are *All levels of importance, Normal and high importance, Only high importance*.
- **Receive copy of workflow tasks as e-mail**: If checked, this user is to receive e-mail notification of any workflow responsibilities (as a Workflow/Step Manager or Task Performer). If checked, this user is sent an e-mail notification of any workflow tasks, in addition to those appearing in the Guide pane.

2) Click **Next** to proceed to the next step of the User Wizard, where you edit security permissions.

Defining Security Permissions

To define security permissions for the user:

1) In the **Security** step of the User Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.

2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).

3) Click **Finish** to save the user and close the wizard. The new user is added to the Users list.

Adding Users to and Removing Users From Groups

To add users to groups:

1) In the **User Group** step of the User Wizard, from the **Available groups:** list, select one or more groups to which you want to add the user, and click **Add** ≫.

2) Click **Finish** to save the user and close the wizard. The new user is added to the Users list.

To remove users from groups:

1) In the **User Group** step of the User Wizard, from the **Selected groups:** list, select one or more groups from which you want to remove the user, and click **Remove**.

2) Click **Finish** to save the user and close the wizard. The new user is added to the Users list.

> **Note**: Whether you are adding or removing group access for users, you can click **Search** to search for a group by name.

Enabling a User

To enable a user:

1) From the *Setup* drop-down list, select the users list.

2) In the selected hierarchy, select the object you want to enable.
3) From the toolbar, click **Enable**.

Disabling a User

You can only disable a user. Users cannot be deleted. You can then hide all disabled information.

> **Note**: If you select the Users hierarchy, the Remove button on the toolbar is replaced with a Disable button.

To disable a user:

1) From the **Setup** drop-down list, select **Users**.
2) In the selected hierarchy, select the user you want to disable.
3) From the toolbar, click **Disable**.
4) To view disabled users, from the View menu, click **Show Disabled**. All disabled users are grayed out.
5) To hide disabled users, from the View menu, click **Hide Disabled**.

User Groups

This section describes how to create new user groups using the *New User Group Wizard*.

User Groups enable security parameters to be defined for a group of people at one time, rather than individually defining security for each system user.

Creating a User Group with the User Group Wizard

To create a user group with the User Group Wizard:

1) In the **Setup** list, select **Setup**.
2) In the **Setup field**, select **User Groups**.
3) In the **navigation pane**, select the folder to which you want to add the user group.
4) From the **New** list, select **User Group**.
   The User Group Wizard appears.
5) In each step of the User Group Wizard, add and edit information for the user group.

Entering General User Group Information

To enter general user group information:

1) In the **General** step of the User Group Wizard, enter the following information:
   - **Name**: The name of the user group.
   - **Description**: A brief description of the user group. You can include hypertext.
   - **Owner**: The owner of the user group.

2) Click **Next** to proceed to the next step of the wizard, or click **Finish** to save the color template and exit the wizard.

Selecting User Group Members

This section describes how to add members to the user group. A user group can be comprised of both individual users and/or another defined user group.

1) In the **Members** step of the User Group Wizard, from the **Available Members** list, select a user or user group to include in the new user group and click **Add**. To quickly search for a user or user group, click the magnify icon to display the Member dialog box.

   Select the users or the groups to add. The list can be narrowed using the Search field. Click OK, and then click Add.
2) Repeat step 2 for each user or user group to be added to the group.

> **Note:** You can select multiple users to add to the Selected Members list by holding down the **Ctrl** key on your keyboard and clicking the required user names.

3) Click **Next** to proceed to the *Security* step of the User Group Wizard, where you define the user group`s security permissions.

Defining Security Permissions

To define security permissions for the user group:

1) In the **Security** step of the User Group Wizard, select or deselect the **Inheriting settings from** option.

   By default, new objects inherit their security permissions from their home folder. Thus, the *Inheriting settings* box at the top of the *Security* step is selected and indicates the name of the object's home folder.
2) **Add**, **Remove**, or **Edit** security permissions. For information on working with security permissions, refer to ***Defining Security Permissions using Permission Sets*** (on page 451).
3) Click **Finish** to save the user group and close the wizard. The new user group is added to the User Groups list.

Organizing User Groups into Folders

Use folders to group user groups in a way that makes sense to your organization. For example, you might group user groups together if they share similar permissions.

You can create multiple folders to contain user groups and folders can contain both user groups and other folders.

Security permissions can be inherited from a folder to its child. Security permissions can be defined for folders in the same way as they are defined for User Groups.

To create a folder:

1) In the User Groups window, select **User Group** and click **New Folder**.

To move a folder or security group to a different folder:

1) In the User Groups window, navigate to and select the items to move.
2) Select **Move To...**.
3) In the **Move To...** dialog box select the folder into which you want to move the items, or select **New** to create a new folder.

Processes

You can define favorite URLs and defined practices arranged in a series that provide you with guidance, including direct access to PPM objects, documents, and any local, or web URL. Using processes, organized in the Guide pane, helps you organize your work, making it easier to navigate and collaborate with others.

For instructions on defining processes, refer to ***Working with Processes*** (on page 339) in The Guide Pane.

Workflows

A robust set of Primavera Portfolio Management (PPM) workflow features provides new opportunities for people to collaborate on common portfolio objectives. PPM workflows are automated business processes that route specific information between participants according to a defined set of steps and tasks designed to coordinate specific business goals. Workflows are primarily characterized by their level of procedural automation involving one or more related steps in a series (a process), and their combination of user and system tasks involving interaction with other PPM data.

Insurance, Banking, Legal, Administrative, Manufacturing, Regulatory, and other industry segments marked by relatively high office labor costs, collaborative decision-making based on metrics and process stage gates, and potential downstream high-volume transactions have demonstrated successful workflow implementations.

Business process modeling and workflow automation allow transactions to be conducted electronically without the need for manual intervention such as conducting certain validations or re-keying data. When workflows are processing repetitive, mundane, and often error-prone work, talented staff resources become available to handle activities that provide added value or contribute to additional business goals.

At your organization, any routine procedures requiring collaboration between multiple groups will benefit from standard workflows.

Designing Workflows

The basic workflow contains, in addition to its Start and End steps, at least one step consisting of at least one task. The tasks may be manual tasks performed by a PPM user or automatic tasks performed by the system.

> **Note:** You define steps and associated tasks using the Diagram Editor. It is from the Diagram Editor that you create a workflow diagram and access the Step and Task tabs mentioned in this and subsequent topics. For more information about the Workflow Diagram Editor, refer to ***Workflow Diagram Editor*** (on page 169).

Overview of Steps

These are the types of steps from which you can design a workflow:

- Tasks step
- Manual Decision step
- Category-based Decision step
- Parallel step

You assign each step a name and description, and you select for each step a scope and manager, if either is to be different from those you select for the whole workflow. You also select the way the step is to be handled if it encounters an error. For more information about how to enter step properties, refer to ***Entering Properties in the Workflow Step Tab*** (on page 176).

Overview of Tasks

There are manual tasks which are performed by PPM users and system tasks which are automatically implemented by the PPM system.

You can assign each task a name and description, and you can define its scope. For each manual task, you must designate a performer and select the Sign off method the performer will use when completing the task. Also, each task, whether a manual task or system task, has its own unique properties which must be defined per task.

You can define multiple tasks for a Tasks step but only one task for a Manual Decision or Category-based Decision step. A Parallel step consists of two to five tracks with one or more tasks steps positioned within each track. You can specify a name for each task along with other properties that can also vary depending on the type of step and task.

When a workflow is run, steps in the workflow are run in chronologic order, while all tasks within a step run when the step runs.

The topics below provide an explanation of each type of step, the type of tasks or task that you can define for each type of step, and the use of tracks for a Parallel step.

Tasks Step and Associated Tasks

Use a Tasks step to define a step with one or more tasks where the primary property of each separate task is defined by one of the following tasks types.

- Module
- Document
- Web
- Instructions
- Embedded workflow
- Query-based portfolio

- Update category
- Change home portfolio

The first four task types, Module, Document, Web and Instructions, are manual tasks performed by a PPM user. The last four task types, Embedded workflow, Query-based portfolio, Update category and Change home portfolio are system tasks implemented automatically by the PPM system.

In a Tasks step all tasks are instantiated at the same time, and all tasks must be completed before the Step is considered completed. For more information about defining properties for a Tasks step, refer to ***Inserting a Tasks Step and Defining Properties*** (on page 170).

The following related topics provide an explanation of each of the task types listed above, all associated with the Tasks step.

Module Task

A Module task is used when the performer of the task must be directed to one of the following modules as part of his task:

- Investor
- Scorecard
- Workbook
- Forms
- Dashboards

Document Task

A Document task is used when the performer of the task must be directed to an uploaded document.

Web Task

A Web task is used when the performer of the task must be directed to a web site.

Instructions Task

An instructions task is used when the performer of the task must be given instructions about a task not linked to any PPM or Web screen.

Embedded Workflow Task

Embedded workflow is a system task. This task is used when you want one workflow to automatically start another workflow without human intervention. The embedded workflow may be one of the following:

- Synchronous - the host workflow waits for the completion of the embedded workflow
- Asynchronous - the host workflow continues processing without waiting for the completion of the embedded workflow

Query-based Portfolios Task

Query-based portfolio is a system task. This task automatically updates a query-based portfolio, without human intervention.

Update category Task

Update category is a system task. This task automatically updates any category with a constant value, without human intervention.

Change Home Portfolio Task

Change home portfolio is a system task. This task moves the object to another home portfolio. The moved object will have the security assigned to its new home portfolio.

Manual Decision Step and Associated Task

A Manual Decision step lets you define a decision question with two to five possible answers (options). The decision is made manually by the assigned performer.

For information about how to define properties for a Manual Decision step, refer to ***Inserting a Manual Decision Step and Defining Properties*** (on page 173).

Category-based Decision Step and Associated Task

A Category-based Decision step lets you define a decision question with two to five possible answers (options). The decision is made automatically based on conditions set for category indicators or values.

For information about how to define properties for a Category-based Decision step, refer to ***Inserting a Category-based Decision Step and Defining Properties*** (on page 174).

Parallel Step and Associated Tracks

A parallel step lets you have more than one current Tasks step running at the same time. This is done by defining between two to five parallel tracks of Task steps, all of which must be completed for the workflow to continue beyond the parallel step.

Be aware that when a parallel step runs, each step in a track runs chronologically based on its order in the track; steps in each track run independently from steps in other tracks; and the parallel step does not finish until all steps in the parallel step complete.

For more information about how to define properties for a Parallel step, refer to ***Inserting a Parallel Step and Defining Properties*** (on page 175).

Defining Workflows

This section describes how to define a new workflow.

Step 1: Accessing the Workflow Wizard

To access the Workflow Wizard, where you can design new workflows or edit existing ones:

1) From the Setup drop-down list, select **Workflows**. The navigation pane displays the list of workflows.
2) Click **New** and select **Workflow** to open the New Workflow Wizard.

Notes:

- The Enable/Disable options available from the Setup, Workflow tab are disabled. To disable or enable a workflow, you must use the Enable/Disable options on the General step of the Workflow Wizard.
- Be aware that you cannot remove a category or version that is included in a workflow until you remove the category or version from the workflow in which it is included.
- You cannot use the Remove function on the toolbar to remove a workflow that is currently running or a workflow that is embedded in another workflow or alert.

Step 2: Entering General Workflow Information

To enter general workflow information, including the name, a brief description, the owner, and availability or status:

1) In the Setup module, click **New**. The General step of the Workflow Wizard appears.
2) In the **Name** field, enter the workflow's name.
3) In the **Description** field, enter important details to further identify this workflow from others. You can include hypertext in the description.
4) In the **Owner** field, the name of the logged-in user will appear. To change this owner, select a user from the drop-down list.
5) In the **Status** field, select Enabled or Disabled. Enable a workflow to make it available. The system or a user can start an enabled workflow. Disable a workflow to make it unavailable for use by users or the system.
6) Click **Next** to proceed to the Instance Defaults step of the Workflow Wizard, where you define the initial properties for all future instances of this particular workflow.

Step 3: Selecting Instance Defaults

To set the default values for workflow instances generated from this template:

1) From the General step, click **Next**. The Instance Defaults step of the Workflow Wizard appears.
2) From the Scope list, select the item or portfolio to be the focus of future instances of this workflow.
3) Click the Select button to assign a specific user or role (category of value type user) as the default manager for any workflow instances generated from this template. For more information about how to use the Manager dialog box, refer to ***Selecting a Manager*** (on page 187). Click **OK**.
4) From the Alternate Managers list, select an optional group of additional managers who may also manage this workflow.
5) All workflow system execution must be performed with the security permission of a specific user. If this is to be determined only when the workflow is activated, leave the Defined when activated check box set to its checked default.

To set a default workflow system execution permissions user for each workflow instance, uncheck this box. The logged-in user will automatically be assigned as this permissions user.

To change this default permissions user to another user click on the Permissions button. This will pop-up the Workflow System Execution Permissions dialog box. For information about completing this dialog box, refer to ***Assigning the Workflow System Execution Permissions User*** (on page 167).

6) Click the Edit Workflow Task Email button if you want to modify the workflow task emails from the default. For more information about how to modify the emails, refer to ***Editing Workflow Task Emails*** (on page 167).
7) When you complete this step, click Next to proceed to the Diagram step of the Workflow Wizard, where you define the actual business process represented by the workflow.

Assigning the Workflow System Execution Permissions User

Proceed as follows to complete the Workflow System Execution Permissions dialog box:

1) Select a user from the User's dropdown field and enter the user's password.

   For the workflow instance to run successfully the specified user must have sufficient security permissions on any entity or data accessed during system execution.
2) Alternatively, if the selected user has been given security permissions for the 'Permit workflow to access or update all entities & data' security module, its checkbox will be enabled and checking it will grant automatic security clearance for each entity or data used in system execution, even if the user does not have specific permission on each entity or piece of data.
3) Click **OK**.

Editing Workflow Task Emails

It is possible to customize the workflow task message text so that it conveys business-related information for the intended recipient.

The workflow task message includes a list of predefined *Keywords*. When you select a *Keyword* it serves as a place holder for the actual value it represents. When the alert message is generated, the keyword is replaced by the real value.

> **Note:** The automatic replacement of keywords by the relevant values depends on the **exact** spelling, syntax and brackets. You may select a keyword, or enter it as free text. You must, however, repeat the spelling of the keyword as it is written in the Keywords list. Please note that any changes to an inserted keyword (e.g. removing a space) will prevent the replacement.

To edit workflow task emails:

1) Edit the message body text as necessary. You may add keywords and/or custom text. To remove a keyword, simply delete it from the text.
2) To add a keyword at any point in the subject line or body of the email:
   a. Position the insertion point at the place in the text where you want to include the keyword.
   b. Select the keyword from the **Keywords** list.

Click **Add keyword to Subject** to add they keyword to the email subject line.

Click **Add keyword to Message** to add the keyword to the body of the email.

3) If you want to revert to the default message, click **Restore Defaults**.
4) Click **OK** to save your changes

Step 4: Designing the Workflow in the Diagram Editor

Use the Workflow Diagram Editor to design the workflow's steps and tasks.

1) From the Instance Defaults step, click **Next**. The Diagram step of the Workflow Wizard appears.
2) Click **Edit**. The Diagram Editor appears.
3) You now use the applicable toolbar icons to add steps. Refer to ***Workflow Diagram Editor*** (on page 169) for detailed information about the toolbar icons and how to use the Diagram Editor.

   You can sequentially add and define properties for as many steps as needed by clicking on the applicable toolbar icon.
4) When you finish adding steps and defining their properties, click Save to save your changes.

> **Note:** When creating a new workflow, the system validates the new workflow name is unique when you click **Save**, even though you have not yet finished the entire Workflow Wizard. If a message box appears alerting you to rename the workflow, close the message box to return to the General step where you can make changes.

5) In the Diagram Editor, click Verify to identify potential problems in the workflow. Refer to ***Verifying the Workflow*** (on page 177) for information about verifying the workflow using the Verify dialog box from the Diagram Editor.
6) When you finish verifying the workflow, click **Save** to save the workflow.
7) Click **Close**.
8) Click **Next** to proceed to the In Folders step of the Workflow Wizard where you define the folder used to store and reference the workflow.

Step 5: Viewing In Folders Information

This section describes how to view the folders in which the workflow belongs or is referenced.

1) In the Diagram step, click **Next**. The In Folders step appears.
2) The In Folders step displays the Home Folder field for the workflow. To change the default home folder, click **Browse** and select the desired folder. Define as home folder pertains to security.
3) Click **Next** to proceed to the next step of the Workflow Wizard, where you define the security permissions.

Step 6: Defining Security Permissions

This section describes how to define security permissions for the workflow.

From the In Folders step, click **Next**. The Security step of the Workflow Wizard appears.

By default, new objects inherit their security permissions from their home folder. The Inheriting settings from check box at the top of the Security step is selected and indicates the name of the home folder.

1) In the Security step, you can add, remove, or edit security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).
2) You have reached the last step in the wizard. If you need to return to any previous steps to make adjustments, click **Back**. When you are done, click **Finish**. The new workflow is added to the system, and if you enabled it, is available for use as one or more workflow instances.

Workflow Diagram Editor

The Diagram editor is where you design the workflow's steps and tasks.

At minimum, a workflow must be defined as having a start, an end, and at least one step containing at least one task.

The Diagram editor presents the following:

- **A Toolbar**: The toolbar consists of the following:
  - **Zoom to**: To increase or decrease the size of the diagram. To view the workflow without making any changes use the Zoom to drop-down and the horizontal and vertical scrollbars.
  - **New Step (Tasks) icon** : Click to insert a new tasks step into the diagram.
  - **New Decision step (Manual) icon** : Click to insert a new manual decision step graphic into the diagram.
  - **New Decision step (Category-based) icon** : Click to insert a new category-based decision step graphic into the diagram.
  - **New Parallel step icon** : Click to insert a new parallel step graphic into the diagram.
  - **Remove (Step or connecting lines) icon** : Click to remove a selected step or connecting line from the diagram.
  - **Search button**: Click to search for steps, tasks, options and tracks.
  - **Verify button**: Click to review any problems that would prevent the workflow from running properly.
- **Diagram Display Area**: The area in which you create and edit a workflow diagram.
- **Step tab**: Click to enter or edit step properties for a selected step in the diagram.
- **Task tab**: This tab appears when a step is selected in the diagram. Click to enter or edit task properties for a selected step in the diagram.

Accessing the Diagram Editor

To access the Diagram editor:

1) Use Setup wizard to create a new workflow diagram or to edit an existing workflow diagram. Refer to ***Defining Workflows*** (on page 165) for information about using the Setup wizard to create workflows. The Diagram editor appears.

Inserting a Tasks Step and Defining Properties

A Tasks step lets you define a step with one or more tasks.

After you insert the new Tasks step, you use the associated Step and Tasks tabs to define properties. You complete the Step tab once for a step.

However, you may define multiple tasks in the Tasks tab using the Task dialog box for each task.

The fields on the Task dialog box can vary, depending on the value you enter in its Type field. Because of that, the procedure below, for entering properties in the Tasks tab, presents numbered steps for completing the Task dialog box based on the value you enter its Type field.

Inserting a New Tasks Step into the Diagram

To insert the new step into the diagram:

1) From the Diagram Editor, click on the **New step (Tasks)** icon on the toolbar to insert the associated graphic into the diagram. Then drag and drop the graphic to the appropriate location.

   To connect a connector line to the step, click on the connector line to highlight it, and then click on the step to which the line is to connect.

To enter properties in the Step tab, refer to ***Entering Properties in the Workflow Step Tab*** (on page 176).

Entering Properties in the Task Tab

To enter properties in the Tasks tab:

1) If it is not already selected, select the Tasks step, then click the Tasks tab.

   When you create tasks for this step, they are listed to the left of the up and down arrows shown Tasks tab above. You can then use the arrows to position a task within the list. Since only the first four tasks in the list will appear in the corresponding step in the diagram, using the arrows to position tasks simply allows you to control those that get shown in the step in the diagram.
2) Click **New**. The Task dialog box appears.
3) In the **Name** field, type a name.
4) In the **Description** field, type a description.
5) In the **Type** field, select a type.
6) Proceed as follows if you selected Module in the **Type** field:
   - In the **Module** field, select an applicable module.

- If you selected the Investor module, then select a Map. To display data from a date other than the current date, select a Version or enter a date in the Data as of field.
- If you selected the Scorecard module, then select a Scorecard. To display data from a date other than the current one, select a Version or enter a date in the Data as of field.
- If you selected the Workbook module, then select a Scorecard and a Tab.
- If you selected the Forms module, then select a Form and Tab. To display data from a date other than the current one, select a Version or enter a date in the Data as of field. If the Form supports the creation of a new Item or Portfolio, and this task requires the creation of same, select the relevant option in the Create new entity drop-down field.
- If you selected the Dashboards module, then select a Dashboard and Tab. To display data from a date other than the current one, select a Version or enter a date in the Data as of field. If the Dashboard supports the creation of a new Item or Portfolio, and this task requires the creation of same, select the relevant option in the Create new entity drop-down field.

- In the **Sign off** field, select a value for the type of sign off form. For more information about this field, refer to ***Defining Sign Off*** (on page 178).
- In the **Scope** section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
- In the **Performer** field, accept the default or click **Select** next to the Performer field and select the performer of this task from the **Performer** dialog box. Then click **OK**. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188).
- Click **OK**.

7) Proceed as follows if you selected Document in the Type field.
   - Click Select next to the Document field. The Documents dialog box appears. Select an item or portfolio. A list of documents uploaded for this item or portfolio appears in the Documents dialog box. Select a document from the list and click OK.
   - In the Sign off field, select a value for the type of sign off form. For more information about this field, refer to ***Defining Sign Off*** (on page 178).
   - In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
   - In the Performer field, accept the default or click Select next to the Performer field and select the performer of this task from the Performer dialog box. Then click OK. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188).
   - Click OK.
8) Proceed as follows if you selected Web in the Type field:
   - Enter a valid Web URL in the Link to field or click Browse next to the Web field to select the applicable intranet file to which to link.
   - In the Sign off field, select a value for the type of sign off form. For more information about this field, refer to ***Defining Sign Off*** (on page 178).
   - In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).

- In the Performer field, accept the default or click Select next to the Performer field and select the performer of this task from the Performer dialog box. Then click OK. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188).
- Click OK.

9) Proceed as follows if you selected Instructions in the Type field:
   - Type any instructions into the Description field.
   - In the Sign off field, select a value for the type of sign off form. For more information about this field, refer to ***Defining Sign Off*** (on page 178).
   - In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
   - In the Performer field, accept the default or click Select next to the Performer field and select the performer of this task from the Performer dialog box. Then click OK. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188).
   - Click OK.
10) Proceed as follows if you selected Embedded workflow in the Type field:
   - In the Embedded workflow field, select a workflow. Both enabled and disabled workflows display in the Select a Workflow pop-up window.
   - Select Host workflow or Embedded workflow to determine the way workflow system execution permissions are defined.
   - Check Host workflow waits for completion of embedded workflow if you want the workflow to wait for the embedded workflow to end before it ends.
   - In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
   - In the Manager of embedded workflow field, either accept the As defined in embedded workflow checkbox default or uncheck it and click Select to select a different Manager of the embedded workflow. Then click OK. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188)
   - A **Completion Policy** field appears if all the following are true: You selected **Groups** as the **Manager of embedded workflow**, you selected the **Host workflow waits for completion of embedded workflow** option, and you do not select the **As defined in embedded workflow** option.
     - In the **Completion Policy** field, select one of the following completion policies: **All, Any,** or **Majority**. (If you select **All**, then all performers in the group would be required to approve the workflow task for the workflow to proceed. If you select **Any**, then as soon as any performer in the group approves a task, the whole task is considered approved. If you select **Majority**, then as soon as fifty percent (50%) or more of the total number of users in the group/role have approved, the whole task is considered approved.)
   - Click **OK**.
11) Proceed as follows if you selected Query-based portfolio in the Type field:
   - Select Workflow System Execution Permissions user or Query Permissions user to determine the query-based portfolio permissions user.
   - In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).

- Click OK.

12) Proceed as follows if you selected Update category in the Type field:

- Select Static Value if you want the task to change the value of a category to a static value. Select Category Value if you want the task to change the value of a category to that of another category.
- In the Target Category field, select the category to be updated.
- In the Data as of field, accept the default, select a version, or enter the as of date for the source category value.
- If Static Value is selected: In the Value field, select an appropriate value. The type of field will reflect the value type of the category. (For example, if the category selected was a value list, the value field will be a drop-down field containing all of the values in that value list.
- If Category Value is selected: In the Source Category field, select the category whose value you want to replace that of the Target Category. In the Data as of field that corresponds to the Source Category, enter a date. The system will use the value of the Source Category as of this date to determine the new value of the Target Category.
- In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
- Click OK.

13) Proceed as follows if you selected Change home portfolio in the Type field:

- In the New home portfolio, select another home portfolio. The type of entity (Portfolio of Items or Portfolio of Portfolios) selected for the New home portfolio, determines to some extent the possible options of the Scope fields.
- In the Scope section of this dialog box, complete the applicable fields. For more information about these fields, refer to ***Defining Task Scope*** (on page 178).
- Click OK.

Inserting a Manual Decision Step and Defining Properties

A Manual Decision step lets you define a decision question with two to five possible answers (options). The decision is made manually by the assigned performer.

After you insert the new decision step, you use the associated Step and Task tabs to define properties. You complete the Step and Task tabs only once for a decision step.

Inserting a Manual Decision Step into the Diagram

To insert the new step into the diagram:

1) From the Diagram Editor, click on the **New Decision step (Manual)** icon on the toolbar to insert the associated graphic into the diagram. Then drag and drop the graphic to the appropriate location.

   To connect a connector line to the step, click on the connector line to highlight it, and then click on the step to which the line is to connect.

To enter properties in the Step tab, refer to ***Entering Properties in the Workflow Step Tab*** (on page 176).

Entering Properties in the Task Tab

To enter properties in the Task tab:

1) If it is not already selected, select the manual decision step. Then click the Task tab.
2) In the **Name** field, type a name for this task.
3) In the **Options** field, double-click the name of an existing option if you want to edit it. Notice that any edit is reflected in the associated decision step in the diagram.
4) If you want to add another option, click **Add** next to the **Options** field. Double-click the default name in the **Options** field. Then double-click its name to edit it.
5) In the **Sign off question** field, accept the default text or double-click the text and type your own text.
6) In the **Sign off** field, select a value for the type of sign off form. For more information about this field, refer to ***Defining Sign Off*** (on page 178).
7) In the **Performer** field, accept the default or click **Select** next to the Performer field and select the performer of this task from the **Performer** dialog box. Then click **OK**. For more information about using this dialog box, refer to ***Selecting a Performer*** (on page 188).

Inserting a Category-based Decision Step and Defining Properties

A Category-based Decision step lets you define a decision question with two to five possible answers (options). The decision is made automatically based on conditions set for category indicators or values.

After you insert the new decision step, you use the associated Step and Task tabs to define properties. You complete the Step and Task tabs only once for a decision step.

Inserting a Category-based Decision into the Diagram

To insert the new step into the diagram:

1) From the Diagram Editor, click on the **New Decision (Category-based)** step icon on the toolbar to insert the associated graphic into the diagram. Then drag and drop the graphic to the appropriate location.

   To connect a connector line to the step, click on the connector line to highlight it, and then click on the step to which the line is to connect.

To enter properties in the Step tab, refer to ***Entering Properties in the Workflow Step Tab*** (on page 176).

Entering Properties in the Task Tab

To enter properties in the Task tab:

1) Select the category-based decision step in the workflow editor and then click the **Task** tab.
2) In the **Options** field, perform any of the following actions:
   - double-click on an existing option if you want to edit it. The edit will be reflected in the associated decision step in the diagram.
   - click **Add** to add another option. Double-click the default name in the **Options** field. Then double-click its name to edit it.

3) In the **Category** field, click the down arrow and select the applicable category from the **Select a Category** pop-up window. After you select a category, more fields appear on the **Task** tab.

   (Optional) If you want to include No value in the category condition table for an option, select the **Include "No Value"** check box.
4) In the **Data as of** field, accept the default or click the down arrow and of select an appropriate value from the **Select a Version** pop-up window.
5) In the **Conditions** field, double-click a field in the left column then click the down arrow to display the list of values associated with the selected category. Select a value.
6) In the same row but in the column to the right of the value you just selected, click the down arrow to display the options. Select an appropriate option.

> **Note:** If the selected category is not a value list but a different value type, the conditions table adjusts accordingly.

7) If you want to add another row in the **Conditions** table, click **Add** and then repeat the applicable steps above.

Inserting a Parallel Step and Defining Properties

A parallel step lets you have more than one current Tasks step running at the same time. This is done by defining between two to five parallel tracks of Task steps, all of which must be completed for the workflow to continue beyond the parallel step.

After inserting a parallel step, you must verify that each Track of the parallel step includes at least one Tasks step.

Inserting a Parallel Step into the Diagram

To insert the new parallel step into the diagram:

1) From the Diagram Editor, click on the **New Parallel step icon** on the toolbar to insert the associated graphic into the diagram. Then drag and drop the graphic to the appropriate location.

   To connect a connector line to the step, click on the connector line to highlight it, and then click on the step to which the line is to connect.

To enter properties in the Step tab, refer to ***Entering Properties in the Workflow Step Tab*** (on page 176).

Entering Properties in the Tracks Tab

To enter properties in the Tracks tab (to add or remove tracks or to edit the names of tracks):

1) If it is not already selected, select the parallel step. Then click the Tracks tab.
2) If you want to edit the name of a track, double-click on the name you want to edit. Then edit the name.
3) If you want to add a track, click **Add**. Then double-click the name and edit it as appropriate.
4) If you want to remove a track, click on the name of the track to remove, then click **Remove**.

Adding Steps to a Track

To add steps to a track:

1) Select the line beneath the applicable track.
2) Click the **New Step (Tasks)** icon in the toolbar to insert the new step.
3) Define properties for the associated Step and Tasks tabs. Refer to ***Inserting a Tasks Step and Defining Properties*** (on page 170) for more information.
4) Repeat the above steps as applicable to add steps for each track.

Entering Properties in the Workflow Step Tab

Proceed as follows from within the Workflow Diagram editor to complete the Step tab:

1) If necessary, select the step, then click the Step tab.
2) In the **Name** field, type a name for the step. All step names must be unique within a specific workflow template.
3) In the **Description** field, type a description of the step. This field is optional.
4) In the **Scope** field, accept the default or click the drop-down list. The default, < Same as workflow >, means it will inherit its value from the workflow.
5) If you click the drop-down list, the **Select an Item or Portfolio** pop-up window appears. Select an item from the pop-up window. The step scope field need not be defined if the Step manager is not a role and if its scope is not needed to define the task scope.
6) In the **Manager** field, click **Select** to select a manager or accept the default. The default, < Same as workflow >, means it will inherit its value from the workflow. This field is required.
7) If you click **Select**, the **Manager** dialog box appears. Select a name and click **OK**. For more information about using this dialog box, refer to ***Selecting a Manager*** (on page 187).
8) In the **Error handling** field, select how errors for this step are to be handled.

   There are three error modes:

   - **Ignore** - any errors in the step or task will be ignored; and the workflow will continue as if nothing happened. The error will be recorded in the Audit log.
   - **Stop workflow** - any errors in the step or task will automatically stop the workflow. The error and the fact that the workflow was suddenly stopped will be recorded in the Audit log.
   - **Notify manager** - any errors in the step or task will assign a 'Reassigned due to error' task to the step and workflow manager requesting them to decide whether to ignore the error and continue, or stop the workflow. This option is the default mode for all steps except for the Category-based decision step where the 'Stop workflow' mode is enforced. This option is the default mode for the Tasks step and the Parallel step. The default mode (which is also enforced) for the Manual and Category-based decision steps is 'Stop workflow'.

Searching in the Diagram Editor

You can search from within the Diagram Editor for steps, tasks, options and tracks.

To search from the Diagram Editor:

1) Click Search in the toolbar. The **Search** dialog box appears.
2) In the **Search** field, type the search string. Then click the search icon. Matches appear in the **Search results** field. Steps and Tasks appear with their respective icons, Track names appear with parallel step icon, while Option names appear with their respective Decision step icon, Manual or Category-based.
3) Click the search result that you want to locate, and then click **Show**. The step that contains the search match is highlighted.

Verifying the Workflow

You can verify whether the workflow contains problems that would prevent it from running properly. Problems with the workflow are shown in the Verify dialog box.

The Verify dialog box lists the type of problem, the step or task where the problem exists, and a brief description of the problem.

The verification process identifies two basic types of problems: Errors and Warnings

- Errors

  Errors are problems such that if left unchanged will create a run-time error in the workflow instance. For example, a Task defined without a Performer. Until all errors are fixed, the verification will fail and the template will remain disabled. The Verify dialog box represents errors with a red **X**.

- Warnings

  Warnings are problems that can be fixed outside of the workflow editor. For example, if a Module Task (which requires a scope to define its link) ultimately inherits its scope from the Workflow and the workflow's scope = [None], there will only be an error because this could be rectified by inserting a Workflow scope when Starting the workflow manually. Warnings do not prevent the enabling of the workflow template. The Verify dialog box represents warnings with an exclamation symbol (!).

Verifying the Workflow from the Diagram Editor

To verify the workflow from the Diagram Editor:

1) Click Verify in the toolbar. The **Verify** dialog box appears.
2) Click the row that you want to display more details. The details appear in the **Details** field.
3) Click **Show** to highlight the area of the diagram where the problem resides and to open the applicable tab, such as the Step or Task tab, if applicable. (Drag the Verify dialog box away if it blocks your view of the Diagram Editor.)
4) Fix the error as indicated by the descriptive text in the dialog box.

> **Note:** Fixed errors are shown in the Verify dialog box until you click Refresh.

5) Repeat the above steps for each error.
6) When you finish verification, click **Close**. Then click **Save** to save the changes.

Defining Task Scope

The Task Scope has three possible functions:

- Defining the essence of the task
  - Module tasks - for their links
  - Category-based decision task - for the data to be checked
  - Update category task - for the data to updated
  - Query-based portfolio - which portfolios should be refreshed
  - Change home portfolio - Which Items or Portfolios should have their Home Portfolio changed
  - Embedded workflow -For defining the Scope of tasks included in an Embedded Workflow whose scope is set to be inherited scope from the Embedded Workflow
- Determining the Performer of a Task or Manager of an Embedded Workflow - If the Performer of a Manual task or the Manager of the Embedded Workflow is defined as a role (Category of data type user) a scope is needed to resolve that role.
- Generating multiple tasks (iterative tasks) from one task definition - The Scope Item or Portfolio together with a Scope level value of 1 or more levels below, Both or All, generates multiple tasks (according to the number of Items or Portfolios for a single specific Performer, or for many Performers, if the Performer is defined as a Role or Group.

The Task dialog box Scope section includes the following fields:

- **Item or portfolio:** For selecting the Scope item or Portfolio of this task.
- **Scenario**: For selecting a pre-defined Portfolio scenario. Relevant to the Module: Investor task only.
- **Scope level**: For defining a task scope relative to the selected Scope item or portfolio.

  Scope level options depend on the Scope Item or Portfolio entity type:
  - **For Item** - 'Selected Item' and is disabled
  - **For Portfolio of Items** -
  - **'Selected Portfolio'** (default), '1 below' including all of the items in the selected portfolio but not the portfolio itself, 'Both' including both all of the items and the selected portfolio.
  - **For Portfolio of Portfolios - 'Selected Portfolio'** (default); '1 below', '2 below' and '3 below' including the entities 1, 2 or 3 levels below the selected portfolio but not the portfolio itself, 'Custom (4 or more below)' for defining, together with the 'Custom' field, entities 4 or more levels below the selected portfolio but not the portfolio itself, 'All' including entities at all levels below the selected Portfolio together with the Portfolio itself.
- **Custom**: For defining Scope levels more than 3 levels below the Selected Portfolio. Enabled only when Scope level = 'Custom (4 or more below)'
- **Apply to**: If the Scope Item or Portfolio is a Portfolio of Portfolios, and the Scope level 1 or more levels below, this field determines whether 'Items', 'Portfolios' or 'Both' should serve as the scope of the task.

Defining Sign Off

The Sign off field defines the nature of the sign off process of each manual task.

In general, there are three options:

- **OK/Cancel** - If this option is selected, an OK/Cancel prompt summarizing the task details will pop-up after the Performer clicks on the Sign off link in the Guide pane. The Performer must then click OK to finalize the sign off. This is the system default for all tasks.
- **OK/Cancel + Password** - If this option is selected, the aforementioned OK/Cancel prompt together with a password field will pop. The Performer cannot click OK to sign off without first entering his password.
- **None** - If this option is selected, the sign off is completed immediately on clicking the 'Sign off' link without an intermediate OK/Cancel prompt.

Editing Workflows

Over the useful lifetime of your workflows, you will likely need to make changes to the properties that define them. PPM allows you to make these changes at any time, with the following logical exception: you cannot edit all the properties of a workflow if one or more instances of it are already running. For running workflows, your changes are limited only to the steps and tasks that have not yet occurred.

Editing Running Workflows

Like any other PPM entity, workflows can be edited from the Setup module.

Understand the following about editing a workflow:

- If the workflow selected to be edited has a current instance running, it can be only partially edited. This means that The General and Instance Default fields are disabled, and the diagram of the workflow cannot be changed. Most Step and Task properties can be changed. When this occurs, an appropriate prompt will pop up informing the end-user of same.
- Permitted changes in a workflow with a current instance running can be introduced in any step in the workflow, even the in current step.
- Changes in the current steps or in steps occurring prior to the current step will not be implemented until the next instantiation of the workflow.
- Changes in steps occurring after the current step will already be implemented during the current instantiation of the workflow.
- If while editing a workflow there was no current instance running, but prior to saving the changes the workflow was started by another user, the configurator will be instructed by a prompt how to proceed.

To edit a workflow:

1) From the Setup drop-down list, select **Workflows**. The navigation pane displays the list of workflow folders and the workflow templates in each one appear in the table.
2) Expand folders if necessary and select a workflow in the table.
3) Click **Edit** to open the Workflow Wizard. If the selected workflow is currently running, a message box appears to alert you. It also reminds you that you can only edit steps and tasks. To continue, click **OK**.

4) The first step in the wizard appears. See ***Defining Workflows*** (on page 165) for help editing the data at each step.
5) On the Diagram step, click **Edit**.
6) In the Diagram Editor, select the step you want to edit.
7) Click the **Step**, **Task**, or **Tracks** tab to edit the enabled fields. (On the Tasks tab for a Tasks step, select the task to edit and then click **Edit**.) Repeat the applicable steps above for each step you want to edit.
8) Click **Save**.
9) Click **Verify** to simulate processing of the workflow in order to identify any potential errors.
10) In the **Verify** dialog box, review any problem tasks. Click **Show** to view additional details for the task.
11) Click **Close**. Using the diagram, Search button, Step tab, or Tasks tab, make corrections to the workflow. Click **Verify** again to repeat the check.
12) Click **Save** to save the workflow.
13) Click **Close**.

Starting a Workflow

Workflows can be started automatically, when it is triggered by an alert or if it is embedded within another workflow, or manually, by using the Start Workflow dialog box.

> **Note:** Access to the Start Workflow dialog box requires Read & View permission on the Start Workflow Instances security module.

For information about defining an alert to start a workflow refer to ***Configuring Alerts and Notifications*** (on page 188).

Manually Starting a Workflow

To manually start a workflow:

1) Click Collaborate, **Start Workflow**. The **Start Workflow** dialog box appears.
2) In the **Workflow** field, click the down arrow. The **Select a Workflow** pop-up window appears.

   The workflows are filtered by workflow security, so you see only those workflows for which you have workflow security.
3) Select a workflow template.
4) In the **Scope** field, accept the default or click the down arrow and select the applicable portfolio or item from the pop-up window.
5) In the **Manager** field, accept the default or select an applicable value. For more information about selecting a manager, refer to ***Selecting a Manager*** (on page 187).

> **Note:** The Manager field drop-down list contains the Manager and Alternate Managers defined in the Workflow editor Instance defaults step. If the manager there was defined as a role, the drop-down list

contains one role and the names of users.

6) The **Description** field displays the description of the selected workflow. This field is read only.
7) If you do not want to start the workflow from the beginning, click on the **Start** from step drop-down to select the step at which to start the workflow.
8) Click **Permissions**. The Workflow System Execution Permissions dialog box appears. For information how to change the Workflow system Execution Permission user, refer to ***Assigning the Workflow System Execution Permissions User*** (on page 167).
9) Click **OK** to close the Start Workflow dialog box.

Review, Stop, Archive, Delete, and Report Workflow Instances

You can use the Workflow Instances dialog box to Review, Stop, Archive, Remove and Report the workflow instances.

The Workflow Instances dialog box appears displaying all of the workflow instances without any filters by default. You can filter out the workflow instances by using the Search area present on top of the page. Furthermore, you can use the Reset Button to reset the entire search criterion and display all of the Workflow instances again.

Search Criterion

Use the fields at the top of the dialog box to enter search criterion and then click the Search button to display workflow instances that match the search criterion. To use the search fields, select one or more as follows:

Note: You can select one or more fields to filter the search results. Please understand that the AND operator is used as the search operator for the combination of all the criterion, so the search results will show only those workflow instances that match the search criteria in all fields used.

Status

To search for workflow instances with a particular status: In the Status field, select the status of the workflows for which you want to search. These are the possible workflow instances statuses:

- All
- Active
- Completed
- Pending
- Stopped
- Faulted

Archived

There are 3 options to search workflow instances based on their archival status:

- Exclude: This option is selected by default. This would exclude archived workflow instances from the search results.
- Include: This option would include archived workflow instances in the search results.
- Only: This option would display only the archived workflow instances in the search results.

Start Date

To search for workflow instances started after a date, before a date, on a date, or within a range of dates:

- From the Start field, select “Later than”, “Earlier than”, “Equal to” or “From”
- From the Date field, select a date
- If you have selected “From” in the Start field, select a date from the “Date” field and the “To” field. “From” option should be used when you wish to search for the start date within a specific date range.

Finish Date

To search for workflow instances those have finished after a date, before a date, on a date, or within a range of dates:

- From the Finished field, select “later than,” “earlier than,” “equals to,” or “From.”
- From the Date field, select a date
- If you have selected “From” in the Finished field, select a date from the “Date” field and the “To” field. “From” option should be used when you wish to search for the Finished date within a specific date range.

Workflow Name

To search for workflow instances by the name of the Workflow: Enter the name in the Workflow Name field. Please note that the search field would by default work as a wildcard search. For example, entering Test would display Test 1 and Test 2 in the test results.

Manager:

To filter the search results by the Manager of the Workflow Instance: Select the Manager Name from the picker to display the Workflow instances which have manager assigned as the selected user.

Scope

To search for workflow instances by scope: Please select the scope of the workflow instance in the Scope field. Please select the Portfolio/Super Portfolio or the Item Name for which you wish to see the associated workflow instances.

How To...

Edit

To Edit a Workflow instance’s template; please click the hyperlink on the Workflow Name. This will open up the Workflow Editor of the respective workflow.

Stop

To stop one or more Workflow instances; please select the checkboxes for the required Workflow instances and click Stop.

Archive

To Archive one or more Workflow instances; please select the checkboxes for the required Workflow instances and click Archive.

Remove

To Remove one or more Workflow Instances; please select the checkboxes for the required Workflow instances and click Remove.

Report

To view the Report of a Workflow instance; please click the hyperlink on the Instance Name of the required Workflow instance. This will open up the Report Page of the Workflow instance

View Details

To view the details of a Workflow instance, please click the row in the table for the required Workflow Instance. This will display the details of the workflow instance in the right hand side pane.

Security Permissions

If you have Read & View permission on Manage Workflow Instances security module, this dialog box displays all Workflow instances in the system (Regardless of whether their status is Pending, Active, Completed, Stopped or Faulted, and regardless of whether or not they have been archived)

If you are a manager of workflows, this dialog box displays all Workflow instances of which you are a manager (Regardless of whether their status is Pending, Active, Completed, Stopped or Faulted, and regardless of whether or not they have been archived).

In either of the above cases you can

- See the name of the Workflow template even if you do not have Read & View Permission on the workflow folder in which this template is located.
- Stop any workflow whose Status is `Pending' or `Active'
- Archive or Remove any workflow whose Status is `Completed', `Stopped' or `Faulted'
- Get a Report of any Workflow Instance listed, whether archived or not
- View/Edit any listed workflow template provided that the you have Read & View/Edit permissions for this template.

To access the Workflow Instances dialog box:

Click Collaborate, Workflow Instances. The Workflow Instances dialog box appears.

The Workflow Instances dialog box displays the following:

- Workflow instances list: A list of workflow instances including the status of each. These are the possible workflow instance statuses:
  - Active
  - Completed
  - Pending
  - Stopped

- Faulted
- The Description pane on the right side of the dialog box displays information about the selected workflow instance.
- If the selected instance is either Pending or Active, the information visible to the workflow manager in the Guide Pane when in Show Manager View, is displayed.
- If the selected instance is Completed, Faulted or Stopped, then only the Workflow name, Start date and time, Started by, Scope and Manager information are displayed.
- The Show Details checkbox when checked displays full information about the Workflow and current Steps and Tasks and when unchecked, shows only abbreviated information. This is identical to their Show Details/Hide Details option in their Guide Pane counterpart.
  - This checkbox only affects the display of Pending and Active workflows.

About Embedded Workflow Instances and Completion Policy:

For embedded workflows, the completion policy, if one was assigned when the task was defined, is applied on the workflow instance level. So, for example, assume the following: Group A was assigned as the Step manager when creating the embedded workflow task; Group A has three users (User 1, 2, and 3); and the embedded workflow has one step with four tasks. When the workflow is started, three workflow instances are created, one for each of the three users. As soon as any one user completes all four tasks, the workflow instances for all three users will be set to a status of “Stopped,” and all the workflow instances for the embedded task are removed from the workflow list for all the users. If there is more than one level of embedded workflows, then all the respective workflow instances would also be set to a status of “Stopped” if the task successfully meets its completion policy.

Subtasks for embedded workflows are handled as follows: By way of example, assume the following: There is a portfolio named P1; there are three items under that portfolio: Items Item1, Item2, and Item3; and there is a group, named G1, with three users: U1, U2, and U3. You create a task where the scope of the task was defined as P1, and then select the scope level as one level below. In the performer section you define G1 as the performer. When this task is run, there will be three tasks created for each item (Item1, Item2, and Item3) for each user (U1, U2, and U3). Essentially, the task is divided into subtasks for each of the items for each of the users. In this case, the completion policy is applied at these subtasks levels individually. In this example, let’s assume that the completion policy defined for this task is Any. When user U1 signs-off the task for Item1, only the tasks with same scope as Item1 for both users U2 and U3 are marked as Group-Signed off. The other tasks are not affected. This is true for all the task types where the completion policy is applicable.

Accessing the Workflow Instances Dialog Box

To access the Workflow Instances Dialog Box:

Click Collaborate, Workflow Instances. The Workflow Instances dialog box appears.

The Workflow Instances dialog box displays the following:

- Workflow instances list: A list of workflow instances including the status of each. These are the possible workflow instance statuses:
  - Active

  - Completed
  - Pending
  - Stopped
  - Faulted
- The Description pane on the right side of the dialog box displays information about the selected workflow instance.
- If the selected instance is either Pending or Active, the information visible to the workflow manager in the Guide Pane when in Show Manager View, is displayed.
- If the selected instance is Completed, Faulted or Stopped, then only the Workflow name, Start date and time, Started by, Scope and Manager information are displayed.
- The Show Details checkbox when checked displays full information about the Workflow and current Steps and Tasks and when unchecked, shows only abbreviated information. This is identical to their Show Details/Hide Details option in their Guide Pane counterpart.

This checkbox only affects the display of Pending and Active workflows.

Stopping a Workflow Instance

You can stop a workflow instance.

To stop a workflow instance:

To stop one or more Workflow instances; please select the checkboxes for the required Workflow instances and click **Stop**.

Archiving a Workflow Instance

You can archive a workflow instance.

To archive a workflow instance:

To Archive one or more Workflow instances; please select the checkboxes for the required Workflow instances and click **Archive**.

Edit a Workflow

You can edit a workflow. However, you cannot edit all the properties of a workflow if one or more instances of it are already running. For running workflows, your changes are limited only to the steps and tasks that have not yet occurred.

To edit a workflow:

To Edit a Workflow instance's template; please click the hyperlink on the Workflow Name. This will open up the Workflow Editor of the respective workflow.

Generating a Report on a Workflow Instance

You can generate a report on a selected workflow instance.

To generate a report on a workflow instance:

To view the Report of a Workflow instance; please click the hyperlink on the Instance Name of the required Workflow instance. This will open up the Report Page of the Workflow instance.

Removing a Workflow Instance

You can remove a workflow instance. Be aware that when you remove a workflow instance, it is completely removed from the system and there is no way for you to display an instance that has been removed or retrieve any other information about it.

To remove a workflow instance:

To Remove one or more Workflow Instances; please select the checkboxes for the required Workflow instances and click Remove.

Security Modules

In order to manage user permissions for workflow-related operations, the following security modules have been added to the Setup, Modules, Security Modules list:

- Start Workflow Instances

  The user can start a workflow: manually (logged-in user), or via a host workflow (Workflow System Execution Permissions user) or alert (alert owner).
- Manage Workflow Instances

  The user can view, stop, archive, or delete a workflow instance.
- Permit Workflow to Access and Update all Entities & Data

  Can permit workflow instances to access all entities and data needed for system execution regardless of their security settings.

> **Note:** If the security of the Workflow System Execution Permissions user is based on this security module, and this same user is defined as the Query Permissions user for a Query-based portfolio task, this does not grant this user automatic Read & View for each portfolio and for the category conditions' data. This user must have individual Read & view permission for each category's data and for each Item/Portfolio as the usual Query permissions user.

Manager Dialog Box

In the context of Workflows, there are four instances where you need to select a manager:

- Default workflow instance manager (Workflow wizard/Instance defaults step)
- Step manager for any of the steps in a workflow:
  - Tasks step (Step tab)
  - Category-based decision step (Step tab)
  - Manual decision step (Step tab)
  - Parallel (Step tab)

- Manager of a workflow instance started by an Alert (Alert wizard/Outcomes step/Select Workflow dialog box)
- Manager of a workflow instance when manually starting a workflow (Start Workflow dialog box)

This manager may be a specific user or role (category of value type user). In the first three cases this selection is made in the Manager dialog box. (The Manager field in the Start workflow dialog box is a simple dropdown field described in Manually Starting a Workflow.)

Selecting a Manager

To select a manager using the **Manager** dialog box:

1) In the **Type** drop-down filter select whether to display Users, Roles or All. The listing is populated by Users, Roles or both accordingly, in alphabetical order.

> **Note:** When used to define the Manager of workflow to be started by an alert, the Type dropdown also includes Approved. This displays the contents of the Manager and Alternate managers fields as defined on the Instance defaults step of the selected workflow.

2) Enter a character string in the **Search** field to display only names (first or last) associated with the selected Type that matches the search string. Make the **Search** field blank to redisplay all names associated with the current selection in the **Type** field.
3) Depending on the context, the listing will include additional options at the top such as:
   - [None] - which can be selected temporarily but before enabling a workflow, all manager fields must be defined
   - <Same as workflow> - which allows the Step manager to be inherited from the Workflow
   - <As defined in the workflow> - which allows the alert which starts the workflow to use the pre-defined workflow instance manager.
4) Select a user, role or one of the additional listings and then click **OK**.

Performer Dialog Box

In the context of Workflows, there are two instances where you need to select a performer:

- Task Performer for any of the other Manual tasks
  - Manual decision task (Task tab)
  - Module: Investor, Scorecard, Workbook, Forms, Dashboards (Task dialog box)
  - Document (Task dialog box)
  - Web (Task dialog box)
  - Instructions (Task dialog box)
- Manager of the embedded workflow (Task dialog box for Embedded workflow)

This performer manager may be a specific user, role (category of value type user) or group.

Selecting a Performer

To select a performer using the Performer dialog box:

1) In the Type drop-down filter select whether to display Users, Roles, Groups or All. The listing is populated by Users, Roles, Groups or all three of them accordingly, in alphabetical order.

> **Note:** When used to define the Manager of embedded workflow (started by a host workflow) the Type drop down also includes Approved. This displays the contents of the Manager and Alternate managers fields as defined on the Instance defaults step of the selected embedded workflow.

2) Enter a character string in the Search field to display only names (first or last) associated with the selected Type that matches the search string. Empty the Search field to redisplay all names associated with the current selection in the Type field.
3) Depending on the context the listing will include additional options at the top such as:
   - [None] - Which can be selected temporarily but before enabling a workflow, all Performer fields and the Manager of the embedded workflow field must be defined.
   - <Step manager> - Which allows the Performer or Manager of Embedded Workflow to be inherited from the Step
4) Select a user, role, group or one of the additional listings and then click **OK**.

Defining Workflows

Workflows are automated guidelines which define and step users through, established organizational procedures. Workflows include both manual tasks to be performed by an end-user, and automatic tasks to be implemented by the system. They can be started manually or triggered by an alert or a host workflow. Workflows provide new opportunities for people to successfully collaborate on complex organizational processes. For more information, refer to ***Opening Workflows*** (on page 346) in the Guide Pane.

For instructions on defining and using workflows, refer to ***Workflows*** (on page 162).

Alerts

Alerts monitor system events, and dispatch e-mail messages when triggered. Each alert is a set of conditions (defined at the time of setting up the alert) that constitute an event. For example, the addition of an item to a portfolio can be defined as an alert-triggering event. Whenever an item is added to the monitored portfolio, a pre-defined e-mail message will notify the appropriate recipients.

For more information, refer to ***Creating a New Alert*** (on page 394) in Configuring Alerts and Notifications.

Configuring Alerts and Notifications

PPM users can define alerts and notifications that are dispatched as a result of monitored events.

The following events trigger alerts:

- An item or portfolio has been added to a portfolio.
- One or more category values (or indicators) have reached a predefined threshold value.
- A phase has been modified.
- A deliverable has been modified.
- An action item has been modified.

This document describes the process of defining events that dispatch alerts via an external e-mail system.

Creating a New Alert

This section describes how to create an alert using the New Alert Wizard.

Step 1: Accessing the Alert Wizard

To access the Alert wizard:

1) Use any of the following method to access the Alert wizad:
   - From the **Collaborate** menu in any of the main modules, choose **New Alert**.
   - From the **Setup** drop-down list, select **Alerts**.
2) In the navigation pane, select a folder which will be the home folder for the new alert.
3) In the tool bar, click the arrow next to **New**.
4) Choose **Alert** to open the Alert Wizard.

Step 2: Entering General Alert Information

In the **General** step, provide preliminary information about the alert:

1) In the **Name** field, enter a unique name for the new alert.

   This name will appear in alert lists and also serves as the default subject of the alert e-mail when it is sent.
2) In the **Description** field, enter a brief description of the new alert. You can include hypertext in the description.
3) The owner of the alert has to have the security level necessary to access the data for triggering the alert. Once the alert is triggered and the message is sent, the alert owner is listed as the person sending it. By default, the logged-in user is the Owner of the alert. You may change the owner by clicking on **Change Owner** and selecting a new owner from the list. For security reasons you must be able to enter the new owner's password.
4) Select any of the following options to set the **Status** of the alert:
   - *Enabled*: An alert can be triggered only if it is enabled.
   - *Disabled*: (Default)The alert is currently inactive.
5) Select any of the following options to set the expiration date of an alert:
   - *Never*: The alert never expires until it is deleted manually.
   - *Date*: The alert expires on the selected date and is automatically deleted.
6) Click **Next** to select the event that triggers the alert and its scope.

Step 3: Defining Event Information

In the **Event** step specify events that will trigger the alert. There are several event types, each with its own functionality. For example, Defining Item/Portfolio Added to Portfolio describes how to define an Item Added to Portfolio event. Similarly, Defining Category Value Condition Met Events describes how to define a Category Value Condition Met event.

Defining Item/Portfolio Added to Portfolio Events

To define an Item Added to Portfolio event:

1) Select *Item/Portfolio Added to Portfolio* from the **Event** drop-down list.
2) Select the trigger for the alert:
   - **Any Added Item** (default): The event will generate an alert regardless of whether the added Item/Portfolio already exists, or is newly created.
   - **Only newly created Items**: The event will generate an alert only for newly created items (or portfolios).
3) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available.
   - **Entire System**: The following three options are available:
     - **Item added to portfolio**: Check off this option to trigger an alert whenever an item is added to a portfolio anywhere in the system.
     - **Portfolio added to portfolio**: Check off this option to trigger an alert whenever a portfolio is added to a portfolio anywhere in the system.
     - **Both item and portfolio**: Check off both options to trigger an alert whenever an item and/or a portfolio is added to a portfolio anywhere in the system.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security Modules*** (on page 206).

   - **Root (Items and Portfolios) Folder**: Then alert is triggered whenever an item (or a portfolio) is added to any portfolio in the root.
   - **Portfolio of Portfolios**: The following two options are available:
     - **To the selected portfolio**: The alert is triggered whenever a portfolio is added to the portfolio named in the **Scope** drop-down list.
     - **To any portfolio in the selected portfolio**: The alert is triggered whenever an item (or portfolio) is added to any of the portfolios within the selected portfolio.
   - **Portfolio of Items**: The alert is triggered whenever an item is added to the portfolio named in the **Scope** drop-down list.

     Note: Every item added to the portfolio generates a message even if all the items are in the same portfolio and all the messages are for the same user.

Defining Category Value Condition Met Events

You can define a Category Value Condition Met event. Depending on the transition type selected (in the **Transition** field), this event type generates an alert whenever the value of the selected category transitions to the defined value (as specified in the **Value** field) or whenever the value of the selected category changes, or whenever the value of the category increases or decreases. When you select a value for the **Transition** field that does not require the specification of a defined value (in the **Value** field), then the **Value** field is disabled.

This event type also generates an alert if a value for a sub-item in a dynamic list will change.

For example, if the defined transition for the category is: "becomes greater than 100", an alert will be triggered when the value changes from 90 to 110. If and when the value changes again from 110 to 150, an additional alert will **not** be triggered, as only the transition that made the value greater than 100 is defined as an alert-trigger.

This event type relates to current, historic and future values of the category.

To define a Category Value Condition Met event:

1) Select *Category Value Condition Met* from the **Event** drop-down list.
2) Select the category that will be the focus of the alert from the **Category** list.
3) Select the relevant transition from the **Transition** drop-down list.
4) If the **Value** field is enabled, define the value that will trigger the alert (see the Alert example above). Depending on the category definition, the value can be: *decimal number, integer, text, date, value list,* or *user name*.
5) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available.
   - **Entire System:** The following three options are available:
     - **For any item**: Check off this option to trigger an alert when the category associated with any item in the entire system transitions to the value defined above.
     - **For any portfolio**: Check off this option to trigger an alert when the category associated with any portfolio in the entire system transitions to the value defined above.
     - **Both item and portfolio**: Check off both options to trigger an alert when the category associated with either any item or any portfolio in the entire system transitions to the value defined above.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).

   - **Root (Items and Portfolios) Folder**: The alert is triggered when the category associated with any item or portfolio in the root transitions to the value defined above.
   - **Portfolio (of portfolios)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered when the category associated with the selected portfolio transitions to the value defined above.

- **For any portfolio in the selected portfolio**: The alert is triggered when the category associated with a portfolio in the selected portfolio transitions to the value defined above.

- **Portfolio (of items)**: The following two options are available:
  - **For the selected portfolio**: The alert is triggered when the category associated with the selected portfolio transitions to the value defined above.
  - **For any item in the selected portfolio**: The alert is triggered when the category associated with an item in the selected portfolio transitions to the value defined above.
- **Item**: The alert is triggered when the category associated with this item transitions to the value defined above.

Defining Category Indicator Condition Met Events

You can define a Category Indicator Condition Met event. Depending on the transition type selected (in the **Transition** field), this event type generates an alert whenever the indicator of the selected category transitions to the defined indicator (as specified in the **Indicator** field) or whenever the indicator of the selected category changes. When you select a value for the **Transition** field that does not require the specification of a defined indicator (in the **Indicator** field), then the **Indicator** field is disabled.This event type also generates an alert if an indicator for a sub-item in dynamic list will change.

To define a Category Indicator Condition Met event:

1) Select *Category Indicator Condition Met* from the **Event** drop-down list.
2) Select the category that will be the focus of the alert from the **Category** list.
3) Select the relevant transition from the **Transition** drop-down list. The alert will be triggered as soon as the transition occurs.
4) If the **Indicator** field is enabled, select the relevant indicator.
5) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available:
   - **Entire System**: The following three options are available:
     - **For any item**: Check off this option to trigger an alert when the category associated with any item in the entire system transitions to the indicator defined above.
     - **For any portfolio**: Check off this option to trigger an alert when the category associated with any portfolio in the entire system transitions to the indicator defined above.
     - **Both item and portfolio**: Check off both options to trigger an alert when the category associated with either any item or any portfolio in the entire system transitions to the indicator defined above.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).

   - **Items and Portfolios (Root) Folder**: The alert is triggered when the category associated with any item or portfolio in the root transitions to the indicator defined above.
   - **Portfolio (of portfolios)**: The following two options are available:

- **For the selected portfolio**: The alert is triggered when the category associated with the selected portfolio transitions to the indicator defined above.
- **For any portfolio in the selected portfolio**: The alert is triggered when the category associated with a portfolio in the selected portfolio transitions to the indicator defined above.

- **Portfolio (of items)**: The following two options are available:
  - **For the selected portfolio**: The alert is triggered when the category associated with the selected portfolio transitions to the indicator defined above.
  - **For any item in the selected portfolio**: The alert is triggered when the category associated with an item in the selected portfolio transitions to the indicator defined above.
- **Item**: The alert is triggered when the category associated with this item transitions to the indicator defined above.

Defining Multiple Category Conditions Met Events

You can define a Multiple Category Conditions Met event. This event type lets you define the categories and the conditions you would like monitored. By default, PPM checks once a day to see if the conditions for the specified categories were met, and generates an alert if necessary.

> **Note:** Unlike all other alerts that are triggered immediately, the frequency and time for Multiple Category Conditions Met alerts is predefined. PPM Professional Services can define different intervals, if necessary.

To define a Multiple Category Conditions Met event:

1) Select *Multiple Category Conditions Met* from the **Event** drop-down list.
2) Double-click on a cell in the **Category** column to add a category to the table. The default settings for the selected category are loaded into the **Transition, Value** and **And/Or** columns.
3) Change the default values in the **Transition, Value** and **And/Or** columns, as necessary.
4) Move or remove the Category rows using the **Move Row** and **Remove** buttons respectively.
5) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available.
   - **Entire System**: The following two options are available:
     - **For any item**: Check off this option to trigger an alert when the multiple conditions defined in the alert are met for any item in the entire system.
     - **For any portfolio**: Check off this option to trigger an alert when the multiple conditions defined in the alert are met for any portfolio in the entire system.

     > **Note:** The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).

   - **Portfolio (of portfolios)**: The following two options are available:

- **All items in portfolio hierarchy**: The alert is triggered when the multiple conditions defined in the alert are met for any item under any of the child portfolios of the selected portfolio of portfolios.
- **Selected portfolio and all portfolios in its hierarchy**: The alert is triggered when the multiple conditions defined in the alert are met by the selected portfolio, as well as any of its child portfolios.

- **Portfolio (of items)**: For any item in the selected portfolio, the alert is triggered when the multiple conditions defined in the alert are met by any of the items in the selected portfolio.

Defining Phase Modified Events

You can define a Phase Modified event. This event type generates an alert whenever one or more of the following fields is modified in any of the phases relating to the specified item(s): Status, % Complete, Health, Planned Start, Planned End, Forecast Start, Forecast End, Actual Start, Actual End.

It is possible to automatically create a Phase Modified alert. For more information refer to ***Creating a Specific Phase Alert*** (on page 203).

To define a Phase Modified event:

1) Select *Phase Modified* from the **Event** drop-down list.
2) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available:
   - **Entire System**: The following three options are available:
     - **For any item**: Check off this option to trigger an alert whenever any phase of any item throughout the entire system is modified.
     - **For any portfolio**: Check off this option to trigger an alert whenever any phase of any portfolio throughout the entire system is modified.
     - **Both item and portfolio**: Check off both options to trigger an alert whenever any phase of any item and/or any portfolio throughout the entire system is modified.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).

   - **Root (Items and Portfolios) Folder**: The alert is triggered whenever a phase within any item or portfolio in the root is modified.
   - **Portfolio (of portfolios)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered whenever a phase is modified within the selected portfolio.
     - **For any portfolio in the selected portfolio**: The alert is triggered whenever a phase is modified within any of the portfolios in the selected portfolio.
   - **Portfolio (of items)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered whenever a phase is modified within the selected portfolio.
     - **For any item in the selected portfolio**: The alert is triggered whenever a phase is modified within an item in the selected portfolio.

- **Item**: The alert is triggered whenever any phase is modified within the item.

Defining Deliverable Modified Events

You can define a Deliverable Modified event. This event type generates an alert whenever one or more of the following fields is modified in any of the deliverables relating to the specified item: Completed, Mandatory, Name, Owner, Approver, Due Date, Link, Description. In addition, creating or deleting a deliverable will trigger the alert.

It is possible to automatically create a Deliverable Modified alert. For more information refer to ***Creating a Specific Deliverable Alert*** (on page 203).

To define a Deliverable Modified event:

1) Select *Deliverable Modified* from the **Event** drop-down list.
2) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available:
   - **Entire System**: The following three options are available:
     - **For any item**: Check off this option to trigger an alert whenever a deliverable of any item throughout the entire system is modified.
     - **For any portfolio**: Check off this option to trigger an alert whenever a deliverable of any portfolio throughout the entire system is modified.
     - **Both item and portfolio**: Check off both options to trigger an alert whenever a deliverable of any item and/or portfolio throughout the entire system is modified.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).
   - **Root (Items and Portfolios) Folder**: The alert is triggered whenever a deliverable is modified within any item or portfolio in the root.
   - **Portfolio (of portfolios)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered whenever a deliverable is modified within the selected portfolio.
     - **For any portfolio in the selected portfolio**: The alert is triggered whenever a deliverable is modified within any of the portfolios in the selected portfolio.
   - **Portfolio (of items)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered whenever a deliverable is modified within the selected portfolio.
     - **For any item in the selected portfolio**: The alert is triggered whenever a deliverable is modified within an item in the selected portfolio.
   - **Item**: The alert is triggered whenever a deliverable is modified within the item.

Defining Action Item Modified Events

You define an Action Item Modified event. This event type generates an alert whenever one or more of the following fields is modified for any action item relating to the specified item: Completed, Name, Owner, Approver, Start Date, Due Date, Link, Description In addition, creating or deleting an action item will trigger the alert.

It is possible to automatically create an Action Item alert. For more information refer to ***Creating a Specific Action Item Alert*** (on page 203).

To define an Action Item Modified event:

1) Select *Action Item Modified* from the **Event** drop-down list.
2) Select any of the following options to set the scope of the alert. Depending on your choice, different scope options become available:
   - **Entire System**: The alert is triggered whenever an action item is modified at either the item or portfolio level throughout the entire system.

     Note: The **Entire System** option is visible only to authorized users. For more information on authorized users refer to ***Security*** (on page 443).

   - **Root (Items and Portfolios) Folder**: The alert is triggered whenever an action item is modified within any item or portfolio in the root.
   - **Portfolio (of portfolios)**: The following two options are available:
     - The alert is triggered whenever an action item is modified within the selected portfolio.
     - The alert is triggered whenever an action item is modified within any of the portfolios in the selected portfolio.
   - **Portfolio (of items)**: The following two options are available:
     - **For the selected portfolio**: The alert is triggered whenever an action item is modified within the selected portfolio.
     - **For any item in the selected portfolio**: The alert is triggered whenever an action item is modified within an item in the selected portfolio.
   - **Item**: The alert is triggered whenever an action item is modified within the selected item.
3) Click **Next** to define the outcome of the alert.

Step 4: Defining Outcome Information

In the **Outcome** step, define the outcome when the alert is triggered.

1) Select any of the following options and then click **Next**:
   - Click **Send message** if you want the alert to send an e-mail message.
   - Click **Start workflow** if you want the alert to start a workflow.

     For more information, refer to ***Selecting a Workflow*** (on page 197).
   - To invoke a Web Service with parameters when the alert is triggered:

   a. Click **Activate Web Service at the following URL**.

   b. Enter the web service URL, and then select **Edit**.

      For more information on specifying web service parameters, see ***Web Service Alert*** (on page 198).

> **Note**: Not all Web Services can be activated. The Web Service must follow certain specifications. For more information, refer to the *Primavera Portfolio Management Enterprise API* Guide.

2) Click **Next** to proceed to the next step of the Alert wizard.

   If you selected **Send message**, then proceed to the **Messages** step to define the alert message.

   If you selected **Start workflow** or **Activate Web Service at the following URL**, then proceed to the **In Folders** step to define the home folder for the alert.

> **Note:** (Optional) If you selected *Item/Portfolio Added to Portfolio* in the **Event** field during the *Event* step, select **Publish Item to the PM Server** to publish the item to a PM server when the event is triggered. If you select this option, select a PM server. If the mapping mode on the bridge server is set to *Either Phases or Sub-Items (User-selectable)*, choose *Sub-Items or Phases* in the **Mapping Mode** field. This setting determines how items related to the alert are published when the alert is triggered.

Selecting a Workflow

If you selected **Start workflow** in the **Outcome** step of the Alert wizard, the Select Workflow dialog box appears.

To select a workflow:

1) In the **Workflow** field, click the down arrow. The Select Workflow pop-up window appears.
2) In the **Select Workflow** window, expand the folders, select a workflow, and then click **OK**.

   If a disabled workflow is selected, you must enable it in the workflow wizard before the alert is triggered.
3) In the **Instance name** field, define the name that the workflow instance will have (when the alert is triggered).
4) In the **Scope defined by section**, select any of the following:
   - **Item or Portfolio for which the alert has been triggered**: Select if the item for which the alert has been triggered will also serve as the scope of the workflow.
   - **Workflow**: Select if the scope is defined by the workflow.
5) In the **Manager** field, accept the default or click **Select**.

   If you chose **Select**, enter information in the **Manager** dialog box. To complete this dialog box, refer to ***Selecting a Manager*** (on page 187) .
6) In the **Workflow system execution permissions user defined by section**, select any of the following:
   - **Owner of Alert**: Select if the owner of the alert is defined as the workflow system execution permissions user.
   - **Workflow**: Select if workflow system execution permissions user.
7) Click **OK**.

Web Service Alert

In the **Web Service Alert** dialog box, edit the Web Service URL or enter parameters for the Web Service URL.

To edit or add parameters to a Web Service URL:

1) In the **Link** field, enter the Web Service URL.
2) (Optional) Enter the following information for each parameter as follows:
   a. In the **Parameter Name** field, enter the name of the parameter.
   b. In the **Category** field, select the category for the parameter.

   Note: A maximum of five parameters can be entered for the URL.
3) In the **Description** field, enter a short description regarding the alert.
4) Select any of the following buttons to perform the corresponding action:
   - Select a **Parameter Name** and then select **Remove** to delete the parameter.
   - Select **OK** to save the information.
   - Select **Cancel** to cancel all changes made in this dialog box.

Step 5: Defining the Alert Message Information

In the **Messages** step, define the message that will be sent when the alert is triggered.

Access the **Messages** step by clicking **Next** from the **Outcome** step. For workflows with Send Message outcome, the **Message** step of the Alert wizard appears.

To define the message:

1) Select the Importance level for the message. The values in the **Importance** drop-down list are *Low*, *Normal* and *High*.

   The importance level determines the importance setting given to the alert email. It is also a mechanism for filtering the alert messages. Each user may filter the level of alerts to receive by modifying the user profile.

   For more information about modifying the user profile, refer to ***Entering User Contact Information*** (on page 158) in Configuring the System Components.
2) By default, there is automatically-generated text for the message.
3) (Optional) Create a custom text for the message. For more information on customizing the text refer to ***Editing the Alert Message*** (on page 198).
4) If a custom message has been created, you can revert to the default text by clicking **Restore Defaults**.
5) Click **Next** to proceed to define the recipients of the alert.

Editing the Alert Message

It is possible to customize the alert message text so that it so that it conveys business-related information for the intended recipient.

The alert message includes a list of predefined *Keywords*. When you select a *Keyword* it serves as a place holder for the actual value it represents. When the alert message is generated, the keyword is replaced by the real value.

The selection of available keywords is determined by the event type. For a table listing the full list of keywords sorted by event types refer to the ***Keywords Appendix Table*** (on page 207).

> **Note:** The automatic replacement of keywords by the relevant values depends on the **exact** spelling, syntax and brackets. You may select a keyword, or enter it as free text. You must, however, repeat the spelling of the keyword as it is written in the Keywords list. Please note that any changes to an inserted keyword (e.g. removing a space) will prevent the replacement..

To edit the default alert message:

1) Click **Edit** on the Message step.
2) In the **Edit Subject & Message** dialog box:
   a. Select keyword(s) and click

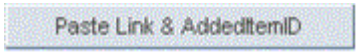
. The keyword(s) are placed in the text box. You may insert keywords and/or enter custom text for the message Subject.
   b. Select a category and click

. The category is placed in the text box. You can insert category values into the body of the Message. You can place more than one category into the Message but must select and place them individually.

> **Note**: When you add a keyword or category to the text, the name of the keyword or category will be inserted into the text in square brackets. The text will be replaced with the value of the keyword or category when the email is generated. If there is no value for a category, it will be replaced with no text.

3) Edit the message body text as necessary. You may add keywords and/or custom text. To remove a keyword, simply delete it from the text. In the example above, [Event Date-Time] are keywords; - Time for Action is free text.
4) Define your Locale-this is used to determine the date and time conventions that will be used in the message.
5) You may include a link to a PPM view as part of the message. The link will go to a predefined view or page within the application (such as a specific tab within a form); with the item that is the subject of the event.
   - In order to include such a link as part of the message, go to the relevant view or page in the application (with any item/portfolio and Data as of version specified) and select **Obtain Page Address** from the **Collaborate** menu.
   - When returning to the **Edit Subject & Message** dialog box, paste the link into the message using one of the following options:
     - Click

Paste Link & ScopeID. The email generated will contain a link to the selected view, with the item/portfolio that caused the event. If the event type is Item/Portfolio added to Portfolio, the view will show the portfolio to which the item was added.

- Click 

Paste Link & AddedItemID (this option is available only for Item/Portfolio added to Portfolio events). The email generated will contain a link to the selected view, with the item/portfolio that was added.

6) If you want to revert to the default message, click **Restore Defaults**.
7) Click **OK** to save your changes and return to the Message step.

Step 6: Defining the Alert Recipients

You can define and view the recipients of the message.

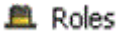
Recipients

There are the recipient types:

: Any regular, named user. When you add a user to the **Recipients** list, you are specifically linking that user's name to the alert. This means that regardless of what triggered the alert, or the user's role, a message will be sent to that user.

: Any named user defined as contact in the **Users** list. When you add a contact to the *Recipients* list, you are specifically linking that contact's name to the alert. This means that regardless of what triggered the alert a message will be sent to that user.

: Any regular user group. The actual recipients of the alert will be the members of the group **at the time the event is triggered** (not the time the alert is defined).



: Roles are a mechanism to determine the email's recipients dependant on the item or portfolio for which the event is triggered. The actual recipients will be the users who are defined as the role at the time the alert is triggered.

There are two kinds of roles:

- **Category-based roles**: Categories where the Value Type is set to User. The recipient of the alert is the user who is selected as the value of the category for the item.

  For example, assume there is a Sales Representative category and John Smith is selected as the value for this category for a certain item and Michele Jones is the value for another item. Selecting the Sales Representative role will send the email to either John or Michele, depending on the item for which the event is triggered.
- **Predefined roles**: The following are predefined roles:

Role Name	Description
Owner	Deliverable Modified alert, the user defined as owner of the deliverable for which the event is triggered. Action Item Modified alert, the user defined as Owner of the action item for which the event is triggered. Category Value/Indicator Condition Met alert, the user defined as Owner of the category.
Approver	Deliverable Modified alert, the user defined as Approver of the deliverable for which the event is triggered. Action Item Modified alert, the user defined as Approver of the action item for which the

	event is triggered.
Sender	The user defined as the owner of the alert.
Item Contacts	This system role is a list of users and contacts defined in the Contacts tab of the workbook for the item.
Manager	The manager of the item or portfolio for which the event is triggered.

Note: Two of the alerts, Category Value Condition Met and Category Indicator Condition Met, can be triggered for changes in Sub-items. If the outcome of either of these alerts is Send message and one of the Recipients is defined as Item Contacts role, then the Contacts of the Item or Portfolio in which the triggering Sub-item resides will receive the alert message.

Defining the Message Recipients

To define the Message Recipients:

1) In the Message step, click **Next**. The Recipients step appears.
2) You can search for the name of the intended recipient(s). Enter the letters for the search in the Search box. The Recipients' list changes to reflect your search. The Search box does not support the use of wildcard characters.
3) You can limit the search by selecting the Recipient Type in ***Step 6: Defining the Alert Recipients*** (on page 200). Choose from among the following:
   - **All-**searches through all of the lists defined below.
   - **Users**-searches through the Users list.
   - **Groups**-searches through the User Groups list. Use this option when you want the message to be sent to specific user(s) defined as part of a group.
   - **Roles**-searches through the Roles list. Use this option when you want the message to be sent to any user who has a predefined role.
   - **Contacts**-searches through the Contacts list.
4) Select a name from the list and click on **To>**; **Cc>** or **Bcc>** to add that name to the selected box. Double-clicking on a recipient's name automatically adds it to the To> list.
5) To add an external e-mail address, enter the address in the E-mail box and select **To>**; **Cc>** or **Bcc>**.
6) To remove a recipient, select it and click **Remove Recipient**.
7) For Item Added to Portfolio alerts, you may select if the Roles apply to:
   - **Scope Portfolios only**-- The alert will be sent to the selected Roles associated with the portfolio to which the item was added.

   OR

- **Scope and added Items** -- The alert will be sent to the selected Roles associated with the item or portfolio that was added, in addition to the Roles associated with the Portfolio to which it was added.

8) Click **Next** to proceed to the next step of the Alert wizard, where you define the alert's home folder.

Step 7: Viewing In Folders Information

In the **In Folders** step, define how to view the folders in which the alert belongs or is referenced.

- Each alert has a single home folder. The **Home Folder** field displays the name of the home folder of the new alert. By default, an alert inherits its security settings from its home folder.
- If the alert has been added to other folders, those folder names are displayed in the **Others** table.

Access the **In Folders** step in the Alert wizard by clicking **Next** in any of the following steps :

- From the **Outcome** step, if you selected **Start workflow** or **Activate Web Service at the following URL**.
- From the **Recipients** step.

To assign a home folder for an alert:

1) In the **Home Folder** field, click **Browse** and then select the desired folder to change the default home folder.

   If the desired home folder is already listed in the **Others** table, select it and then click **Define as Home Folder**. The previously-defined folder is now listed in the **Others** table.

2) Click **Next** to proceed to define the alert's security permissions.

Step 8: Defining Security Permissions

In the **Security** step, define security permissions for the alert. By default, new objects inherit their security permissions from their home folder. The Inheriting Settings box at the top of the **Security** step is selected and indicates the name of the home folder.

Access the **Security** step by clicking **Next** in the **In Folders** step of the Alert wizard.

In the **Security** step:

1) Add, remove, or edit security permissions.

   For information on working with security permissions, refer to ***Security*** (on page 443).

2) Click **Finish** to add the alert to the **Alerts** list.

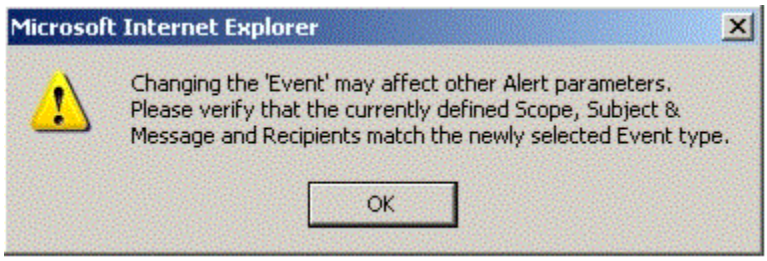
Editing an Alert

This section describes how to edit an alert using the Alert Wizard.

To edit an alert:

1) From the **Collaborate** menu in any module choose **Alerts**.
2) From the **Alerts** list select the alert you wish to edit.
3) To edit the alert, complete the steps described in *Creating a New Alert* (on page 189).

4) You may change any of the alert parameters, except for the alert outcome. Note that if you change the type of Event that triggers the event, you will receive the following message:



> **Note:** By default only an administrator or the creator of the alert can edit it.

Specific Alerts

Specific alerts are a quick way to create alerts for a specific Phase, Deliverable or Action Item. Every time the monitored object (phase, deliverable or action item) changes (e.g. created, edited, deleted), an alert is automatically issued.

> **Note:** The name and event definitions of a specific alert cannot be edited.

Creating a Specific Phase Alert

To create a specific phase alert:

1) Whenever you create or edit a life cycle phase, you can check the alert when this phase is modified check box in the Life Cycle Phases dialog box. Checking the box automatically generates an alert message to the default recipients whenever the life cycle is modified.
2) To change the alert outcome, the default message or recipients, click **Edit Alert**. The Message step of the Alert wizard opens with all of the selected life cycle information already inserted.

Creating a Specific Deliverable Alert

To create a specific deliverable alert:

1) Whenever you create or edit a deliverable, you can check the Alert when deliverable created/modified check box in the Deliverable dialog box. Checking the box automatically generates an alert message to the default recipients whenever the deliverable is modified.
2) To change the alert outcome, the default message or recipients, click **Edit Alert**. The Message step of the Alert wizard opens with all of the selected deliverable information already inserted.

Creating a Specific Action Item Alert

To create a specific action item alert:

1) Whenever you create or edit an action item, you can check the Alert when action item created/modified check box in the Action Item dialog box. Checking the box automatically generates an alert message to the default recipients whenever the action item is modified.

2) To change the alert outcome, the default message or recipients, click **Edit Alert**. The Message step of the Alert wizard opens with all of the selected action item information already inserted.

Alerts List

This section describes how to view and manage the alerts using the Alerts list. The Alerts list is where you view and manage the alerts. Depending on your security permissions level, you may use the Alerts list to do the following:

- View all the alerts for which you are responsible.
- Filter the alerts per specific item/portfolio.
- Change the Owner of multiple alerts simultaneously.
- Disable/enable multiple Alerts simultaneously.

The Alerts list includes the following areas:

- **All Tab**-lists all the alerts in the focused hierarchy. For more information on the hierarchy, see ***Building a Hierarchy*** (on page 213) in Organizing Hierarchies.
- **Search Tab**-allows you to search through the Alerts list. For more information on the hierarchy, see ***Searching for an Object or Folder*** (on page 219) in Organizing Hierarchies.
- **Name**-the name of the alert.
- **Relationship to Scope** -- shows a graphic symbol that describes the relationship of the alert to the scope item.

  Symbols include:
  - - The scope item limits the alert to itself (super portfolio, portfolio or item, but not Root or Entire System).
  - - The scope item defines the alert for one or more levels of the portfolios hierarchy below.
  - - Relevant only for the Item or Portfolio search where the item or portfolio for which the search is being conducted has an alert defined for it via a super portfolio above it, the Root folder or the Entire System
- **Scope**-the name of the selected portfolio for which the alert is triggered.
- **Type**- one of the following alert types, appearing in abbreviated form, as listed below:
  - **Item Added** (short for Item/Portfolio added to Portfolio)
  - **Category Value** (short for Category Value Condition Met).
  - **Category Indicator** (short for Category Indicator Condition Met)
  - **Multiple Category** (short for Multiple Category Conditions Met).
  - **Phase** (short for Phase Modified).
  - **Phase (Spc.)** (short for Phase Modified for a specific phase).
  - **Deliverable**- (short for *Deliverable Modified*).
  - **Deliverable (Spc.)** (short for *Deliverable Modified* for a specific deliverable).
  - **Action Item** - (short for *Action Item Modified*).
  - **Action Item (Spc.)** (short for *Action Item Modified* for a specific action item).
- **Owner**-the name of the owner of the alert.

- **Details area**-the Details area contents vary as follows:
  - **Alert folder**-shows the Name, Owner and Description (tooltip contents) of the Alert folder.
  - **Email alert**-shows the Name and Scope of the alert, and the Subject Message, To, Cc, and Bcc of the Email triggered by the alert.
  - **Workflow alert** - shows the Name and Scope of the alert and the name of the Workflow template and Instance to be started by this alert.
  - **Web service alert** - shows the Name and Scope of the Alert and the Web Service URL.

Notes:

- Clicking on any of the list headers sorts the column alphabetically by ascending or descending order.
- Hovering over an alert or alert folder will display the Name, Owner and Description of the alert.
- Enabled alerts appear in black text. Disabled alerts that appear in gray text in the list.

Viewing Alerts

To view the Alerts list:

1) From the **Collaborate** menu in any module choose **Alerts**.
2) The Alerts list appears.

Creating a New Alert

To create a new alert:

1) Select **New Alert** from the Alert menu.
   OR
   Click **New** to open the drop-down list. Select Alert.
2) Follow the steps of the wizard as described in ***Creating a New Alert*** (on page 189).

Changing the Owner of the Alert

To change the owner of the alert:

1) Select the alert(s) from the Alerts list.
2) Select **Change Owner** from the Alert menu. The Change Owner dialog box opens.
3) Select the new owner from User drop-down list.
4) Enter the selected user's password in the Password field.

Enabling/Disabling an Alert

To enable/disable an alert:

1) Select the alert(s) from the Alerts list.
2) Select **Disable** or **Enable** from the Alert menu.

Showing/Hiding Disabled Alerts

To show/hide disabled alerts in the Alerts List:

1) Select **Show Disabled** or **Hide Disabled** from the View menu.

Security Modules

Only authorized users may create and/or send alerts. When the conditions of an event are met and the alert is triggered, a message will be dispatched only if the person defined as the alert's owner is still authorized.

Generally, alerts may access only that data for which the owner has Read access. For example, a user created a "value becomes greater than 1000" alert for a budget category: At the time of the alert triggering, if that user has Read access to only some of the items, the alert will be fired for only those items for which there is Read access.

> **Note:** For an exception to this rule, see Permit Alerts to access all data below.

In order to manage user permissions for alert-related operations, the following security modules have been added:

- **Alert Scope may include the entire system**: Allows the creation of alerts for all items and/or all portfolios in the Entire System. Designated for configurators and/or special users who need to create such alerts. When this security module is enabled, the Entire System becomes an option in the Scope field of the alert.
- **Create Alerts**: Determines who is allowed to create alerts.
- **Permit Alerts to access all data**: Allows users to create category alerts even when the user does not have access to the data related to in the alert. This security module is designated for use by the configurator who creates many alerts for which she will have permission for all objects related to in the Alert (Item, Portfolio, Category, etc.) but not necessarily to the data. The Read & View permission for the item must = Allow both during definition of the alert and when the alert is fired.

  > **Note:** Data refers only to cell data, including `Roles' which are also category cell data. It does not refer to deliverable, action item and phase field data.

- **Send Email or Alert messages**: Controls the ability to use Send Page and Send Manager in addition to the dispatch of alert messages whose events have been fired. If the alert owner doesn't have read permission for Send Email or Alert Messages when the event is dispatched, **the alert message will not be sent out to its recipients**.
- **View Function Engine Status**: Controls whether users can view the function engine status and pending tasks on the home screen. When this is enabled for a user, that user can view queued and in-progress function tasks alongside one of three indicators:
  - **Idle**: The Function Engine is running normally but is not processing anything.
  - **In Progress**: The Function Engine is running normally and processing a function.
  - **Stopped**: The Function Engine service is down.

Keywords Appendix Table

No.	Keyword	Description
General (for all Event Types)		
	[Alert Name]	The name of the Alert as it appears in the wizard.
	[Alert Owner]	The name of the Alert Owner together with the Owner's e-mail address.
	[Scope Name]	The name of the Item or Portfolio for which the Alert has been triggered.
	[ScopeID]	The ID of the Item or Portfolio for which the Alert has been triggered.
	[Event Date-Time]	The date-time stamp when the event was triggered.
Item/Portfolio Added to a Portfolio		
	[Added/Created]	The phrase `Added to' or `Created in' depending on the circumstances of how the Item was added to the Portfolio.
	[Item/Portfolio]	The word `Item' or `Portfolio' depending on whether an Item or Portfolio was Added or Created.
	[Added Item Name]	The name of the added or newly created Item or Portfolio.
	[AddedItemID]	ID of the added or newly created Item or Portfolio.
Category Value Condition Met		
	[Category Name]	The Category name as defined in the Alert wizard including the Unit (if any) in parentheses after the Category name.
	[Condition Operator]	The Transition operator as it will appear in the Alert.
	[Condition Value]	The value of the Category as defined in the event condition.
	[Previous Value]	The value of the category prior to the event being triggered.
	[Trigger Value]	The value of the category when the event was triggered.
	[As of Date]	The date as of which the [Trigger Value] is valid.

Category Indicator Condition Met		
	[Category Name]	The Category name as defined in the Alert wizard (without Units if any).
	[Condition Operator]	The Transition operator as it will appear in the Message.
	[Condition Indicator]	The color of the Indicator as defined in the event condition. Indicators are defined on the Defaults tab of the Admin dialog box.
	[Previous Indicator]	The color of the Indicator of the category prior to the Alert being triggered. Indicators are defined on the Defaults tab of the Admin dialog box.
	[Trigger Indicator]	The color of the Indicator of the category when the Alert is triggered. Indicators are defined on the Defaults tab of the Admin dialog box.
	[As of Date]	The date as of which the [Trigger Indicator] is valid.
Multiple Category Conditions Met - No unique keywords		
Phase Modified (also valid for the specific Phase of an Item/Portfolio)		
	[Phase Name]	The name of the Phase that is modified.
	[Phase Modifications]	The value of any of the following nine Phase fields which have been modified: Status % Complete Health Planned Start Planned End Forecast Start Forecast End Actual Start Actual End Values both prior and subsequent to the triggering of the Phase Modified alert will be displayed.
Deliverable Modified (also valid for the specific Deliverable of an Item/Portfolio)		
	[Deliverable Name]	The name of the Deliverable that is modified.
	[Phase Name]	The name of the current Phase (to which the Deliverable belongs).
	[Deliverable Modifications]	The Deliverable's creation, removal, or the value of any of the following eight Deliverable fields which have been modified: Name Completed Mandatory Owner Approver Due date Link Description

		Values both prior and subsequent to the triggering of the Deliverable Modified Alert will be displayed.
Action Item Modified (also valid for the specific Action Item of an Item/Portfolio)		
	[Action Item Name]	The name of the Action Item that is modified.
	[Action Item Modifications]	The Action Item's creation, removal or the value of any of the following eight Action Item fields which have been modified: Name Completed Owner Approver Start Date Due date Link Description Values both prior and subsequent to the triggering of the Action Item Modified Alert will be displayed.

Hierarchies Overview

In PPM, all components are stored in hierarchies. This enables you to quickly find objects, understand what content is available, and determine when tasks need to be performed.

Hierarchies also make it easier to apply and manage system security. The hierarchical storage of objects allows administrators to assign permissions to several high-level objects, and then selectively propagate these permissions down to other objects in the hierarchy. This saves time and provides a systematized, logical approach to dealing with security issues in a complex enterprise environment.

The following kinds of objects are organized into hierarchies:

- Items and Portfolios (This is a single hierarchy. Items are organized by portfolio.)
- Color Templates
- Maps
- Scorecards
- Forms
- Dashboards
- Versions
- Graphs
- Tabs
- Tables
- Categories
- Value lists
- Life cycles
- Phases
- Filters
- Users (This is a flat hierarchy. It is not possible to organize users in folders.)
- User groups
- Processes
- Workflows
- Alerts
- Modules

You form hierarchies by grouping objects in containers. Portfolios serve as containers for items and other portfolios. For all other objects besides users, folders are used as the containers. Folders can usually contain other folders.

Each object type has its own hierarchy. For example, it is not possible to have scorecards in a Maps hierarchy. Each hierarchy has its own root. For example, the Scorecards hierarchy has the Scorecards root. Some hierarchies can be viewed in different modules. For example, you can view the Scorecard hierarchy in the Scorecard module or the Setup module.

Objects and folders may appear in multiple containers. This allows information to be shared in different contexts. For example, the *Application Operational Review* scorecard appears under both *App Review* and *App Support*.

Each object has just one **Home Folder**. All other instances of that object are referenced objects. A red dot next to an object's icon indicates that the currently selected folder is the object's home folder. For example, the *Budgets* folder is the home folder for the *Budget, Budget Impact, Total Budget Impact*, and *What-if Budget* scorecards. The Financial Analysis scorecard is a referenced object from another folder, so a red dot is shown next to its name.

> **Note**: Objects located in their home folder only display the home folder icon in the setup module, and not in the other modules.

In each hierarchy, objects must have a unique name. However, names can be repeated in different hierarchies. For example, there may be a folder called *Risk* in the scorecard, map, form, and category hierarchies, but only one Risk folder can appear in each one of the hierarchies.

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Displaying a Hierarchy

You can display a hierarchy. The hierarchy you see in the Setup module is the same as the one you see in the various other modules. Due to security permissions, you can only see as much of any hierarchy as your security privileges allow. This means that you may not see the same hierarchy items as other users.

To display a hierarchy:

1) In the the **Menu Bar**, select **Setup**.
2) From the **Setup** list, select the hierarchy that you want to view.

   In the Setup module, the navigation pane displays the folders in the navigation tree of the selected hierarchy. The list area lists the objects and folders in the folder selected in the navigation tree.
3) Select a folder in the navigation pane to view its contents in the list area.

Building a Hierarchy

To build a hierarchy, you need permission to create an object at the location (root directory, portfolio, or folder) where you want to create it. (Refer to ***Defining Security Permissions using Permission Sets*** (on page 451) in Security for more information.)

You can create new items, portfolios, folders, and objects in a hierarchy. It is recommended that you provide meaningful names to all new objects. This enables easier navigation and retrieval.

Objects (for example categories) can be created in three ways:

- In the Setup module
- In module-specific menus
- From within other wizards

When creating an object in the Setup module, the active folder shown on the left side is the object's home folder. When a user creates an object through menus or from within a wizard, the object's home folder is assigned automatically.

By default, a folder named after his or her login name is automatically created in the system for each user (the folder is created the first time it is used). This folder serves as the default home folder for objects of this type that the user will create.

For example, the first time the user Alexander Smith, whose login name is `AlexanderS' creates a form from within the *New* menu in the Form module, a folder called `AlexanderS' is created within the `User Forms (for system use)' system folder. The folder AlexanderS becomes the default home folder for Forms that Alexander Smith creates.

> **Note**: This folder is not created automatically when objects are created in the setup module.

This default home folder can be changed in the *In Folders*' step of the object's wizard. For more information on the home folder and how to change it, refer to ***Viewing Folder Information*** (on page 214)

Creating Folders

All objects are organized in folders. Folders are collections of related objects or folders. Each object type has its own folder hierarchy. For example, it is not possible to have Scorecards in a Maps hierarchy. Each folder hierarchy has its own "root." The following are the object types that are organized in folder hierarchies: Maps, Scorecards, Forms, Dashboards, Graphs, Tabs, Categories, Tables, Life Cycles, Value lists, Alerts and Phases.

Objects and folders may appear in multiple folders. However, each object has a single home folder. All other instances of that object are referenced objects. A red dot next to an object's icon indicates that the active folder is the object's home folder.

You can create folders in other folders.

To create a folder:

1) In any module, select **Setup** and then select a hierarchy.
   The **Setup** dialog box appears.

2) In the navigation pane, select the folder to which you want to add the new folder.
3) In the **New** list, select **Folder**.
   The **New Folder** dialog box appears.
4) In the **Name** field, enter a name for the new folder.
5) Select **OK**.
   The new folder is created in the active folder.

Editing Folders

You can change the name, description, or owner of a folder.

To edit a folder:

1) In the **Setup** module, in the List area, select a folder.
2) On the toolbar, select **Edit**.
   The Folder wizard appears.
3) In the **Name** field, enter the new name of the folder.
4) In the **Description** field, enter the new description of the folder.
5) Click the arrow in the **Owner** field to open the drop-down list to view and select the owner of the folder.
6) Click **Next** to view the folders that contain the selected folder.

Viewing Folder Information

You can view the other folders, if any exist, which contain a selected folder. You can also change the Home Folder of a selected folder.

1) From the *General* step, click **Next**. The *In Folders* step appears.
2) The *In Folders* step displays the following information:
   - Every folder has a single home folder. The *Home Folder* field displays the name of the home folder of the new folder. By default, a folder inherits its security settings from its home folder.
   - If the folder has been added to other folders, those folder names are displayed in the *Others* table.
3) To change the default home folder, click **Browse** and select the desired folder.
4) Alternatively, if the desired home folder name already appears in the *Others* table, you can simply select it and click **Define as Home Folder**. The selected folder becomes the value list's home folder. The previously-defined folder is listed in the *Others* table.
5) Click **Next** to define the folder's security permissions.

Defining Security Permissions

In the *Security* step, you can add, remove, or edit security permissions. For information on working with security permissions, refer to ***Security*** (on page 443).

1) From the *In Folders* step, click **Next**. The *Security* step appears.

By default, new objects inherit their security permissions from their home folder. Therefore, the *Inheriting settings* checkbox at the top of the *Security* step automatically displays a check and the name of the home folder.

2) Click **Finish**. The new folder is added to the Hierarchy in the Setup module.

Creating Objects

You can create objects in the hierarchies. In the Items and Portfolios hierarchy, you can create Portfolios in other Portfolios, but:

- Items can only be in a Portfolio of Items.
- Portfolios can only be in a Portfolio of Portfolios.
- Portfolios of Items and Portfolios of Portfolios may be in the same Portfolio of Portfolios.
- Items and Portfolios cannot be in the same Portfolio.

To create objects:

1) From the *Setup* drop-down list, select the hierarchy in which you want to create the object.
2) Select the folder in which you want to put the new object.
3) From the *New* drop-down list on the toolbar, select the object you want to create.

   The *General* window of the *New Object Wizard* appears. For each object, the window will be different.

Working with Multiple Setup Windows

You can create similar hierarchies for scorecards, maps, and forms. This enables you to locate various views by the task you need to perform. You can use the same folder names in different hierarchies, but you will have to create the hierarchies separately. By opening a second window, you can work on two different object types in parallel.

To work with multiple setup windows:

1) On the Setup dialog box, from the Setup menu, choose **New window**. A second Setup window opens.
2) From the *Setup* drop-down list in each window, select the hierarchies you want to create.
3) Working in the two windows, build your hierarchies in parallel by creating folders and objects.

> **Note**: Do not open the same hierarchy in multiple windows.

Moving Objects

You can move objects/folders from one folder to another. When you move an object out of its home folder, the folder you move it into becomes its new home folder. If you move a folder, you move the folder with its contents.

To move an object, you must have Edit permission on the source and target. If the object is in its home folder, you must have Admin permission on the object.

To move objects:

1) From the *Setup* drop-down list, select the hierarchy from which you want to move the objects.
2) Select the object you want to move.
3) From the toolbar, click **Move to**. The *Move To* dialog box appears.
4) Select the folder into which you want to move the object.
5) Click **OK**.

Adding Primavera Portfolio Management Elements

You can add elements to the hierarchy. When you add an object to an additional folder within a hierarchy, in affect you are making a reference to the object. When you add a portfolio to another portfolio, both portfolio subtrees are available when navigating in an object.

To add elements, you need *Edit* permission on the target.

Adding an object does not change the object's home folder. If you add a folder, you add the folder and all its contents.

To add objects and portfolios:

1) From the **Setup** drop-down list, select the hierarchy from which you want to add the object/portfolio.
2) Select the object/portfolio you want to add.
3) From the toolbar, click **Add to**. The *Add To* dialog box appears.
4) To create a new folder, select the location in the hierarchy in which to place the new folder and click **New**. The *New Folder* dialog box is displayed. Enter the name of the new folder and click **OK**. The new folder is added in the hierarchy.
5) Select the folder to which you want to add the object/portfolio.
6) Click **OK**. The objects are added to the selected folder. The added objects are referenced objects.

Removing Objects and Folders

To remove a referenced object, you need the *Edit* permission for the folder. The result of this operation is that the object is removed from the folder.

To remove an object that is in its home folder (symbolized by the red dot next to the object), you must have permission to remove it (refer to ***Setting Module Security*** (on page 459) in Security for more information).

> **Caution:** The result of this operation is to remove all occurrences of the object from the system.

If you remove a scorecard from its home folder, it is totally removed from the system. If you remove a scorecard from a folder in which it is only referenced, the reference is removed from that folder. It is not from the system, and it may still be referenced in other folders.

When you remove a folder, you remove the folder and all of its content. If the folder you are removing contains an object in its home folder, then you will remove all occurrences of that object from all folders in the system. All other objects will be removed from this folder only.

If you try to remove a folder containing items for which you do not have permission to remove, you will only be able to remove those items for which you do have permission. The folder itself is not removed. After the removal is complete, some objects will be removed. You can open the folder and check the remaining objects to see why you were unable to remove them.

If you try to remove a folder that contains items that are hidden from you, you will not be able to remove the folder or any items in the folder. You can try removing its sub-folders one by one.

Users cannot be removed, but they can be disabled. Refer to ***Disabling a User*** (on page 160). Value lists, life cycles, and phases can be removed unless they are in used by another object. If they are in use, then they cannot be removed, but you can disable them. Refer to ***Disabling an Object*** (on page 218).

> **Note**: If you select the Users hierarchy, the Remove button on the toolbar is replaced with a Disable button.

To remove objects and folders:

> **Caution:** There is no undo for the Remove command!

1) From the *Setup* drop-down list, select the hierarchy from which you want to remove the object/portfolio.
2) Select the object or folder you want to remove.
3) From the toolbar, click **Remove**.

Editing Items or Objects

To edit an item or object:

1) From the *Setup* drop-down list, select the hierarchy that contains the item or object you want to edit.
2) Select the item or object you want to edit.
3) From the toolbar, click **Edit**. The item or object's wizard is displayed.
4) Edit the information in the wizard.
5) Click **Finish**.

Duplicating an Object

Duplicating an object enables you to quickly and easily create new objects with information already intact.

To duplicate an object:

1) From the **Setup** drop-down list, select the hierarchy that contains the object you want to duplicate.

2) In the list area, select the object you want to duplicate. You cannot select multiple objects to duplicate.

> **Note**: To duplicate an object, you must select it in the list area.

3) From the toolbar, click **Duplicate**.
   - If you have Create permission on the folder in which the object is located, the new object will be placed in the same folder as the selected object, and the folder is the new object's home folder.
   - If you do not have Create permission on the folder in which the object is located, the object will be created under the user's default home folder
4) The *General* step of the *New Object Wizard* is displayed. For each object, the step will be different.

Disabling an Object

You cannot remove a value list, life cycle, or phase that is in use by another object. However, you can disable them. You can then hide all disabled information. You can also disable an alert, which will prevent from the alert's email to be dispatched.

To disable an object:

1) From the *Setup* drop-down list, select the hierarchy that contains the object you want to disable.
2) In the selected hierarchy, select the object you want to disable.
3) On the menu bar, there is a menu with the name of the hierarchy. For example, if you are in the Phases hierarchy, then there will be a Phase menu. From this menu, click **Disable**.
4) To view disabled objects, from the View menu, click **Show Disabled**. All disabled items are grayed out.
5) To hide disabled objects, from the View menu, click **Hide Disabled**.

Enabling an Object

To enable an object:

1) From the *Setup* drop-down list, select the hierarchy that contains the object you want to enable.
2) In the selected hierarchy, select the object you want to enable.
3) On the menu bar, there is a menu with the name of the hierarchy. For example, if you are in the Phases hierarchy, then there will be a Phase menu. From this menu, click **Enable**.

Changing an Object's Home Folder

There are several ways to changes an object's home folder:

- You can move the object from its home folder (refer to ***Moving Objects*** (on page 215).

- In the Forms or Dashboards modules, you can change the home folder of an item or portfolio (refer to ***Forms Module Overview*** (on page 294) and ***Dashboards Module Overview*** (on page 317)).
- In the In Folder tab in the object's wizard (refer to the objects' wizards in this guide).

To change an object's home folder, select an object that is not in its home folder. Then you can assign the active folder as the selected object's home folder.

To change an object's home folder:

1) From the *Setup* drop-down list, select the hierarchy that contains the object whose home folder you want to change.
2) In the list area, select the object whose home folder you want to change. To select multiple continuous objects, press the Shift key as you select the objects. To select multiple noncontinuous objects, press the Ctrl key as you select the objects.
3) On the menu bar, there is a menu with the name of the hierarchy. For example, if you are in the Scorecards hierarchy, then there will be a Scorecard menu. From this menu, click **Make current folder my home**. The active folder is the home folder for the selected objects.

Locating an Object's Home Folder

You can find and display an object's home folder.

To find and display an object's home folder:

1) From the *Setup* drop-down list, select the hierarchy that contains the object whose home folder you want to locate.
2) In the list area, select the object whose home folder you want to locate.
3) On the menu bar, there is a menu with the name of the hierarchy. For example, if you are in the Scorecards hierarchy, then there will be a Scorecard menu. From this menu, click **Open Home Folder**. The selected object is displayed in its home folder.

Searching for an Object or Folder

You can search for an object or folder.

To search for an object or folder:

1) Select the hierarchy in which you want to search.
2) In the navigation pane, click the **Search** tab.
3) In the search field, type the string for which you want to search (not case sensitive). The search field allows you to use two types of wildcards in the search string, a question mark (?) and an asterisk character (*). You can use a question mark (?) to substitute for any single character, and you can use an asterisk (*) to substitute for any number of characters.
4) Click **Search**. The results of the search are displayed in the list area. The results lists all objects or folders that begin with the requested string first, followed by any object or folder that contains the string. By default the number of retrieved objects is limited to 1000, so you may need to refine your search.

Note: When searching Categories, the search looks for the specified

string in both the Name field and the Identifier field. However, the search does not find categories by their identifier in windows that do not display the identifier, i.e., Categories tree.

5) To locate the home folder of one of the objects in the list area, select the object, and from the toolbar, click . The object's home folder is highlighted in the navigation pane.

Viewing Usage Reports

Usage reports describe the context or details surrounding an object's use throughout the system. For certain components made up of other objects, usage reports describe the objects within a component.

Viewing the Category Usage Report

You can view the category usage report, showing how a specific category is constructed and utilized across the system (scorecards, maps, tabs, graphs, criteria for query based portfolios, and functions).

Select a folder of categories to generate a Category Usage Report for multiple categories.

To view the category usage report:

1) From the *Setup* drop-down list, select **Categories**.
2) In the list area, select a category, several categories or a folder.
3) From the **Category** menu, choose **Usage Report**. The Category Usage Report for the selected category or folder of categories appears.
4) (Optional) Click the hyperlink in the **Name** column to open an object's wizard for editing.

Viewing the Table Usage Report

View a table usage report to show how a specific table is utilized across the system.

To view the table usage report:

1) From the *Setup* drop-down list, select **Tables**.
2) In the list area, select a single table.
3) From the **Table** menu, click **Usage Report**. The Table Usage Report appears.
4) (Optional) Click the hyperlink in the **Name** column to open an object's wizard for editing.

Viewing the Version Usage Report

View the version usage report to show how a specific version is utilized across the system (in scorecards, maps, tabs, graphs, etc.).

To view the version usage report:

1) From the *Setup* drop-down list, select **Versions**.
2) In the list area, select a version.

3) From the **Version** menu, choose **Usage Report**. The Version Usage Report appears.
4) (Optional) Click the hyperlink in the **Name** column to open an object's wizard for editing.

Solution Modules

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Investor Module Overview

The **Investor** module is the strategic center of PPM. It enables managers to see how investments or portfolios perform with respect to key performance categories.

It does this with investor maps. Each map represents a portfolio of investments or a portfolio of portfolios.

In investor maps, items appear as bubbles, and portfolios appear as either bubbles or folder icons. In each map, up to four dimensions can be used to convey information: X-axis, Y-axis, size, and color. A wizard enables managers to create these maps using any predefined key performance categories.

Investor maps enable managers to visualize and analyze entire portfolios or key aspects of each portfolio.

Managers can also create hypothetical scenarios from existing portfolios in order to perform *What if* analyses. They can add new investments, close existing investments, and evaluate candidate investments as they pick the optimal mix of investments in portfolios according to strategic goals.

Goals

For any given item, success is largely measured by the accomplishment of predetermined goals. In order to determine whether item goals are being met, and whether resources are allocated in accordance with organizational goals, these goals must be carefully defined, specifically, when configuring the axis parameters and display options for the Investor Map.

Once you view the balance of a portfolio, you can determine whether it is indeed aligned with business goals. You can achieve a solution to any imbalance by adding candidate items or closing items in the *What-if* scenario mode.

What-If Scenario Mode

In the **Investor Map**, you can compare your goals for any resource, such as budget allocation, with the actual situation, and create *What-if* scenarios to align your items with your goals. This is called working in the *What-if* mode. Goals may include, for example, dedicating a particular percentage of the budget to a certain region and to items of a given risk factor. You compare portfolios by creating What-if portfolio scenarios, in which you add or close items in order to evaluate the ramifications.

The *What-if* mode of the **Investor Map** provides a powerful portfolio-planning tool that helps to set strategic goals and to visualize how your selection of new and closed items can help you meet those goals.

From the **Investor Map** you can access different modules and components, such as workbooks or dashboards, which include graphs and detailed information for each item.

About the Investor Module

The Investor module provides managers with essential information, analysis options, and strategic overviews of investments. Managers can use the Investor Map module to see how investments or portfolios are performing with respect to key performance categories.

The Investor Map presents this strategic overview in the form of a chart, or strategic map. Each Investor Map represents a portfolio of investments or a portfolio of portfolios. Investments appear as bubbles, while portfolios appear as either folder icons or bubbles. There are up to four dimensions that can be used in each map: X-axis, Y-axis, size and color. A flexible wizard enables managers to create these maps using any predefined key performance categories.

The Investor Map provides managers with the ability to visualize and analyze either the entire portfolio or only its key aspects. Managers can also create hypothetical scenarios in order to perform *What if* analyses. They can add new investments, close existing investments, and evaluate candidate investments as they pick the optimal mix of investments in portfolios according to strategic goals.

Accessing the Investor Module

To access the Investor Map module:

- If you have selected the **Investor Map** as your default entry module, it will be the first module you see upon logging on.
- If you have selected another module as your entry module, click the **Investor** tab. The **Investor Map** module appears.
- To view an accessible version of the information in the investor map, select **Accessibility View** from the **Map** menu.

Tour of Your Investor Map

The **Investor Map** includes a variety of features that enable you to gain instant and easy access to all the strategic information regarding the business activities of your company.

The **Investor Map** module includes the following components:

- **Title area:** Enables you to select an investor map, a portfolio, and the version **(Data as of)**.
- **Menu Bar:** Provides menu options that enable you to create or modify investor maps, portfolio scenarios, or candidate items and to update user information and access Help.
- **Toolbar:** Displays tool buttons for printing, viewing an accessible table of the information, sending the page by e-mail, and viewing knowledge information.
- **Investor Map:** The map header provides total size information. Each column displays the summary size information for all the items in that column (`Strategic Bucket'). The X and Y axes of the map represent the categories according to which the items in the map's portfolio are divided into strategic buckets.
- **Title Bars:** Provides information about the total size value of the shown portfolio, and the sum and balance for each strategic bucket. These enable assessment of whether organizational objectives are being met. The title bar may also contain information regarding the goals defined for the current portfolio.
- **Strategic Buckets:** Each column of the map is called a strategic bucket. Item bubbles are grouped into these buckets depending on their related category values.
- **Item Bubbles:** Represent individual items, each as a separate bubble within the map. The location of the bubble on the map provides an analysis of the item according to the definition indicated on the X and Y axes. The size and color of the bubble provide additional analysis as indicated in the map legend.

  Note: Clicking an item bubble in an Investor map opens the drill-down menu for that item bubble. For more information on the drill-down menu, refer to ***Accessing the Item Menu*** (on page 237).

- **Map Legend:** Displays size and color categories at the bottom of the module, below the map, as follows:
  - **Size by:** Displays the name of the category that is used to determine the size of a bubble.
  - **Color by:** Displays the name of the category that is used to determine the color of a bubble.
- **Map Tools Area:** Provides convenient access to a set of panels with tools for customizing the investor map. Toggle the display of the map tools by clicking the **MAP TOOLS ^** button. Expand any of the following collapsible tool panels by clicking their title bar:
  - **Scenarios Area:** Use this area to apply a scenario, clear the current scenario, create a new scenario, create a portfolio from an existing scenario, or edit an existing scenario.
  - **Information Area:** Provides details about selected items, including the item name, the portfolio to which the item belongs, and values for the categories displayed in the map. You can also quickly and easily locate items using the Find Item tool. For more information about the Find Item tool, refer to ***Finding Specific Items*** (on page 236).
  - **Filters Area:** Enables you to control the data displayed in the investor map. Filter by indicator colors, status, and size.
  - **Views Area:** Provides options for viewing the map including item or portfolio mode, bubble names and sizes, sum/balance, and gap indication.

Alignment

An optimal portfolio must balance investment by function, business unit, geographic region, strategy, and so on. It must also balance risk, return, timing, expenses, capital, and human resources. The **Investor Map** provides you with tools that enable you to perform critical analysis and facilitate decision-making in order to achieve this optimal balance.

Investor maps are flexible and customizable. The items or portfolios included in the selected portfolio are distributed and sized within the map in *strategic buckets*. Each bucket is a column on the map and represents a defined parameter, such as an allocated resource. These parameters, which you can manipulate and modify as required, reflect your strategic goals as defined by pre-selected categories. In addition, you can filter items by size, color, or status in order to facilitate your analysis of business operations.

Displaying an Investor Map

To display an Investor Map:

1) Click the **Investor** module tab at the top of the screen.
2) In the **Map** field, from the pop-up window, select a map.

> **Note:** The **Select a Map** pop-up shows the last five maps you viewed at the top (your favorites).

3) In the **Portfolio** field, from the pop-up window, select a portfolio.

> **Note:** The **Select a Portfolio** pop-up window also features a favorites list. For further details about the **Select a Portfolio** pop-up window, refer to refer to ***Selecting Portfolios*** (on page 44) in Configuring the *System Components.*

4) In the **Data as of** field, from the **Select a Version** pop-up window, select a version to apply to the data in the investor map.

> **Note:** Whenever a version is applied to any component in the application, the data's background changes to a standard neutral peach color.

Customizing the Investor Map

You can customize your investor map with the **Map Tools** set of panels described in the following sections. All the tools presented are optional.

Map Tools: Scenarios Panel

1) In the Investor Map module, click **Map Tools** to show the set of panels.
2) Click the **Scenarios** bar to expand the Scenarios panel.

3) In the **Name** field, from the drop-down list, select an existing scenario, < No Scenario >, or < New Scenario >.

> **Note:** The total number of defined portfolio scenarios appears at the bottom of the drop-down list.

If you select a scenario, the What-If mode appears.

4) Select any of the following:
   - Click **Edit...** to modify the current scenario.
   - Click **Create a new Portfolio** to create a portfolio from an existing scenario.

> - **Notes**:
> - Super portfolios cannot be created using **Create a new portfolio** button.
> - The new portfolio inherits the default home portfolio and security settings of the selected portfolio or super portfolio.

Map Tools: Information Panel

1) In the *Investor Map* module, click **Map Tools** to show the set of panels.
2) Click the **Info** bar to expand the *Information* panel.
3) If you have previously selected an item in another module, then the Information panel will display the item's axes category data. You can change the selection from the drop-down list.

> **Note:** The total number of items shown on the map appears at the bottom of the drop-down list.

Map Tools: Filters Panel

1) In the Investor Map module, click Map Tools to show the set of panels.
2) Click the **Filters** bar to expand the Filters panel.
3) In the **Color** section, check the indicator colors you want to include in the map.
4) In the **Status** section, there are two sets of check boxes: **Map** and **Summary**. Check the **Map** boxes for the status values you want to show on the map. Check the **Summary** boxes for the status values you want to include in the summary calculations for map. Statuses include *Open*, *Closed*, or *Candidates*.

Notes:

- When the Investor map is in *Scenario* mode, two additional status filters are available: **Added** and **Removed**.
- By default, only *Open* items are included in the summary calculations used for the investor map. When you apply a scenario, the open and added item statuses are included in the summary calculations by default.

5) In the **Size** section, check **Min, Max**, or both boxes to filter the map based on size specified by a minimum value, maximum value, or range of values for the number of items in the portfolio. The numbers shown in parentheses to the right of the **Min** and **Max** fields indicate the actual range of items shown in the map.

Map Tools: Views Panel

1) In the Investor Map module, click Map Tools to show the set of panels.
2) Click the **Views** bar to expand the Views panel.
3) Select either item or portfolio mode. Item mode shows all items included in the entire hierarchy of the selected portfolio. Portfolio mode shows only the first level portfolios included in the selected portfolio. When a portfolio of items is selected, the Portfolio mode is disabled.
4) Check **Show bubble names** to show a label for each bubble in the map. Check **Ignore bubble size** to display each item or portfolio in the same size instead of sizes based on data of the size axis category.
5) Select **Show Sum** or **Show Balance** to switch between viewing the strategic bucket information in terms of the sum or balance.
   - **Sum:** Sum is the total value of the bucket's size axes.

     When goals are entered for the portfolio or scenario, the Title Bars also shows the actual values next to the bucket goals, with the percentage of deviation in parentheses. The background colors of the title bars change to indicate the deviation between the actual values and the goals. For example, a deviation of -4.9% may be shown in green, while a deviation greater than 100% may be shown in red.
   - **Balance:** Balance is the percent of a bucket's summary in relation to the entire portfolio summary.

     When goals are entered for the portfolio or scenario, the title bars also shows the percent of the actual values next to the percent of the bucket goals. The background colors vary to indicate deviation, as for sums.

     Note: To view a tool tip for an individual bucket, mouse over the bucket's Title Bar. The tool tip displays the bucket's sum and balance, and a summary of item status filters..

6) If the **Show Gap Indication** check box is not checked, the indicator background colors are shown only in the Title Bars. Check the box to show indicator backgrounds on entire buckets.

Setting Goals

The *Investor Map* shows whether items and portfolios are balanced and aligned with organizational goals. You can enter goals in terms of the total resources allocated, such as budget, for each strategic bucket. You can then view how close the actual values are from achieving these goals. Values entered for goals are used for reference only. You can specify goals for portfolios or scenarios.

Setting Portfolio Goals

Portfolio goals are entered in the *Goals* dialog box.

You can choose one of the following goal setting options:

- Define goals for all the available options: a total portfolio goal, a bucket's Sum goals, and a bucket's balance goals.
- Define goals only for the bucket's balance. In this case, the portfolio will not have a total goal and the bucket will not have Sum goals.
- Define only a total goal for the portfolio. In this case, buckets will not have goals.

Portfolio goals can be set for maps in which the x-axis category uses a value list or numeric or date values, as described in the following sub-sections:

- ***Value List Variable for X-Axis*** (on page 229) describes how to set goals for an Investor map in which the x-axis category uses a value list.
- ***Numeric or Date X-Axis*** (on page 230) describes how to set goals for an Investor map in which the x-axis category uses numeric or date values.

Value List Variable for X-Axis

This section describes how to set goals for an Investor map in which the x-axis category uses a values list.

1) Click **Portfolio** in the menu bar and choose **Goals**.

   Or

   Double-click the **Sum/Balance** title bar of the Investor map.

   The Goals dialog box appears.

Option 1: Define Goals for a Total Portfolio Goal with Bucket's Sum and Balance Goals

Goals are set according to the Investor Map's Size axis category. The name of this category and the name of the portfolio are shown at the top of the dialog box. The name of the category is also shown as the title of the right column of the table. Each strategic bucket is shown as a row in the table. The name of the X axis category is shown above the `Value' column.

1) In the **Portfolio Goals** field, enter the total amount allocated for the entire portfolio. For example, enter the `Total Planned Cost' for the portfolio. The fields described in the following steps are enabled.

> **Note:** In order to complete the following steps, the value must be entered into the Portfolio Goals field.

2) Goals can be entered as either percentages or actual values. The corresponding cell is automatically updated. Click the **% from portfolio** cell for a selected strategic bucket to enter the percentage of the resources to be allocated to that bucket. For further information about strategic buckets, refer to ***Alignment*** (on page 226). The corresponding cell in the resource column on the right is updated.
3) Click the relevant row in the resource column on the right and enter the actual amount of the resource to be allocated to the selected strategic bucket. For example, enter costs. The corresponding % from portfolio cell is updated.
4) Repeat steps 3 or 4 for each strategic bucket that requires goal information.
5) Click **OK**. The goal information is updated. The portfolio's total goal is displayed in the upper title bar of the Investor map. Each bucket's goal is displayed in its title bar.

Option 2: Define the Bucket's Balance

Proceed as follows to define the bucket's balance:

1) Do not fill in the portfolio total. Click the **% from portfolio** area for a selected strategic bucket to enter the percentage of the resources to be allocated to that bucket. For further information about strategic buckets, refer to ***Alignment*** (on page 226). The relevant row in the resource column on the right is updated.
2) Click **OK**. The goal information is updated. Buckets goals are displayed in the Title bar only in Balance view mode.

Option 3: Define Only a Total Goal for the Portfolio

Proceed as follows to define only a total goal for the portfolio:

1) In the **Portfolio Goals** field, enter the total resource amount allocated for the entire portfolio. For example, enter the budget for the portfolio.
2) Click **OK**. The goal information is updated. The portfolio's total goal appears at the title bar of the Investor map. Buckets goals are not displayed.

> **Notes**:
>
> - The sum of entries in the resource column does not need to match the amount entered into the Portfolio Goals field in Step 2.
> - The sum of entries in the % from portfolio area does not need to equal 100%.

Numeric or Date X-Axis

When the category that is being used for the X-axis of the Investor map uses numeric or date values, the number of strategic buckets in the Investor map is not necessarily determined by the category definitions, but rather it can be defined separately for each map/portfolio combination. This is reflected in the map, but in no way affects the portfolio. This can be accomplished in one of two ways:

- Directly in the Investor map.

- In the Goals dialog box.

Setting Goals Directly in the Investor Map

Proceed as follows to set goals directly in the Investor Map:

1) Hover with your cursor over the x-axis of the map until a hand cursor appears. Click the right mouse button. A pop-up appears with the single option **Split Range**.
2) Click **Split Range**. A divider line appears in the map, where you clicked. You can also create this divider line by double-clicking the x-axis.
3) Hover with your cursor over the line so that it becomes a double-headed arrow ↔. Click and drag the divider to the required location in the map.

Merging Two Strategic Buckets

Proceed as follows to merge two strategic buckets:

1) Hover your cursor over the divider so that a double-headed arrow ↔ appears.
2) Right click the line. A pop-up with the single option **Delete Range** appears.
3) Click **Delete Range**. The divider line is deleted, and the two buckets become a single bucket.

Setting Goals in the Goals dialog box

Proceed as follows to set goals directly in the Goals dialog box:

1) Click **Portfolio** in the menu bar and choose Goals. The **Goals** dialog box appears.

> **Note:** The Goals dialog box for a map with a numeric or date x-axis is different than the Goals dialog box for a values list x-axis.

2) Any number of strategic buckets can be defined, by using the **Add** and **Remove** buttons. The buckets are defined by range, entered in the `From' and `To' columns. To split a strategic bucket into two buckets, select the required strategic bucket below which you want the new bucket to be added. This means that the selected bucket will be split and an additional bucket will be added sequentially in the range.
3) Click **Add**. An additional bucket appears in the Goals dialog box.
4) Click the **From** cell of the new bucket, and enter the new lower limit for the range. The **To** area of the former bucket is automatically adjusted to reflect the new range.
5) To merge two strategic buckets, select one of the buckets to be merged, and click **Remove**. The bucket is removed from the Goals dialog box. You must then manually adjust the ranges of the remaining buckets.
6) In the **Portfolio Goals** field, enter the total amount of the resource allocated for the whole portfolio. For example, the budget for the portfolio.
7) Goals can be entered as either percentage or actual values. The corresponding cell is automatically updated. Click the **% from portfolio** cell for a selected strategic bucket to enter the percentage of the resources to be allocated to that bucket. The corresponding cell in the resource column on the right is updated.
8) Click the relevant row in the resource column (on the right) and enter the actual amount of the resource to be allocated to that bucket. For example, enter budget amounts. The corresponding cell in the **% from portfolio** column is updated.

9) Repeat steps 5 or 6 for each strategic bucket that requires goal information.
10) Click **OK**. The goal information is updated. The portfolio's total goal appears in the title bar of the Investor map. Each bucket's goal appears in its title Bar.

Notes:

- You can set goals for balance only or for the portfolio total only as described in ***Option 2: Define the Bucket's Balance*** (on page 230) or ***Option 3: Define Only a Total Goal for the Portfolio*** (on page 230).
- The sum of entries in the resource column does not need to match the amount entered into the Portfolio Goals field in Step 6.
- The sum of entries in the **% from portfolio** area does not need to equal 100%.
- When you enter values for the goals, the **Remove Goals** button is activated. Click **Remove Goals** to remove the goals values.

Setting Scenario Goals

You can enter goals for a specific scenario in the Scenario Goals dialog box. The values you enter override any goals entered for the portfolio.

To set scenario goals in the Scenario Goals dialog box:

1) In the Investor module, specify a scenario in the **Name** field of the **Map Tools: Scenarios** panel.
2) Click **Portfolio** in the menu bar and choose **Scenario Goals**.

   Or

   Double-click the **Sum/Balance Bar** of an investor map.

   The *Scenario Goals* dialog box appears.
3) Uncheck the **Use Portfolio Goals** box if you wish to enter values for the goals of the scenario that is currently displayed. Or, check the box to use the default portfolio goals.

Notes:

- When you enter values for the scenario goals, the **Remove Goals** button is enabled. Click **Remove Goals** to remove the goals values.
- At any stage you can check the **Use Portfolio Goals** box. The portfolio goals will replace whatever values were previously used in the scenario.

Scenario goals can be set for maps in which the x-axis category uses a value list, or in which the x-axis category uses numeric or date values. For instructions on how to set scenario goals for an Investor map in which the x-axis category uses a values list, refer to ***Value List Variable for X-Axis*** (on page 229). For instructions on how to *set scenario goals for* an Investor map in which the x-axis category uses numeric or date values, refer to ***Numeric or Date X-Axis*** (on page 230).

Gap Indications

To enhance your understanding of your Investor map, the application provides color-coded indicators that represent the extent to which buckets deviate from their defined goal. The background color of each bucket's *Title Bar* indicates the bucket's status. The color is set according to the following rules:

- **Green:** Indicates that a bucket's performance criteria are being met.
- **Yellow:** Indicates that a performance problem may be arising.
- **Red:** Indicates that a bucket's performance criteria are not being met.

> **Notes:**
>
> - The system automatically sets the green, yellow, and red gap indication according to the goals.
> - Gap indications remain visible when you export or take a snapshot of the Investor map.

Showing/Hiding Gap Indications in an Investor Map

To show/hide gap indications in an Investor map:

1) Check the **Show Gap Indication** check box in the **Views** panel. The entire bucket is colored according to the gap indication information displayed in the title bar.
2) Uncheck the box if you wish to remove the color from the buckets in the investor map. The title bar of the buckets remains colored according to the calculated indication

> **Note:** To change the gap indication displayed in the title bar, refer to ***Setting Portfolio Gap Indications*** (on page 233) and ***Setting Scenario Gap Indications*** (on page 234).

Setting Portfolio Gap Indications

Setting the gap indication affects the way the application displays the indicator colors. The color signifies the deviation of the bucket's actual value from the bucket's goal.

Using the default settings, all deviations up to 10% are marked as green. Deviations of 10% to 20% are marked as yellow. Deviations above 20% are marked as red.

For some specific maps you may choose to change the system's defaults. At any stage those defaults may be restored by checking the **Use Default Indication** checkbox.

> **Note:** PPM uses two different indication settings for **Sum** and **Balance**. You may choose to edit each one of these settings separately.

To set portfolio gap indications:

1) Click **Portfolio** in the Menu Bar and select **Gap Indication**.
   The *Gap Indication* dialog box appears.
2) Click the **Sum** tab and enter integer values in the sum indication fields.
3) Click the **Balance** tab and enter integer values in the balance indication fields.

> **Notes:**
>
> - The **Remove Indication** button becomes active when you enter values into the indication fields. Click **Remove Indication** to return to the default values.
> - Check the **Use Default Indication** box to use default indication values.

4) Click **OK**. The buckets' Title Bar of the Investor map is colored according to the sum or balance indication values. For more information on viewing indications, refer to ***Gap Indications*** (on page 233).

Setting Scenario Gap Indications

You can set Scenario gap indications in the **Scenario Gap Indication** dialog box.

To set scenario gap indications:

1) Click **Portfolio** in the menu bar and choose **Scenario Gap Indication**. The **Scenario Gap Indication** dialog box appears.

> **Note:** The **Scenario Gap Indication** dialog box contains a **Use values of Portfolio** check box that is checked by default. This sets the scenario's indication values according to those set for the portfolio. Uncheck the box to set indication values that are specific to the current scenario of the investor map.

2) Click the **Sum** tab and enter integer values in the sum indication fields for the current Scenario of the Investor map.
3) Click the **Balance** tab and enter integer values in the balance indication fields for the current Scenario of the Investor map.

> **Notes:**
>
> - The **Remove Indication** button becomes enabled when you enter values into the indication fields. Click **Remove Indication** if you wish to clear these fields.
> - Check the **Use Default Indication** box to use default indication values.

4) Click **OK**. The title bars of each bucket in the investor map are colored according to the sum or balance scenario indication values. For more information on viewing indications, refer to ***Gap Indications*** (on page 233).

Working with Items

The *Investor Map* enables you to manipulate the items in a map so that you can more easily evaluate various scenarios for your company.

One way in which the *Investor Map* facilitates your overseeing the company's strategic goals is by creating Scenarios of your portfolio. You can add prospective items (candidates), or close existing items to see what effect these changes have on the allocated resource that you are viewing in the map. This is done without changing any real data in the system.

Additionally, you can view only certain items, according to item properties. For example, you can view only items in which performance criteria are being met, or only items within a certain size range, or only open items.

Various options are available for working with items, depending on the *Investor Map* mode in which you are working. This section describes how to work with items in Investor Map, What-If scenario, or Working with Documents mode.

Working with the Investor Map

The following sections describe how to work with items in the **Investor Map** module.

Viewing Items

Items can be displayed according to color and size to enable you to view exactly those aspects of business activities in which you are interested. In addition, items are viewed according to the categories you selected in the Map Wizard.

Filtering the Items View by Color

The range of items can be displayed according to color to highlight performance issues.

To filter the items view by color:

1) In the **Filters** area, check the box next to each color item you want to display in the investor map.

For example, if the item bubbles are colored by health, a strategic bucket might look like the following:

> **Note:** Gray bubbles indicate that no value has been entered for the color category. Dotted bubbles indicate that no value has been entered for the size category. When an item has no values in any of the four map categories, it is shown as a dotted gray bubble in the map's bottom left corner.

If you are interested in items with poor health, select to display only the red bubbles.

In the map, all the yellow and green bubbles are hidden. You can clearly see the items with performance problems.

> **Note:** The totals in the map and buckets title bars do not change. All hidden items are still part of the map.

Filtering the Items View by Size

The range of items displayed in the map can be easily customized.

To filter the items view by size:

1) In the Filters area, click the checkbox next to the **Min** or **Max** fields, and enter the minimum and maximum size range for the **Size-By** category of the items you want to view in the map.

> **Note**: The numbers to the right of the text boxes reflect the actual range of the items in the map, according to the selected Size category, whether or not these items are displayed.

For example, your Investor map by default displays all the items.

When you select a range of sizes, the items that are not within that range are hidden.

Filtering the Items View by Status

You can display the following item statuses in your Investor Map.

Open Items: Items defined as active and viable

Closed Items: Items which are no longer viable, and may require review.

Candidates: Items which are considered as possible additions to the active portfolio.

To filter the items view by status:

1) In the **Map Tools Filters** panel, in the **Status** section**,** there are two sets of check boxes: **Map** and **Summary**. Check the **Map** boxes of the statuses you want to show on the map. The map displays the open, closed, and candidate items by default.
2) Check the **Summary** boxes of the statuses you want to include in any map summary calculations.

For example, uncheck the Open and Closed summary check-boxes to summarize only the candidate items in the map.

Check both check-boxes of the Open status to show and summarize only the open items in the map.

Finding Specific Items

As the number of items in a portfolio increases, it becomes necessary to locate each item in a more efficient manner than manually searching through all of them. The **Selected Item** drop-down list in the **Map Tools Info** panel, enables you to quickly select the item you are looking for from a list of items shown in the map.

To find a specific item:

1) Click the **Selected Item** field drop-down arrow to view the list of items for the current portfolio.
2) Select an item from the list. The selected item is identified within the investor map, and its values for the four map categories are displayed in the information area.

Accessing the Item Menu

When you right-click on an item bubble, its item pop-up menu appears.

The item pop-up menu enables you to choose from the following options:

- **Forms:** Select **Forms** to access the most recently viewed or default form for the selected item.
- **Workbook**: Select **Workbook** to access the management workbook for the selected item. When you drill down to the Workbook, it contains a temporary scorecard based on the categories of the Investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboards**: Select **Dashboards** to access the dashboard for the selected item. When you drill down to Dashboards, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Entering Dashboard Information*** (on page 52)
- **Dependencies**: Select **Dependencies** to drill down to the Dependencies tab of Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

  Note: If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Select **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Configuring Alerts and Notifications.
- **Send to Manager**: Select **Send to Manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Select **Edit** to change details of the selected item in the Item wizard.

Temporary Scorecards

When you drill down from an item in the *Investor Map* module to the *Workbook*, PPM enables you to view a temporary scorecard of the selected item together with the *Workbook* module. This temporary scorecard is based on the categories used for the size, color, x, and y axes of the Investor Map. These categories are shown as a temporary scorecard row in the Workbook module.

You can update data directly in the temporary scorecard by double-clicking a cell and entering the necessary data. The new data will be displayed for the item when you return to the Investor map.

> **Note:** It is recommended to use the **Back** button to return to the *Investor Map*.

What-if Scenario Mode

The topics below describe the options for working with Scenarios in the What-If mode.

Filtering the Items View

When working on a Scenario, the following additional options are available for filtering the items view by status. For information on the filtering options that exist for the regular mode, refer to ***Working with the Investor Map*** (on page 235).

Added Items: Candidate items that were added into the portfolio's Scenario.

Removed Items: Candidate items that were removed from the portfolio's Scenario.

To filter the items view by status:

1) In the **Map Tools: Filters** panel, in the **Status** section**,** there are two sets of check boxes: **Map** and **Summary**. Check the **Map** boxes of the status types you want to show on the map. The map displays the Open, Closed, and Candidate items by default.

> **Note**: Check the Summary boxes for the status types you want to include in the summary calculations of the map.

2) Uncheck **Added** and **Removed** in the **Status** area to hide all those items in the map.

Accessing the Item Menu

When you click an item bubble in a scenario, a pop-up menu appears. The options in the menu vary according to the item type, as discussed in the topics below:

- Active Items
- Closed Items
- Candidate Items
- Added Items
- Removed Items

Active Items

When you right-click an active item, a pop-up menu appears. It enables you to choose from the following options:

- **Forms**: Choose **Forms** to access the most recently viewed or default form for the selected item.
- **Workbook**: Choose Workbook to access the management workbook for the selected item. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).

- **Dashboards**: Choose **Dashboards** to access the dashboard for the selected item. When you drill down to Dashboards, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).
- **Dependencies**: Choose **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

> **Note:** If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Choose **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Alerts and Notifications.
- **Send to manager**: Choose **Send to manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Choose **Edit** to change details of the selected item in the Item wizard. You can also open the Item wizard by double-clicking the Item bubble.
- **Remove/Add are shown while working on a scenario in the `What-if' mode.** Toggle between these two values to change the status of the selected item.

Closed Items

When you click a closed item, a pop-up menu appears. It enables you to choose from the following options:

- **Forms**: Select **Forms** to access the most recently viewed or default form for the selected item.
- **Workbook**: Select **Workbook** to access the management workbook for the selected item. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the Investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboards**: Select **Dashboards** to access the dashboard for the selected item. When you drill down to the dashboard, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).
- **Dependencies**: Select **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

> **Note:** If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Select **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Alerts and Notifications.
- **Send to manager**: Select **Send to manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Select **Edit** to change details of the selected item in the Item wizard. You can also open the Item wizard by double-clicking the Item bubble.

Candidate Items

When you click a candidate item, a pop-up menu appears. It enables you to choose from the following options:

- **Forms**: Choose **Forms** to access the most recently viewed or default form for the selected item.
- Workbook: Choose Workbook to access the management workbook for the selected item. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboards**: Choose **Dashboards** to access the dashboard for the selected item. When you drill down to Dashboards, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).
- **Dependencies**: Choose **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

> **Note:** If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Choose **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Alerts and Notifications.
- **Send to manager**: Choose **Send to manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Choose **Edit** to change details of the selected item in the Item wizard. You can also open the Item wizard by double-clicking the Item bubble.

Added Items

When you click an added item, a pop-up menu appears. It enables you to choose from the following options:

- **Forms**: Choose **Forms** to access the most recently viewed or default form for the selected item.

- **Workbook**: Choose **Workbook** to access the management workbook for the selected item. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboards**: Choose **Dashboards** to access the dashboard for the selected item. When you drill down to Dashboards, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).
- **Dependencies**: Choose **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

> **Note:** If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Choose **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Alerts and Notifications.
- **Send to manager**: Choose **Send to manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Choose **Edit** to change details of the selected item in the Item wizard. You can also open the Item wizard by double-clicking the Item bubble.
- **Remove/Add** are shown while working on a scenario in the `What-if' mode. Toggle between these two values to change the status of the selected item.

Removed Items

When you click a removed item, a pop-up menu appears. It enables you to choose from the following options:

- **Forms**: Choose **Forms** to access the most recently viewed or default form for the selected item.
- **Workbook**: Choose **Workbook** to access the management workbook for the selected item. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboards**: Choose **Dashboards** to access the dashboard for the selected item. When you drill down to Dashboards, an automatic dashboard is shown, unless a customized dashboard was defined. For more information on dashboards, refer to ***Dashboards Module Overview*** (on page 317).
- **Dependencies**: Choose **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

> **Note:** If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer

to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks).

- **New Alert**: Choose **New Alert** to access the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Alerts and Notifications.
- **Send to manager**: Choose **Send to manager** to email a URL of this map to the manager of the selected item.
- **Edit**: Choose **Edit** to change details of the selected item in the Item wizard. You can also open the Item wizard by double-clicking the Item bubble.
- Remove/Add are shown while working on a scenario in the `What-if' mode. Toggle between these two values to change the status of the selected item.

Working with Documents

In the Investor Map, you can upload documents related to the selected portfolio/item to the Primavera Portfolio Management Server in the Upload Document dialog box. You can also view documents, copy a document link, replace documents, remove documents, and view and edit document properties in the Documents dialog box. For more information about working with documents, refer to ***Working with Documents*** (on page 397).

Selecting and Viewing Portfolios

When you first access the *Investor Map*, the Items view mode is selected by default. If you choose to view a portfolio of items, its included items are displayed in as bubbles. If you choose to view a portfolio of portfolios in the Item mode, all items included in the entire hierarchy of the selected portfolio are displayed as bubbles. If you choose the `Portfolio mode', only the first level portfolios included in the selected portfolio are displayed. These portfolios will not be shown as bubbles, but as folder icons.

Accessing the Portfolios View Mode

To access the Portfolios view mode:

1) In the **Portfolio** field in the Title Area, click the drop-down list. The Portfolio pop-up list appears.
2) Select a portfolio of portfolios from the Portfolio pop-up list. The selected portfolio appears in the *Investor map*.
3) Select **Portfolio mode** from the Map Tools View panel. The portfolio view of the selected portfolio appears. Member portfolios are represented by folder icons.

Note: While in portfolio view mode you can view open and closed statuses.

Accessing the Portfolio Menu

To access the portfolio pop-up menu:

1) Click a portfolio folder.

The Portfolio pop-up menu appears.

Portfolio Menu

You can select the options available in the Portfolio menu. The portfolio pop-up menu enables you to choose from the following options:

- **Investor Map:** Select **Investor Map** to display the selected portfolio in this Investor map.
- **Scorecard:** Select **Scorecard** to display the most recently viewed or default scorecard with details of the items in the selected portfolio.
- **Forms:** Choose **Forms** to access the most recently viewed or default form for the selected portfolio.
- **Workbook:** Choose **Workbook** to access the management workbook for the selected portfolio. When you drill down to the workbook, it contains a temporary scorecard based on the categories of the investor map. For more information on temporary scorecards, refer to ***Temporary Scorecards*** (on page 237).
- **Dashboard:** Choose **Dashboard** to drill down to the dashboard for the selected portfolio.
- **Dependencies:** Select **Dependencies** to drill down to the Dependencies tab of the Workbook for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in *Working with Dependencies*.

  Note: If you drill down to dependencies and see an empty list, then the item has no dependencies. You can add a dependency to the list (refer to Defaults in ***Administration*** (on page 403)).

- **New Alert:** Select **New Alert** to access the *New Alert wizard*. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Configuring Alerts and Notifications.
- **Send to manager:** Select **Send to manager to email a URL of this map to the manager of the selected portfolio**.
- **Edit:** Select **Edit** to change details of the selected portfolio in the Portfolio wizard. You can also open the *Portfolio Wizard* by double-clicking the Portfolio folder or bubble.

Working with Scenarios

The **Investor Map** enables you to create and compare *What-if* scenarios of your portfolio. In these scenarios you can explore different possibilities. Items may be added and removed and the overall results evaluated and compared. You can also view, edit, duplicate, and remove scenarios. Since scenarios relate to a specific portfolio they can be viewed with different maps.

Accessing the Scenarios Dialog Box

You can access the **Scenarios** dialog box. The **Scenarios** dialog box displays a list of all the scenarios defined for the current portfolio. From the **Scenarios** dialog box you can create, edit, duplicate, or remove a scenarios.

To access the Scenarios dialog box:

1) Click **Portfolio** in the menu bar and choose **Scenarios**.

The **Scenarios** dialog box appears.

The Scenarios Dialog Box

The **Scenarios** dialog box provides the following options:

- **New:** Click the **New** button to access the **Scenario Properties** dialog box. To create a new scenario, refer to ***Creating a New Scenario*** (on page 244).
- **Edit:** Select a scenario from the list and click **Edit** to access the **Scenario Properties** dialog box. For more information on editing existing scenarios, refer to ***Editing a Scenario*** (on page 244).
- **Duplicate:** Select a scenario from the list and click **Duplicate** to create a new scenario that is based on the selected scenario. For more information on duplicating an existing scenario, refer to ***Duplicating a Scenario*** (on page 245).
- **Remove:** Select a scenario from the list and click **Remove** to remove the selected scenario from the database. For more information on removing a scenario, refer to ***Removing a Scenario*** (on page 245).

Creating a New Scenario

To create a new scenario:

1) Click **Portfolio** in the menu bar and choose **New Scenario**.

   You can also select <*New Scenario*> from the scenario list in the **Map Tools Scenario** panel.
2) The **General** tab of the **Scenario Properties** dialog box appears.
3) In the **Name** field, enter a unique name for the new scenario.
4) In the **Description** field, enter a brief description of the new scenario.
5) Click the **Scenario Content** tab to specify which items are to be included in or excluded from this scenario.

   To include an item in the scenario, select an item from the **OUT (Closed, Removed & Candidates)** list and click **Add >>**. The item is added to the scenario and appears in the **IN (Open, Added)** list.

   To exclude an item from this scenario, select an item from the **IN (Open, Added)** list and click **<< Remove**. The item is removed from this scenario and appears in the **OUT** column.

   > **Note:** When adding and removing items, the changes are saved and viewed immediately. Clicking the **Close** button does not discard changes made to the scenario.

6) Click **Close**. The new scenario is created. You can now customize this scenario and use it with investor maps to compare portfolios.

Editing a Scenario

To edit an existing scenario using the *Scenario Properties* dialog box:

1) Click **Portfolio** in the menu bar and choose **Scenario Properties**. Alternatively, click the **Edit** button in the **Map Tools: Scenarios** panel.

The **Scenario Properties** dialog box appears.

2) Make the required changes to the scenario by following steps 2-5 from ***Creating a New Scenario*** (on page 244).
3) Click **OK** on the **General** tab or **Close** from the **Scenario Content** tab.

The existing scenario has been updated to reflect all changes made.

Duplicating a Scenario

You may want to duplicate an existing scenario in order to make minor changes to it instead of creating an entirely new scenario.

To duplicate a scenario:

1) Click **Portfolio** in the menu bar and choose **Scenarios**. The *Scenarios List* appears.
2) In the **Scenario** list, select a scenario and click **Duplicate** The *Scenario Properties* dialog box appears.
3) Make the required changes to the duplicate scenario by following steps 2-5 from ***Creating a New Scenario*** (on page 244).

The duplicate scenario is now a separate scenario.

Removing a Scenario

This section describes how to remove a scenario.

To remove a version:

1) Click **Portfolio** in the menu bar and choose **Scenarios**. The *Scenarios List* appears.
2) In the **Scenarios List**, select a scenario and click **Remove**. A confirmation message box appears.
3) Click **OK**. The selected scenario is removed.

Working with Snapshots

The *Investor Map* enables you to save snapshots of Investor maps at any point in time. These images document the history of the Investor map. Snapshots also include tabular data for the items or portfolios that are displayed in the image. This data refers to the values of the four categories used as the map axes. All snapshots can be accessed and viewed quickly and conveniently via the Snapshot Viewer. Snapshots are private by default, and can be viewed only by the user who took them. Special security permission is required in order to define snapshots as *Public*, providing access to all users.

Taking Snapshots

To take a snapshot of an investor map:

1) Click **Snapshot** in the menu bar.
2) Click **Take Snapshot**. The *Take Snapshot* dialog box appears.

3) (Optional) Change the default name to your own unique name. The *Investor Map* suggests a default name for the snapshot consisting of the name of the map and the current date. This default name is shown in the **Name** field. If the map shows a Scenario, the name of the scenario is added after the name of the map.
4) (Optional) To take a snapshot of a different map, click **Cancel** in the *Take Snapshot* dialog box. In the *Investor Map* main window, select the map for which you would like to take a snapshot and repeat the above steps.
5) (Optional) To create a public snapshot, uncheck the **Private Snapshot** check box. Snapshots are private by default, and can be viewed only by the user who took them. Special security permission is required in order to define snapshots as `Public', providing access to all users. In order to be able to uncheck the **Private Snapshot** check box, you must have Read permission on the security module named `Create Public Snapshots'.
6) Click **OK**. A snapshot of your current Investor map is created and added to the Snapshots list.

Viewing Snapshots

Within the Snapshot Viewer, snapshots are presented in a tree structure and grouped in scenario folders under their respective portfolios.

To view a snapshot:

1) Click **Snapshot** in the Menu Bar. The *Snapshot* drop-down list appears.
2) Select **Snapshot Viewer** from the drop-down list. The *Snapshot Viewe*r window opens and a list of all snapshots are displayed in a tree organized by portfolio.

> **Note:** All snapshots that are public snapshots or have been created under your user name are available for viewing.

3) Navigate through the tree by clicking on the branch nodes to expand and collapse the tree branches.
4) Double-click the snapshot you want to view. The *Snapshot Viewer* window is refreshed and displays the selected snapshot.
5) Roll the right scroll bar of the Snapshot Viewer toward the bottom of the pane. A table of values related to the displayed items and portfolios in the categories used for the map axes appears.

Changing the Snapshot Sharing Status

By default, Snapshots are created as private. If you have read permission for the *Create Public Snapshot* module, you can also create public Snapshots. A private snapshot is only available for viewing by the owner of the Snapshot. A public Snapshot is available for viewing by all users.

If you have read permission in the Snapshot module, you can turn your own private Snapshots into public Snapshots. You can turn any public Snapshot that you created into a private Snapshot, even if you do not currently have read permission in the *Create Public Snapshot* module.

For information about setting security permissions in the *Create Public Snapshot* module, refer to ***Security*** (on page 443).

Changing the Sharing Status of a Snapshot

To change the sharing status of a snapshot:

1) Click **Snapshot** in the Menu Bar. The Snapshot drop-down list appears.
2) Select **Snapshot Viewer** from the drop-down list. The Snapshot Viewer window appears.
3) From the Snapshot tree, select the Snapshot whose sharing status you want to change.
4) To change the Snapshot from public to private, select the **Private** checkbox in the Snapshot tree. Now the Snapshot can only be viewed by its owner.
5) To change the Snapshot from private to public, clear the **Private** checkbox in the Snapshot tree. The Snapshot is now a public Snapshot and can be viewed by all users.

Printing Your Snapshots

To print your snapshots:

1) Click on the Snapshot viewer toolbar. The Snapshot Print Preview window appears containing the snapshot and snapshot data. At the same time, a Print window appears.
2) In the Print window click **OK**. The contents of the Snapshot Print Preview window are printed to your selected printer.

Custom Exporting

Custom export supports the export of PPM data in various customized XML format types, such a Microsoft Word 2007, Microsoft PowerPoint, and so on. The custom export is available for exporting portfolios, items, or sub-items. The information exported and the structure of the XML are determined by configuration files pre-loaded by the configurator. The information exported is not necessarily the information shown on the map. The currently selected portfolio or item can be custom exported using the Custom Export option in the module menu.

> **Note:** Custom export is available only if the associated template and its configuration files have been created and uploaded. See your system administrator for more information.

To initiate a custom export from the Menu bar:

1) Click **Map** in the Menu Bar. The *Map* drop-down list appears.
2) Select **Custom Export** from the drop-down list. The *Custom Export* dialog box appears.
3) In the **Type** field, select the type of export format (the custom export template) from the drop-down list options. (The export types that are available are determined by the configurator.)

Exporting Investor Map Information

Investor maps and map data can be exported from PPM as an image or as a data spreadsheet, stored on your hard drive and incorporated into alternative presentation formats such as Microsoft PowerPoint.

Exporting Investor Maps

Investor maps are exported from Primavera Portfolio Management in PNG format, an image format supported by all Office applications and most browser software. You can then paste or insert your exported map into a PowerPoint presentation along with other critical information gathered from other applications.

To export an Investor map:

1) Click **Map** in the Menu Bar. The *Map* drop-down list appears.
2) Select **Export Map** from the drop-down list. The *File Download* information box appears.
3) Click **Save**. The *Save As* dialog box appears.
4) Browse to the directory in which you want to save the Investor map and click **Save**. The exported map is saved as a PNG image in the selected directory.

Exporting Map Data

Map data can be exported from PPM, stored on your hard drive, and incorporated into other applications. For example, map data is exported in CSV format and can be viewed from Microsoft Excel. Useful information about items is included in the data spreadsheet, such as:

- The name of items.
- The status of the items for the specific scenario. For example, an item can be an open, closed, or candidate item.
- Indicator information for the color category of the map and value information for the other three categories in the map.

To export map data:

1) Click **Map** on the Menu Bar. The *Map* drop-down list appears.
2) Select **Export Data** from the drop-down list. The *File Download* information box appears.
3) Click **Save**. The *Save As* dialog box appears.
4) Browse to the directory in which you want to save the map data and click **Save**. The exported map data is saved in CSV format in the selected directory.

Scorecard Module Overview

The **Scorecard** module is the PPM tactical center and core management console. Scorecards use a table format in order to provide you with a quick and comprehensive look at performance as well as early warning signs of potential problems. The **Scorecard** enables you to easily see the general performance of a single item, or multiple items in a portfolio. You can see the performance of a particular category, based on areas of business activity, geographic location, or any other predefined criteria.

The **Scorecard** is a versatile and dynamic tool. Various types of categories and items can be viewed simultaneously, including qualitative, quantitative, subjective, and data-driven indicators and values.

About the Scorecard Module

The **Scorecard** module is the core of Oracle Primavera Portfolio Management. It includes a portfolio of investments measured against a set of key performance categories. Examples of categories include budget, staffing, quality, and business value. Scorecards also contain life cycle management tracking, including schedules and key deliverables.

Columns in a scorecard can be in any range of abstraction or scope, from the most complex and abstract, such as ROI, down to the smallest detail, such as the date of the next milestone. The portfolio scorecard provides at-a-glance visibility to all the investments in a portfolio, indicating the performance level of each investment based on the various categories. The list of investments is cross-tabulated with the list of categories, with each resulting value represented by a color-coded symbol or actual value. Managers use these symbols and values to quickly and easily assess investments and identify patterns or areas requiring immediate attention.

The indicators, which include green, yellow, and red by default, are determined either by evaluation functions that supply automatic and objective assessments of the status of the cells, or by manual input. Indicator colors and shapes can be customized for quick and easy scanning of summary data, reports, or complex results. Alternatively you can configure a scorecard to change the background color of cells on the basis of indicators derived by functions.

For example, an investment's good health might be indicated by across-the-board positive performance indicators, while multiple negative performance indicators could indicate that the investment is facing difficulties requiring critical attention. Positive indicators for multiple investments in each column signify satisfactory performance levels in categories, while negative performance indicators in multiple investments indicate a problem in a category.

In addition to the standard categories, the scorecard also includes critical information about the scheduling status of the various investments, in the special **Life Cycles** column. Thus, all the necessary information for controlling a complex portfolio is concentrated in a single module.

Selecting Scorecards

You can select a scorecard from the **Select a Scorecard** pop-up window. The **Select a Scorecard** pop-up window includes an **All** tab and a **Search** tab. In the **All** tab, scorecards are organized in a hierarchy. The **Search** tab lets you search for scorecards with a text string.

To select a scorecard:

1) On the **main screen**, in the **navigation pane**, select **Scorecard**.
2) In the **Title Area**, from the **Scorecard** list, select a scorecard.

   The top of the Scorecard list shows recently viewed scorecards.

> **Note:** A single scorecard can appear under multiple folders.

You can resize the **Select a Scorecard** pop-up window to view longer scorecard names. In addition, you can use the vertical scroll bar to move up and down in the pop-up list.

Tour of Scorecards

The **Scorecard** module includes a variety of features that enable you to gain instant and easy access to all the tactical and operational information regarding your investments.

In the Scorecard, portfolios appear in table format, providing an instant overall view of the performance of items. The **Scorecard** is also a point of entry to in-depth information offering navigation to other parts of the application, such as workbooks or dashboards.

The **Scorecard** includes the following components and features:

- **Title Area**: Enables you to select the scorecard, portfolio, and version to be viewed.
- **Menu Bar**: Provides scorecard menus, including menu item commands to create, modify, export, or duplicate scorecards, to upload a document, and to determine the type of cell highlight. The menu bar also provides the standard **Collaborate**, **View**, **User**, **Setup**, and **Help** menus.
- **Scorecard**: Enables you perform actions on the selected scorecard. It contains the following options:
  - **Edit...**: Enables you to edit the current scorecard using the **Scorecard** wizard.
  - **New...**: Enables you to create a new scorecard using the **Scorecard** wizard.
  - **Duplicate...**: Enables you to create a duplicate of the current scorecard. You can rename the duplicate scorecard and modify the scorecard as needed using the **Scorecard** wizard.
  - **Add Categories...:** Enables you to add categories to the current scorecard from the **Categories** tab of the **Scorecard** wizard.
  - **Multiple Column Sort...**: Enables you to set the priority of the sort order across columns in the current scorecard in the **Multiple Column Sort** dialog box..
  - **Knowledge**: Enables you to access a knowledge base article if available on Oracle Support.
  - **Custom Export...**: Enables you to set up a custom export criteria for the current scorecard.
  - **Export**: Enables you to define export settings and the export format of the current scorecard in the **Export Settings** dialog box.
  - **Print...**: Enables you to print the current scorecard.
  - **Log Out**: Enables you to log out of Primavera Portfolio Management.
- **Portfolio:**
  - **Edit...:** Enables you to edit the selected portfolio in the current scorecard using the **Portfolio** wizard.
  - **New Item...:** Enables you to add a new item and associate it with a portfolio using the **Item** wizard.
  - **New Portfolio of Items...:** Enables you to create a new portfolio of items and associate it with a home portfolio using the **Portfolio** wizard.
  - **New Portfolio of Portfolios...:** Enables you to create a portfolio of portfolios using the **Portfolio** wizard.
  - **Upload Document...:** Enables you to upload a document securely from the **Upload Document** dialog box.

- **Documents...:** Enables you to upload multiple documents and replace existing documents if needed using the **Documents** dialog box.
- **Send to Manager...:** Enables you to send an email regarding the current scorecard.

- **Clipboard:**
  - **Select Entire Scorecard:** Enables you to
  - **Select All Cells:** Enables you to
  - **Copy:** Enables you to copy the current scorecard.
  - **Paste:** Enables you to paste the current scorecard contents for reuse.
  - **Clear:** Enables you to clear all the details entered in the current scorecard.
- **Collaborate**: enables you to share information across groups. It contains the following options:
  - **Send Page...**: Enables you to email the scorecard to recipients.
  - **Obtain Page Address...**: Displays the URL of the scorecard.
  - **New Alert**: Enables you to set up an alert with specific criteria.
  - **Alerts...**: Displays the Alert pane in the Setup window.
  - **Add Process Link...**: Enables you to save links associated with a scorecard.
  - **Start Workflow...**:Enables you to start a workflow for a scorecard.
  - **Workflow Instances...**: Enables you to set up workflow instances for a scorecard
- **View**: Enables you to view scorecards with the following options:
  - **Unhide All Categories:** Displays alll categories associated with the current scorecard.
  - **Show Sub Items:** Displays sub-items associated with the current scorecard.
  - **High Contrast Mode** (for graphs only)**:** Displays the scorecard in a high contrast mode to improve readability and legibility of on-screen text.
  - **Show/Hide Guide pane:** Displays or hides the Guide pane for the scorecard.
- **User**: Enables you to set your preferences and settings. It contains the following options:
  - **My Updates...**: Displays a list of items that you need update.
  - **My Requests...**: Displays a list of items that you requested.
  - **Change Passwo**rd...: Enables you to change your password forPrimavera Portfolio Management.
  - **Preferences...**: Enables you to define your preferences to various modules within Primavera Portfolio Management in the Preferences tab of the **User** wizard.
  - **Contact Information...**: Enables you to add or update your contact information in the **Contact** tab of the **User** wizard.
  - **Restore Optional Messages...**: Displays a message that allows you either display or hide all optional messages. Select **OK** to restore all optional messages.
  - **Withdraw Consent**: Select **OK** to withdraw your consent for using or accessing Personally Identifiable Information (PII) in Primavera Portfolio Management.
- **Setup**: Enables you to setup and organize portfolios, items, categories, and dashboards. It contains the following options:
  - **Items...**: Enables you to setup **Items** in the Setup Module.
  - **Portfolios...**: Enables you to setup **Portfolios** in the Setup Module.

- **Scorecards...**: Enables you to setup **Scorecards** in the Setup Module.
- **Categories...**: Enables you to setup **Categories** in the Setup Module.
- **Dashboards...**: Enables you to setup **Dashboards** in the Setup Module.
- **Setup...**: Displays the Setup module of Primavera Portfolio Management.

- **Help**: Enables you to access Online Help and the OPPM documentation library. It contains the following options:
  - **Help:** Enables you to access the Online help of Primavera Portfolio Management.
  - **Library:** Enables you to access the documentation library of Primavera Portfolio Management.
  - **About Primavera Portfolio Management:** Displays the About page of Primavera Portfolio Management.
  - **Privacy Policy...:** Displays the Privacy Policy of Primavera Portfolio Management
  - **Cookie Policy...:** Displays the Cookie policy that you have given consent to for using Primavera Portfolio Management.
- **Toolbar**: Contains the following buttons:
  - The **Print** button enables you to print the current scorecard.
  - The **Mail** button opens the **Send Mail** dialog box that enables you to e-mail a link to the current scorecard.
  - The **Knowledge** button enables you to access the scorecard knowledge information.
  - The ⚙ **Filters** button enables you to create dynamic or predefined filters. Choose the following options to work with filters:
    - **Edit...**: Enables you to edit the filter values. You must have the appropriate security privileges to perform this task.
    - **New...**: Enables you to create a new filter for a scorecard. You must have the appropriate security privileges to perform this task.
    - **Save as...**: Enables you to save a copy of the filter and rename the filter.
    - **Clear**: Enables you to clear all values in the selected filter.
- **Items /Portfolios Column**: The first column lists the items or portfolios included in the selected portfolio. The name of the selected portfolio is shown in the first cell of the summary row.

  When a portfolio of portfolios is selected, the column is titled **Portfolios**, and the included portfolios are listed. When a portfolio of items is selected, the column is titled **Items**, and the included items are listed. By default, items and portfolios are sorted alphabetically and numbered.
- **Category Columns** All other columns of the scorecard are categories, showing data for the listed portfolios or items. Each scorecard may be composed of different categories. Typical categories include:
  - **Health:** an indicator of general performance.
  - **Business Initiative:** the type of business for the item.
  - **Life Cycle:** the phases that comprise the item's life cycle.
  - **Budget:** actual or projected funding for an item.

> **Note:** Place your mouse over each item in the list to view its name and description. Each row of the **Scorecard** is numbered with a descriptive icon next to the name.
> An item is preceded by .
> A candidate item is preceded by .
> A closed item is preceded by .
> A portfolio is preceded by .
> A closed portfolio is preceded by .

- **Summary Row:** Provides the summary of values in the category columns. Users can define the specific summary for each category (average, total, or another complex function).
- **Scorecard Cell:** The convergence point of each row and column in the scorecard is a cell that displays a value for a specific item, in a specific category. The **Scorecard** enables you to define properties at the cell level, and to drill down to dashboards for specific cells.
- **Indicators:** Color and shape-coded symbols are used for an instant overview. For example, indicates that performance criteria are being met; indicates that a performance problem may be arising; and indicates that performance criteria are not being met.
- **Values:** Display the category value for the defined date for each item or portfolio, as applicable.

Accessing a Scorecard

To access the Scorecard:

- If you have selected the **Scorecard** as your default entry module, it will be the first module to appear upon login.

> **Note:** For more information on defining a default entry module and default item to be displayed in the scorecard, refer to ***Entering User Preferences*** (on page 157) in *Configuring the System Components*.

- If you have already selected another module, click the **Scorecard** tab.

Displaying Scorecards

This section describes how to set up your *Scorecard*, by selecting the required portfolio to be viewed. It also describes the scorecard categories to be used to assess the items or portfolios that comprise the selected portfolio.

To select the portfolio and scorecard for your Scorecard:

1) In the Portfolio field on the Title area, click the drop-down list. The Portfolio pop-up list is displayed.
2) Select a portfolio from the pop-up list. The selected portfolio is displayed in the Scorecard. For further details about the Portfolio pop-up list, refer to ***Selecting Portfolios*** (on page 254), below.
3) In the Scorecard field, click the drop-down list. The Scorecard pop-up list is displayed. For further details about how to create the Scorecard pop-up list, refer to ***Creating Folders*** (on page 213), in Organizing Hierarchies.

4) Select a scorecard from the pop-up list. The Scorecard is refreshed, and the selected portfolio, categories and indicators are displayed.

Selecting Portfolios

The Portfolio pop-up list includes an **All** tab and a **Search** tab. In the **All** tab, portfolios are organized in a hierarchy. In the **Search** tab enter letters that appear in the name of the portfolio you are looking for.

A single folder indicates a portfolio of items and layered folders indicate a portfolio of portfolios . Portfolios are displayed with icons indicating an open or closed status. For more information on status icons, refer to ***Working with Items*** (on page 235) in *Working with Investor Maps*.

You can resize the Portfolio pop-up list to view longer portfolio names. In addition, you can use the vertical scroll bar to move up and down in the folder hierarchy.

To access the Select a Portfolio pop-up window:

1) In the **Portfolio** field on the Title area, click the drop-down list. The Portfolio pop-up list is displayed.
2) Select a portfolio from the pop-up list.

   Or

   Select a portfolio from the list of recently viewed portfolios at the top of the pop-up list. The selected portfolio is displayed in the Scorecard.

Setting the Version

You can set the data version used to populate the scorecard for the portfolio. The **Select a Version** pop-up window includes an **All** tab and a **Search** tab. In the **All** tab, versions are organized in a hierarchy. In the **Search** tab, enter letters that appear in the name of the version you are looking for.

A single clock symbol indicates a version and a folder indicates a folder of versions. You can resize and scroll the Select a Version pop-up window to select a version for the scorecard.

To set the data version used to populate the scorecard for the portfolio:

1) Click in the **Data as of** field. The **Select a Version** pop-up window appears.
2) Select a version from the list of recently viewed versions, search, or browse for a version to apply to the scorecard.
3) The data shown in the scorecard will be refreshed as of the date of the version. The version (**Data as of**) field and all areas now showing versioned data as a result of this selection are shaded with a standard neutral peach color.

> **Note:** When any field or component is pre-configured with a version, that field or component will always be displayed with the Data as of that version, and will not change as a result of selecting a different version in the Select a Version popup. The background of these fields and components will be the regular background color. Only areas showing versioned data as a result of the end-user selecting a version in the

Select a Version popup are colored using a standard neutral peach color.

Customizing the Scorecard

This section describes how to customize the *Scorecard*.

Highlighting Cells

In the Scorecard, you can highlight the following types of cells:

- Cells that have dependencies.
- Cells for which updates have been requested by the logged in user.
- Cells for which the logged in user is responsible to provide updated information.
- Cells which contain annotations.
- Cells which have been modified during date range you specify.

Cells are highlighted in different colors, depending on the option selected from the highlight menu.

Note: Cell highlighting is not available when a version is applied to the scorecard.

To highlight cells that contain update information or annotations:

1) From the Highlight menu on the right side of the Menu Bar, select one of the following options:
   - **Annotations**: Highlights cells that contain annotations in yellow.
   - **Dependencies**: Highlights items or portfolios that depend on or support other items or portfolios in cyan. Select the desired direction and type of dependency from the dialog box.
   - **My Updates (Overdue)**: Highlights overdue updates for which you are responsible in cyan.
   - **My Updates (All)**: Highlights all the updates for which you are responsible in green.
   - **My Requests**: Highlights the updates you have requested in purple. For further details about how to assign responsibility for cell requests and updates, refer to Cell Request in ***Data Cell Menu*** (on page 269).
   - **New Updates**: Highlights in pink the cells that have been updated since the last time you viewed the current portfolio in the current scorecard.
   - **Date Range**: Highlights in blue the cells in which the data has been modified during the date range you specify in the pop-up window.
   - **No Highlights**: Eliminates any previous highlights in the scorecard.

Notes:

- Selected highlights are saved when you exit the Scorecard.
- Only one highlight can be displayed at a time.

Resizing Columns

In the *Scorecard*, columns can easily be widened or narrowed for customized viewing.

To resize columns:

1) Move the cursor over the column divider to the right of the required column until the cursor turns into a double-headed arrow.
2) Click and drag the column divider to the required position.

Freezing / UnFreezing Columns

In the *Scorecard*, freeze or unfreeze columns as follows:

1) Select a column, and right-click on the column header.
2) To freeze columns, select **Freeze all left Columns**.
   All columns to the left of the selected column header freeze.
3) To unfreeze columns, select **Unfreeze**.
   All columns to the left of the selected column header unfreeze.

Hiding and Showing Columns

In the *Scorecard*, columns can be hidden or shown, enabling you to easily view the information most vital to you at any given time.

To hide columns:

- Right-click the title of the column to be hidden and select **Hide Category** from the popup menu. The column is removed from view in the *Scorecard*.

To display hidden columns:

- From the View menu, select **Unhide all Categories**. All hidden columns are redisplayed in the *Scorecard*.

Sorting

In the *Scorecard*, you can select a category by which the items are sorted. You can sort the items in ascending or descending order according to categories included in the displayed scorecard or according to the status of the items. You can also define a multiple column sort.

Changing the Sorting Order

In the Scorecard:

1) Right-click the column header which you want to use as the basis for the sort. A popup menu is displayed.
2) From the popup menu, select **Sort Ascending** or **Sort Descending**.

   The Scorecard is refreshed, and the portfolio is sorted according to the selected category's values.

Notes:

- The last sort order viewed is displayed the next time you select the current Portfolio in the current Scorecard.
- For ascending order, empty cells are listed before cells that contain values. For descending order, cells that contain values are listed before empty cells.

Sorting Based on Multiple Columns

1) Select **Multiple Column Sort...** from the Scorecard menu, or from the right-click menu on any of the column headers in the scorecard. The Multiple Column Sort dialog box opens.
2) Define the order by which the scorecard will be sorted.
3) Click **OK**. The Scorecard is refreshed, and the portfolio is reordered according to the defined multiple column sort values.

Notes:

- The last sort order viewed is displayed the next time you select the current Portfolio in the current Scorecard.
- For ascending order, empty cells are listed before cells that contain values. For descending order, cells that contain values are listed before empty cells.

Changing the Sort Order of the Portfolio Based on Item Status

1) Right-click the header of the items column (the first column) in the Scorecard. A popup menu is displayed.
2) From the popup menu, select **Sort Status Ascending** or **Sort Status Descending**. The Scorecard is refreshed, and the portfolio is reordered according to the status of the items.

Notes:

- The last sort order viewed is displayed the next time you select the current Portfolio in the current Scorecard.
- For ascending order, empty cells are listed before cells that contain values. For descending order, cells that contain values are listed before empty cells.

Filtering

In a scorecard, you can create and use predefined or dynamic filters to view a specific list of items.

You can create dynamic filters on-demand, as needed by selecting **Filter**. Once created, they can be saved and reused.

You can also select predefined filters from the **Filter** drop-down.

Filtering Items Dynamically in a Scorecard

You can create dynamic and predefined filters for items and portfolios in the Scorecard module.

To create a dynamic filter:

1) In the **Scorecard** module, select **Filter**.
2) In the **Filter Criteria** dialog box, use the category filter grid to set one or more category filters.

   In each row, select a **Category**, **Operator**, and **Value** for the category filter that you want to apply to your filter results. Use the **And/Or** column to specify the logical relationships between category filters.
3) Select **Apply**.
4) In the **Filter Results** area, the items which satisfy the filter criteria will be reflected in the scorecard.

Creating Predefined Filters for a Scorecard

To create new filter for a scorecard:

1) In the Scorecard module, select **Settings** and then select **Filter**.

   The **Filter wizard** displays.
2) In the **General** step:
   a. Enter a name for the filter in the **Filter** field.
   b. Enter a description of the filter in the **Description** field.
   c. Enter the name of the user creating the filter in the **Owner** field.
3) Select **Next** to advance to the next step of the wizard.
4) In the **Criteria** step:

   In each row, select a **Category**, **Operator**, and **Value** for the category filter that you want to apply to your filter results. Use the **And/Or** column to specify the logical relationships between category filters.

   > **Note**: You must select at least one category.
5) In the **In Folders** step, specify the location of the new filter being created:
   a. Click **Browse...** to navigate and select a folder for the new filter.

      If the folder name already appears in the **Others** list, then select the folder and then click **Define as Home Folder**.
6) In the **Security** step, set the security permissions for the filter:

a. Select or deselect the **Inheriting settings from <folder name>** field.
b. Perform any of the following actions:
   - Select **Add** to add security permissions.
   - Select **Edit** to update current security permissions.
   - Select **Remove** to delete security permissions.
c. Select **Finish** to exit the wizard.

The created filter will be available in the **Setup** module.

Working with Scorecard Cells

This section describes how to work with the various features of the scorecard, including changing and updating information for items, portfolios and scorecards, and navigating to dashboards and workbooks.

Right-clicking a cell of the scorecard displays a popup menu that provides various options for editing or viewing information connected to the cell contents.

Updating Cells Directly

Direct Update is a feature that enables you to update the value or indicator of a cell. You can either enter a value/indicator, or select it from the drop-down list within each cell.

To update the cell directly:

> **Note:** There is no direct update in cells for which the data source is imported or calculated. The cells appear grayed out.

1) Double-click the cell. If the cell is defined as input-ready, the cell area changes to an input field, or a drop list.

   Or

   Right-click the cell and choose **Update** from the menu.

   > **Note:** For User Category cells, double-click on the cell, then click on the down arrow. A small pop up window appears. Accept the default or select a type from the Type field, type a search string in the Search field, select the applicable matching result, and click OK.

2) Enter the new value.

   Or

   Click the arrow to display a drop-down list of available values or indicators and select the desired option.

   The values available in the drop-down list are determined by the configurator.

   The values shown in the drop-list can be limited by a selection elsewhere in the Scorecard.

   For example, when the full "Country" list is filtered by Language, only countries where English is spoken are shown.

Notes:

- After opening the drop-down list, you can type the first letter of the value you wish to enter. The list automatically scrolls to options beginning with that letter.
- To report no value or no indicator, type (-) or select **No Value** or **No Indicator** from the drop-down list.
- During Direct Update, a yellow tool tip in the top right-hand corner of the Scorecard indicates the cell's current value.
- The new value or indicator entered remains italicized until it has been updated in the database. If you close the Scorecard or switch to a different module before all new values have been updated in the database, a small indicator window remains open, displaying the status of the update.

After updating one cell, the Direct Update function allows you to continue the updating process sequentially through the cells.

Using the Keyboard to Move through the Cells on the Scorecard

To use the keyboard to move through the cells on the Scorecard:

- Use the **Tab** key to move right and **Shift+Tab** to move left.
- Use the **Ctrl+Arrow** keys to move among the cells.
- Use **Enter** to move down to the next cell in the sequence.
- Use **Shift+Enter** to move to the cell above the current cell.
- Double-click the cell you wish to update next.

The following criteria affect how the Direct Update function proceeds through the cells:

- If you are updating a cell where both value and indicator are displayed, the value and the indicator are updated separately.
- If you chose My Updates or My Updates (Overdue) from the Highlight menu, the Direct Update function brings you sequentially through the highlighted cells. For more information on highlighting cells, refer to ***Highlighting Cells*** (on page 255).
- Columns that are calculated or read-only are disabled and cannot be updated with the Direct Update function.

Leaving Cell's Value or Indicator Unchanged

To leave a cell's value or indicator unchanged:

- Click or use the keyboard functions to open another cell.

  Or
- In cells with a numeric value, do not enter a value. In cells with a drop-down list, select the top line, which is blank. The cell retains its original value or indicator.

Leaving the Direct Update function

To leave the Direct Update function:

- Press ESCAPE. The cell's value or indicator remains unchanged and the system exits Direct Update.

Copy and Paste

Copy & Paste lets you streamline your work with Microsoft Excel. It is best to use a copy of your scorecard as the basis for your Microsoft Excel spreadsheet. You can then update the spreadsheet information back into PPM.

The application offers various options to copy and paste parts or a whole scorecard.

Data pasted into the scorecard is analyzed. The results of the analysis can be seen in the scorecard preview.

For more information on using Copy & Paste, refer to refer to ***Copy & Paste in Scorecards*** (on page 381) in Copying and Pasting Data.

Working with Cell Properties

The Cell Properties dialog box provides you with a detailed overview of all the information, functions, and import settings pertaining to a particular cell in the scorecard. It also enables you to update the value displayed in the cell.

Accessing the Cell Properties Dialog Box

To access the **Cell Properties** dialog box:

1) Select the **Scorecard** or **Forms** menu.

> **Note**: Only the **Trend** tab of the **Cell Properties** dialog box is enabled if you access it from the **Forms** menu. To edit or modify trend and and any other cell properties, select the **Scorecard** menu.

2) Right-click on a cell in a scorecard or a form, and select **Cell Properties**.
3) In the **Cell Properties** dialog box select any of the following icons in the title bar:
   - **Category Properties**: Navigates to the Category Wizard of the cell's category.

> **Note:** For more information on using the Category Wizard, refer to ***Creating or Editing a Category*** (on page 101).

   - **Knowledge**: Accesses the category knowledge.
   - **Help**: Opens context-sensitive help.
4) Click **OK** in the Cell Properties dialog box to save any changes made in any of its tab.
5) Click **Cancel** in the Cell Properties dialog box to close it without saving any changes made on any of its tabs.

> **Note:** Updating or adding values in the trend are saved immediately and are therefore not affected by OK and Cancel.

Updating Cell Data

The Update tab of the Cell Properties dialog box displays information about the cell value and enables you to update cell data, including annotations not available through the Direct Update functionality.

To update cell data:

1) In the Cell Properties dialog box , click the **Update** tab. The Update tab appears, enabling you to view information about the cell.
2) In the **Value** area, you can enter a new value for the cell. If the cell's value is the result of a calculation, you can leave the value as is, as it is automatically calculated. The value's data source is displayed to the right of the value. Data source refers to the manner in which data is input to the cells. Data can be input manually, calculated using a pre-defined function or imported from an external database. For more information about data sources, refer to ***Entering Data Source Information*** (on page 143) in Working with Categories. The current value of the cell is displayed to the left of the input field.

   Notes:

   - To report no value, type (-) in the Value field.
   - If you manually assign a value, the assigned value overrides any calculation methods that are assigned to the field.

3) In the **Indicator** area, you can select the required indicator symbol to be displayed in the cell. If a calculation method is assigned to the cell's indicator, you can leave the selection as is, and the symbol is automatically calculated. The calculation method for the indicator is displayed to the right of the indicator value. Data calculation refers to the manner in which data is input to the cells. Data can be input manually or calculated using a pre-defined function. For more information about data sources, refer to ***Entering Data Source Information*** (on page 143) in Working with Categories. The current indicator color is displayed to the left of the radio buttons.

   Notes:

   - To report no indicator, select **No Indicator** in the **Indicator** field.
   - If you manually select an indicator, this selection overrides any calculation methods that are assigned to the indicator.

4) In the **As of** area, specify a date as of which the new value is valid. If the cell has a schedule, the **As of** drop-down list includes both the current value, marked with an *, and the next scheduled update date. If the cell has no schedule, select any date from the drop-down calendar.

   Note: Cells with historic or future date definitions show the As of as read-only.

5) In the **Annotations** area, enter any required information about the current cell update.

   Notes:

   - The Reference area displays the reference category for the cell, if one

exists. It is for viewing purposes only.

- The **Last Updated** area displays when and by whom the cell was updated. The name of the user making the request and the name of the user responsible for updating the cell are displayed to the right.
- To save changes, you must click the **OK** button.
- Changes are not saved when moving between tabs. However, clicking **OK** on any tab saves changes made to all tabs.

Viewing Trend

To access the **Trend** tab:

1) Select the **Scorecard** menu or the **Forms** menu.

> **Note**: If you access the **Trend** tab from the **Forms** menu, the values are for display only, and all other tabs of the **Cell Properties** dialog box are disabled. To edit or modify trend and and any other cell properties, select the **Scorecard** menu.

2) Right-click on a scorecard cell or a category cell in a form, and select **Trend** to view all the values entered in the cell over a period of time.

- Cell value over time: The table at the top of the dialog box displays the indicator and value, if any, at each previous and future update, providing you with a history of the cell's values. All the valid values that were entered for this cell are displayed.

  Right-clicking a cell in this table displays a popup menu with the following option:

  - **Update**: Updates an existing value.

    Click the **Add** button to add new values for any date.

    The cell with the current value has a green background. All other cells do not have a special background color.

> **Note:** Clicking a cell displays information in the cell information area, such as the user who reported the value, the reporting date, and the cell annotation.

- **Trend Cell value graph**: Displays the cells value over time, including the progression of phases, in the form of a graph. The graph displays the following options:
  - **Today line**: The Today line shows the current date on the graph.
  - **Future area**: Future values are shown on a darker background.
  - **Indicator boundaries**: If an indicator function was defined for the cells, then indicator-colored sleeves display different background areas of the graph. There are up to three different colors. A colored area represents the indicator color for any value that falls within the area. For example, the graph may contain red, green, and yellow areas. The indicator of any value falling within the yellow area will be yellow.
  - **Reference values**: Displays several lines, one for each category.

- **Phases**: If the item has a life cycle, the start dates of the different phases are marked on the graph with vertical lines.

  The graph is generated automatically when the category is created. If there are no numeric values defined for the category, an indicator graph is displayed. If neither numeric values nor indicators are defined for the category, no graph is displayed.

  You can add annotations to the graph by clicking on the graph. The **Graph Details** dialog box opens, with an annotation field set below the graph. Access the knowledge for the graph by pressing the light bulb button , located above the graph. If the light bulb is disabled, there is no knowledge available for the graph.

- **Cell Annotation**: Displays the annotation for the selected cell. Clicking a cell displays the annotations associated with the update.

Accessing Security Tab

The Security tab of the Cell Properties dialog box enables you to determine the level of access to the cell users have within your system. You can:

- Add additional security rows without stopping inheritance.
- Stop inheritance and select to copy security.

> **Note:** You must have Admin permission on the cell to assign security.

The security rights displayed by default are the union of the security assigned for the cell's category and item or portfolio. For example, if user Tom has permission for the associated item then by default Tom has permission for the cell.

For an explanation of PPM security and instructions how to set security permissions, refer to ***Security*** (on page 443).

To access the Security tab:

1) In the Cell Properties dialog box, click the Security tab. The **Security** tab appears.

Updating the Value Data Source Using the Indicator Tab

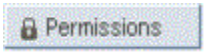
The Indicator tab of the Cell Properties dialog box enables you to view and change the data source for indicator values.

The data source displayed in this dialog box by default is the indicator data source defined for the selected category. This data source can be changed for each specific cell.

> **Note:** Cells with historic or future date definitions show this tab as read-only.

To update the indicator data source:

1) In the Cell Properties dialog box , click the **Indicator** tab. The Indicator tab appears.
2) In the **Data Source** field, from the drop-down list, select the data source for the indicator. Depending on the data source, additional fields are displayed in the Indicator tab. Enter the required information.
3) When the **Calculation** field is displayed, you may be able to choose from among different functions which of these functions will perform the calculation.

4) Click 

to define the displayed function's permissions to access system data. For more information, refer to ***Step 8: Defining Security Permissions*** (on page 109), in Working with Categories.

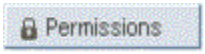
> **Note:** For more information on creating and using functions and import information, refer to ***Defining Functions*** (on page 114) in Working with Categories.

Updating the Value Data Source Using the Value Tab

The Value tab of the Cell Properties dialog box enables you to view and change the data source for cell values.

The data source displayed in this dialog box by default is the value data source defined for the selected category. This data source can be changed for each specific cell.

To update the value data source:

1) In the Cell Properties dialog box, click the **Value** tab. The Value tab appears.
2) In the **Data Source** field, from the drop-down list, select the data source for the cell value. Depending on the data source, additional fields are displayed in the Value tab. Enter information as required.
3) When the **Calculation** field is displayed, you may be able to choose from among different functions which of these functions will perform the calculation.
4) Click 

to define the displayed function's permissions to access system data. For more information, refer to ***Step 8: Defining Security Permissions*** (on page 109) in Working with Categories.
5) Click **OK** to return to the Cell Properties dialog box .
6) In the **Function Description** field, enter a brief description of the function.

Using the Life Cycle Cell Menu

If **Life Cycle** is one of your scorecard's categories, right-clicking the phase cell displays the following popup option:

- Update Life Cycle: Displays the Life Cycle dialog box.

> **Note:** This option is disabled for cells with historic or future date definitions.

The Life Cycle dialog box includes tabs for each of the item's phases, providing you with detailed information about each of these phases. The information includes phase health, status, percentage completed, planned and actual start and completion dates, deliverables information and descriptions.

> **Note:** If no life cycle is defined for the item, click the Define a Life Cycle button. The Life Cycle dialog box appears. Select a predefined life cycle

in the Life Cycle dialog box. After confirming, the life cycle information will be displayed. For additional information, refer to ***Creating Life Cycles*** (on page 151), in Configuring the System Components.

The Life Cycle dialog box also enables you to change or update phase information, as described in ***Creating Phases*** (on page 149) in Configuring the System Components.

Scorecard Menus

Right-clicking each of the following Scorecard areas provides you with various menu options.

Note: Life Cycle Cell Menu right clicking a Life Cycle cell opens a menu with a single option - `Update Life Cycle'. Clicking the menu opens the *Life Cycle Phases* dialog box.

Current Portfolio Menu

When viewing a portfolio of portfolios, the leftmost column of the Scorecard contains the name of the current portfolio, followed by a numbered list containing the statuses and names of the portfolios within that portfolio. When viewing a portfolio of items, the leftmost column of the Scorecard contains the name of the current portfolio, followed by a numbered list containing the statuses and names of the items within that portfolio.

Right-clicking a portfolio name displays the following popup options:

- **Scorecard**: Accesses the Scorecard for the selected portfolio.
- **Maps**: Shows the selected portfolio in the Investor module with the most recently viewed map.
- **Forms**: Shows the selected portfolio in the Forms module, with the most recently viewed form.
- **Dashboards**: Shows the selected portfolio in the Dashboards module, with the most recently viewed dashboard.
- **Workbook**: Shows the selected portfolio in the Workbook module , providing detailed information about all its aspects.
- **Dependencies**: Accesses the default Dependencies form for the selected item/portfolio. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.
- **New Alert**: Lets you create an alert on the portfolio by accessing the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Configuring Alerts and Notifications.
- **Send to Manager**: Opens the Send Mail dialog box with the portfolio's manager email address entered in the **To** field. The message includes a link of the current view to the manager. This applies only to the User type categories.
- **Send to Portfolio Managers/Send to Item Managers**: Available when selecting a portfolio of portfolios, or a portfolio of items, respectively. Opens the Send Mail dialog box with the email addresses of all of the portfolio or item managers entered in the **To** field. This sends a link of the current view to all of the portfolio or item managers at once. This applies only to the User type categories.

- **Edit**: Opens the Portfolio Wizard, which enables you to modify the properties of the selected portfolio, as described in ***Portfolios*** (on page 40) in Configuring the System Components.

Portfolio Menu

When viewing a portfolio of portfolios in the Scorecard, the leftmost column contains the name of the current portfolio, followed by a numbered list of the statuses and names of the included portfolios.

Right-clicking a portfolio name displays a pop-up menu with the following options:

- **Scorecard**: Accesses the Scorecard for the selected portfolio
- **Maps**: Shows the selected portfolio in the Investor module with the most recently viewed map.
- **Forms**: Shows the selected portfolio in the Forms module, with the most recently viewed form.
- **Dashboards**: Shows the selected portfolio in the Dashboards module, with the most recently viewed dashboard
- **Workbook**: Accesses the portfolio's workbook, providing detailed information about all aspects of the portfolio.

> **Note**: For more information on workbooks, refer to ***Workbook Module Overview*** (on page 278).

- **Dependencies**: Access the Dependencies list for the selected portfolio. The default drill down is Workbook. This default drill down can be changed to access a specific form and tab. For more information,refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.
- **New Alert**: Lets you create an alert on the portfolio by accessing the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Configuring Alerts and Notifications.
- **Send to Manager**: Opens the Send Mail dialog box with the portfolio's manager email address entered in the To field. This enables sending a link to the current view to the manager.
- **Edit**: Opens the Portfolio Wizard, enabling you to change the properties of the portfolio.

> **Note:** For more information about working with the Portfolios Wizard, refer to ***Creating a Portfolio with the Portfolio Wizard*** (on page 40) in Configuring the System Components.

Item Menu

When viewing a portfolio of items in the **Scorecard**, the leftmost column contains the name of the current portfolio, followed by a numbered list of the statuses and names of the items within that portfolio.

Right-clicking an item name displays a popup menu with the following options:

- **Forms**: Shows the selected item in the Forms module, with the most recently viewed form.

- **Dashboards**: Shows the selected item in the Dashboards module, with the most recently viewed dashboard
- **Workbook**: Accesses the item's workbook, providing detailed information about all aspects of the portfolio.

> **Note:** For more information on workbooks, refer to ***Workbook Module Overview*** (on page 278).

- **Dependencies**: Select **Dependencies** to access the Dependencies list for the selected item/portfolio. The default drill down is Workbook. This default drill down can be changed to access a specific form and tab. For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.
- **New Alert**: Lets you create an alert on the item by accessing the New Alert wizard. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189) in Configuring Alerts and Notifications.
- **Send to Manager**: Opens the Send Mail dialog box with the item's manager email address entered in the To field. This enables sending a link to the current view to the manager.
- **Edit**: Accesses the Item Wizard, enabling you to change the properties of the item.

> **Note:** For more information about working with the Item Wizard, refer to ***Items*** (on page 37) in Configuring the System Components.

Category Menu

The first row of the Scorecard shows the column label as defined in the Scorecard Wizard. For more information on column headers and labels, refer to ***Defining Scorecard Categories*** **(on page 55).**

Right-clicking on the column header displays a popup menu with the following options:

- **Show Values**: Displays the values in the column's cells. For more information on showing values, refer to ***Displaying Values and Indicators*** (on page 269).
- **Show Indicators**: Displays the indicators in the column's cells. For more information on showing indicators, refer to ***Displaying Values and Indicators*** (on page 269).
- **Show Both**: Displays both the values and the indicators in the column's cells. For more information on showing values and indicators, refer to ***Displaying Values and Indicators*** (on page 269).
- **Sort Ascending/Sort Descending**: Enables you to sort the table according to the parameters of the selected category. This means that if indicators are displayed in the selected category, the items are sorted by indicator color. If values are displayed, the table is sorted according to value's weight. For more information on sorting, refer to ***Sorting*** (on page 256).
- **Multiple Column sort**: Lets you use multiple categories to sort the scorecard. For more information on multiple column sort, refer to ***Sorting Based on Multiple Columns*** (on page 257).
- **Freeze all left Columns**: Enables you to freeze all columns to the left of the selected column.

- **Unfreeze**: Enables you to unfreeze columns, if any.
- **Hide Category**: hides the category.
- **Knowledge**: Enables you to access the scorecard knowledge information.
- **Category Trend**: Displays the category trend associated with the category.
- **Category Properties**: Accesses the Category Wizard, enabling you to edit category information.

Notes:

- For more information on editing category properties, refer to ***Creating or Editing a Category*** (on page 101) in Working with Categories.
- The Life Cycle cell menu does not provide the options described in this section.
- For User type categories, there is an additional Send to Users option.

Displaying Values and Indicators

In the Scorecard, you can display category values as actual values, as symbolic color-coded indicators, or both. Values provide you with precise, detailed, alphanumeric information about the category. Indicators provide an instant overview of the category's performance. This is useful for spotting trends within the portfolio of investments.

To choose the display of values and indicators:

1) Right-click the required column header.
2) From the pop-up menu, select one of the following options:
   - **Show Value**: The column displays the values.

     Note: A dash "-" in a cell represents "no value".

   - **Show Indicator**: The column displays the indicators.

     Note: A dash "-" in a cell represents "no indicator".

   - **Show Both**: The column displays both the values and the indicators.

     Notes:

     - If a category is defined as "only values" or "only indicators", the popup menu displays No Toggle Available.
     - This option is not available for the **Life Cycle** category.

Data Cell Menu

The individual cells within the Scorecard are called Data Cells. The top cells in each column are called Summary Cells as they summarize the column information. Right-clicking a cell displays a popup menu.

> **Note:** When a cell contains hypertext, right-click the area between the left border of the cell and the first character of the hypertext to display the popup menu. This will avoid jumping to the destination of the hypertext.

The following options are available on the popup menu:

- **Update**: Enables you to perform the cell update. For more information on updating cells, refer to ***Updating Cells Directly*** (on page 259).

> **Note:** If the value displayed in a cell is defined to be calculated, is read-only, or if access is unauthorized, the Update option is replaced by an option appropriate to the situation.

- **Override Indicator/Override Value**: Available when right-clicking an indicator or a value, respectively. Selecting either option displays the Update tab of the Cell Properties dialog box . Refer to ***Updating Cells Directly*** (on page 259).
- **Cell Request**: Displays the Cell Request dialog box. For more information, refer to ***Cell Request Dialog Box*** (on page 270).
- **Dashboard**: Drills down to the dashboard for the cell. The drill-down to dashboard options are defined in the Category wizard's Dashboard step.

> **Note:** For more information about dashboards, refer to ***Dashboards Module Overview*** (on page 317).

- **Trend**: Displays the Trend tab of the Cell Properties dialog box , enabling you to view the cell history, a trend graph, and cell annotations. For more information on working with the Trend tab, refer to ***Viewing Trend*** (on page 263).
- **Select Entire Scorecard**: Selects the whole scorecard, including the column headers and the Items/Portfolios column. This option is useful copying the scorecard to a spreadsheet application such as Microsoft Excel.
- **Select All cells**: Selects all Data cells in the scorecard, without the column headers and the Items/Portfolios column.This option is useful when copying only the data of the scorecard.
- **Copy**: Copies the selection to the clipboard.
- **Paste**: Pastes the selection from the clipboard to the location on the cursor in the scorecard.
- **Cell Properties**: Displays the Cell Properties dialog box where you can view indicators, values and update methods. The Cell Properties dialog box opens to the tab you last viewed. For more information on general cell information, refer to ***Working with Cell Properties*** (on page 261).

Cell Request Dialog Box

Clicking Cell Request on the Data Cell menu displays the Cell Request dialog box.

The Cell Request dialog box enables you to request an update for the cell, and define whom is to perform the update, and when.

To request an update, enter information in the following fields, as required:

- **Request status**: From the drop-down list, change the default, **No Request** to **Requested**.
- **Requested by**: Displays the name of the user who requested the information.

> **Note:** This field can be edited by administrators, as they can enter requests on behalf of other users.

- **Responsible**: From the drop-down list, select the user who is responsible for performing the update you are requesting.
- **Schedule**: By default, Use Category Schedule is selected. Or, you can set a schedule for the update by deselecting Use Category Schedule, and selecting a schedule for the update from the drop-down list.

Working with Documents

In the Scorecard, you can upload documents related to the selected portfolio to the server in the *Upload Document* dialog box. You can also view documents, copy document links, replace documents, remove documents, and view and edit document properties. in the *Documents* dialog box. For information about working with documents, refer to ***Working with Documents*** (on page 397).

Working with Category Trend

Category Trend is a feature that enables you to view a portfolio's performance in a certain category over time. This provides you with early warning signs of potential problems. In addition, it enables you to regularly update a category in set time intervals.

Accessing Category Trend

The *Category Trend* dialog box is accessed through the scorecard by selecting the relevant category's title cell.

To access the category trend:

1) Right-click the category column header. A drop-down list is displayed.
2) Click **Category Trend**. The *Category Trend* dialog box is displayed.

> **Note:** When entering the *Category Trend* dialog box for the first time in a specific category, the Category Trend Options dialog box is displayed automatically. This prompts you to determine the parameters according to which you wish to view the portfolio's performance in the specified category. For more information on the *Category Trend Options* dialog box, refer to ***Defining Parameters for Category Trend*** (on page 275).

Tour of the Category Trend Dialog box

The *Category Trend* dialog box displays the performance of all the items in a portfolio in a certain category over time.

The *Category Trend* dialog box is comprised of the following features:

- **Tool Bar:** Contains the following options:

- Click

to export the Category Trend in CSV format, to be stored on your hard drive and viewed in Excel. For more information on exporting the Category Trend, refer to ***Exporting Category Trend*** (on page 276).
- Click to print the Category Trend.
- Click to access the *Category Wizard*, where you can edit category properties. For more information on editing category properties, refer to ***Editing a Category*** (on page 110) in *Working with Categories*.
- Click to access the knowledge related to the category.
- Click to access the Help for Category Trend.

- **Shown Dates**: Displays the start and end dates of the time period over which you are viewing the Category Trend.
- **Schedule**: Displays the interval at which Category Trend data is analyzed.
- **Options Button**: Enables you to access the Category Trend Options dialog box where you determine the settings for viewing the portfolio's performance trend over time in the specified category. For more information on the Category Trend Options dialog box, refer to ***Defining Parameters for Category Trend*** (on page 275).
- **Title bar**: Displays the name of the category and the name of the portfolio for which the performance trend is being viewed.

- **Table**: Displays the trend for the portfolio's performance in the selected category in the following format:
  - The first column displays the selected portfolio and all its included items/portfolios, their status icons.
  - The second column displays the aggregation of the values in subsequent columns according to the method chosen. For more information on determining the method of aggregation, refer to ***Aggregation Cell Menu*** (on page 274).
  - Subsequent columns display either the value or the indicators, or both, for the items' performance in the chosen category at specified intervals over a period of time. For more information on determining the time intervals for viewing performance, refer to ***Defining Parameters for Category Trend*** (on page 275).

Category Trend Display

The Category Trend information is shown using the following:

- **Underlines**: Indicate out-of-date cell data, which is described in ***Step 4: Setting Up a Schedule*** (on page 104) in Working with Categories.
- **Dashes**: Indicate that there is no value or indicator for the cell.
- **Reference Categories**: Are displayed, when relevant, in the notation form value/reference value. You can hover above the category value/reference value to display a single tooltip with the value, reference value, and annotation of the category. Reference categories are further described in Reference Value in Working with Categories.
- **Security Locks**: Indicate that access to the cell is restricted.

Resizing Columns

In the Category Trend dialog box, columns can be easily widened or narrowed for customized viewing.

To resize columns:

1) Move the cursor over the column divider to the right of the required column until the cursor turns into a double-headed arrow.
2) Click and drag the column divider to the required position.

Working with Category Trend Cells

There are two methods of entering data into the Category Trend table:

- Right-clicking different cell types displays various menu options, as described in ***Scorecard Menus*** (on page 266).
- Double-clicking some of the cells enables the Direct Update mode, as described in ***Updating Category Trend Cells*** (on page 273).

Updating Category Trend Cells

Category Trend cells can also be updated directly using the Direct Update mode. This feature enables you to update the value or indicator of a cell either by entering a value manually or from a drop-down list within the cell.

> **Note:** Cells that cannot be updated with Direct Update are disabled.

To update cell information:

1) Double-click the cell.

   Or

   Click the cell and choose **Update** from the drop-down list.

   If the value to be entered is numeric or a text string, the cell clears. If the value or to be entered is not numeric or a text string, the cell clears, and an arrow appears on the right-hand side of the cell.
2) Enter the new value.

   Or

   Click the arrow to display a drop-down list of available values or indicators. Select the desired option.

> **Notes:**
>
> - After opening the drop-down list, you can type the first letter of the option you wish to enter. The list automatically scrolls to options beginning with that letter.
> - To report no value or no indicator, type (-) or select no value or no indicator from the drop-down list.

To leave the Direct Update function:

- Press the **Esc** key (Escape). The cell's value or indicator remains unchanged and the system exits Direct Update.

- Click anywhere in the dialog box. If the cell had a value or indicator set to it, it will be saved.

For more detailed information on the Direct Update mode, refer to ***Updating Cell Information*** (on page 331).

Working with Cell Menus

Different menus appear when right-clicking the cells in the Category Trend table. The following topics describe the menus displayed when right-clicking each of the following cell types:

- ***Aggregation Cell Menu*** (on page 274) describes the menu displayed when right-clicking a cell in the aggregation column.
- ***Title Menu*** (on page 274) describes the menu displayed when right-clicking a title cell containing the date on which data is sampled.
- ***Category Trend Cell Menu*** (on page 275) describes the menu displayed when right-clicking a cell that is in the intersection of a time interval and an item.

Aggregation Cell Menu

Clicking a cell in the Aggregation column displays a popup menu that allows you to choose one of the following options:

- **Sum**: Displays the sum of the values in all subsequent columns.
- **Average**: Displays the average of the values in all subsequent columns.
- **Maximum**: Displays the maximum value in all subsequent columns.
- **Minimum**: Displays the minimum value in all subsequent columns.

> **Note:** For certain category types, the above functions are not relevant. In these instances, the function will not be calculated and empty cells will be displayed.

Title Menu

In the Category Trend table, you can display either values or indicators, or both, for Category Trend cells. Clicking the cell containing the date at the head of each column displays a popup menu that allows you to choose one of the following options:

- **Show Values**: The column provides you with precise, detailed data on the category cell.
- **Show Indicators**: The column displays the color-coded indicator. Indicators provide an at-a-glance overview of the category's performance, which can be useful for spotting trends within the organization.
- **Show Both**: The column widens to display both the value and the indicator.

  > ▪ **Note:** If the category is defined to have only values or indicators, No Toggle Available replaces the above options.

- **Show/Hide Reference**: Enables you to toggle between the option of showing or hiding the references for the values in all the columns. A reference value is the value of the Reference category. For more information refer to Reference Value in Working with Categories.

  > ▪ **Note:** For purposes of visual clarity, columns that display only

indicators do not show references.

Category Trend Cell Menu

Clicking a cell that is in the intersection of a time interval and an item displays a popup menu with the following options:

- **Update**: enables direct updating of the cell. The data is updated for the date of that cell. For more information on Direct Update, refer to ***Updating Category Trend Cells*** (on page 273).
- **Cell Properties**: Displays the Cell Update dialog box, enabling you to view information about the cell, such as indicators, values and update methods. It also allows you to update the data related to the date associated with that cell. For more information on general cell information, refer to ***Working with Cell Properties*** (on page 261).

Note: If the value displayed in a cell is defined to be calculated, is read-only, or if access is unauthorized, the Update option is replaced by an option appropriate to the situation.

Defining Parameters for Category Trend

The following section describes how to determine the time frame and schedule according to which you view the portfolio's performance in the specified category.

To set the time frame and schedule parameters:

1) Click the **Options** button. The *Category Trend Options* dialog box is displayed.
2) In the **Show Dates** area, you can select to display data corresponding to one of three options:
   - **All:** Displays all data from the earliest entry to the latest entry for this portfolio, in this category.
   - **All Past:** Displays all data from the earliest entry for this portfolio, in this category, to the present date.
   - **From/To:** Allows you to choose beginning and end dates for the time span over which you wish to display the data.
3) In the **Schedule** area, you can select either the category schedule or define a custom interval.

   Note: If there is no schedule for this particular category, a default schedule is automatically entered in the **Customize Interval** area. You can either accept the default interval or enter your own.
4) In the **Aggregation** area, select one of the options from the drop-down list.
5) Click **OK**. The category trend is calculated according to the new parameters.

   Note: If the chosen time frame and intervals are such that no data can

be displayed, a message will be displayed in the table instead of data. For example, if the time frame is February 1 - March 1, and the schedule is day 1 of the quarter, there is no data to display (since there is no intersection between the time frame and intervals).

Exporting Category Trend

Category Trends can be exported from the application in CSV format, stored on your hard drive, and viewed in Excel. For example, paste your exported Category Trend into Excel along with other critical information gathered from other modules or applications.

To export a category trend:

1) Click

on the Category Trend Title Area. The *File Download* information box appears.

Note: This dialog box may appear differently depending on the browser version.

2) Click **Save**. The Save As dialog box appears.
3) Browse to the directory in which you want to save the Category Trend and click **Save**. The exported Category Trend is saved as a CSV file in the selected directory.

Custom Exporting

Custom export supports the export of PPM data in various customized XML format type, such a Microsoft Word 2007, Microsoft PowerPoint, and so on. The custom export is available for exporting portfolios, items, or sub-items. The information exported and the structure of the XML are determined by configuration files pre-loaded by the configurator. The information exported is not necessarily the information shown on the scorecard. The currently selected portfolio or item can be custom exported using the Custom Export option in the module menu.

Note: Custom export is available only if the associated template and its configuration files have been created and uploaded. See your system administrator for more information.

To initiate a custom export from the Menu bar:

1) Click **Scorecard** in the Menu Bar. The *Scorecard* drop-down list appears.
2) Select **Custom Export** from the drop-down list. The Custom Export dialog box appears.
3) In the **Type** field, select the type of export format (the custom export template) from the drop-down list options. (The export types that are available are determined by the configurator.)
4) Click **OK**.

   If the process fails, a message displays and a detailed error report subsequently appears.

   If the export succeeds, you are prompted by the File Download dialog box to open or save the generated XML file.

Included on the File Download dialog box is the name of the file, which is automatically generated, and the file type (file name extension) as defined by the configurator.

Exporting Scorecard Information

Scorecards can be exported in CSV or Word format and stored on your hard drive. This is helpful when you need to combine scorecard information with information from other applications.

To export a scorecard:

1) On the menu bar, click **Scorecard**.
2) Select *Export* from the **Scorecard** drop-down list.
3) In the **Export Settings** dialog box, specify your preferences for the following settings:
   a. In the **Export Format** field, select any of the following export formats:
      - **Export in .csv format**: Exports as a comma-separated value (CSV) file
      - **Export as word document**: Exports as a Microsoft word document.
      - **Export as HTML format**: Exports as a HTML document.
   b. If you chose **Export as a word document**:
      - In the **Page Orientation** section, select *Portrait* or *Landscape*:
      - In the **Paper Size** section, select *Letter* or *A4*.
4) Click **OK** to save your selections.
5) In the **File Download** dialog box, select any of the following buttons:
   - Click **Open** to view the downloaded file in your application.
   - Click **Save** to download the file onto your computer.

   The default name reflects its scorecard and data version.

Printing Scorecard Information

To print a portfolio scorecard:

1) Click **Scorecard** on the menu bar.
2) Choose **Print** from the menu. A print preview window appears, followed by the Print dialog box. Drag the Print dialog box if necessary to view the print preview.
3) Select your desired print options, and click **Print**. The scorecard is printed to the selected printer.

> **Note:** In order to print the Version background color in *Internet Explorer 8*, check **Print Background Color and Images** in the Browser's *Page Setup* dialog box.

Scorecard Information Displays

The Scorecard employs various textual and graphical methods of displaying information in order to provide you with the most detailed and easy-to-use information possible.

Information displays include the following:

- **Underlines:** Indicate out-of-date cell data, which is described in ***Step 4: Setting Up a Schedule*** (on page 104) in *Working with Categories*.
- **Dashes**: Indicate that there is no value for the cell.
- **Reference Categories:** Are displayed, when relevant, in the notation form value/reference value. You can hover above the category value/reference value to display a single tooltip with the value, reference value, and annotation of the category. Reference categories are further described in ***Step 3: Defining Category Properties*** (on page 102) in Working with Catetgories.
- **Arrows:** Displayed at the top of columns, arrows indicate the column according to which the displayed portfolio is sorted, and the direction in which it is sorted (ascending or descending).
- **Indicators:** Display values as symbols. You can hover above a category indicator to display a single tooltip with the name of the category indicator and an annotation of the category. For more information on indicators, refer to ***Tour of Scorecards*** (on page 250).
- **Security Locks:** Indicate that access to the cell is restricted.
- **Counter:** When an item is selected in the scorecard, either by selecting the item name or one of the cells in the item's row, the status bar displays the number of the item out of the total number of items. For example, if "Item: Call Center 5/10" is displayed in the status bar, this means that the selected item is in the fifth row, and that there are 10 items in the portfolio. If no item or cell is selected in the scorecard, the status bar displays "x items/portfolios in portfolio '*portfolio name*'".

Workbook Module Overview

Management workbooks provide you with a detailed view of business operations at the item or portfolio level.

The **Workbook** module provides information about items or portfolios down to the most minute detail, such as who is responsible for what action, phase deliverables, which phases are completed, the percentage of the current phase that is completed, contact information and hints relating to the viewed item. Workbooks also provide scheduling information, enabling you to track events and updates, see when data is out of date, and view the updates for which you are responsible.

Team leaders and project managers can use item workbooks to track activities for which they are responsible and to assess the progress of items. Portfolio managers can use portfolio workbooks to track activities and deliverables that are portfolio-wide and are not connected with a specific item.

About the Workbook Module

The Workbook module is designed specifically for the management of items. Workbooks provides a detailed summary of all the information related to a selected item. Workbooks provide a drill-down views into items and serve as the building blocks of the system.

A workbook enables you to focus on the particulars of an item or portfolio, including the following information:

- **Item/Portfolio Scorecard**: Provides an assessment of the item in various categories.
- **General Information**: Includes the name of the item manager, the item's start and end dates, the number of completed phases, and the current phase.
- **Status Information**: Provides a summary of the activity for the item. Status information includes all updates requested for the item, updates for which you are responsible, action items, and deliverables.
- **Action Items**: Tasks that must be completed in order for the item to progress.
- **Life Cycle**: Provides information about the phases of the item, including planned-versus-actual phase dates and phase performance assessment.
- **Deliverables**: Provides item details, including:
  - **Deliverable**: The name of the deliverable.
  - **Owner**: The owner of the deliverable.
  - **Phase**: The name of the phase in which the listed deliverable is contained.
  - **Status**: There is a check box in this column displaying whether or not the deliverable is complete.
  - **Link**: Displays the link assigned to the deliverable.
  - **Due Date**: The deliverable deadline.
- **Dependencies**: Provides a list of dependencies for an item. You can view the items/portfolios that depend on the selected item, or item/portfolios which the selected item supports.
- **Links**: Hyperlinks to web sites and locations within the Primavera Portfolio Management system that are related to the item.
- **Contacts**: Contact information for people connected with the item.

Tour of Your Workbook

Management workbooks display detailed information about a selected item or portfolio.

A management workbook includes the following components and features:

- **Title Area:** Enables you to select the scorecard and item to be viewed.
- **Menu Bar:** Provides the workbook menu options, which enable you to create and edit items, highlight information in the workbook's scorecard, and access setup, My Updates and Help information.
- **Toolbar:** Contains the **Print, Send**, and **Knowledge** buttons.
- **Item Scorecard:** Provides a scorecard view of a single selected item.

> **Note:** For more information on scorecards, refer to ***Scorecard Module Overview*** (on page 248).

- **Workbook Tabs:** Provide detailed information about an item's management functions, as follows:

- **Status:** Provides information about how many updates have been requested for the item, how many updates you have been requested to perform, and how many updates are overdue for the item. In addition, the Status tab displays how many action items and deliverables there are for the item, and whether they have been completed, or are overdue.
- **Action Items:** Provides a list of tasks that must be completed for the item. Listed information includes the action item owner, links to related web sites, and locations within the system, and the deadline for the action item. From the Action Items tab you can access the Action Item dialog box, where you can edit action item information or indicate that the action item has been completed.
- **Life Cycle:** Provides a list of the phases of the items, and indicates the actual-versus-planned timeframe for each phase, the percentage completed and phase health. From the **Phases** tab you can access the Life Cycle dialog box, where you can edit and update information for each phase.
- **Deliverables:** Displays the list of all the deliverables for this item. From the **Deliverables** tab, you can view and edit each deliverable, or open the Life Cycle dialog box in order to view and edit phase information.
- **Dependencies:** Displays the list of dependencies for this item. From the **Dependencies** tab, you can view the items/portfolios that depend on the selected item, or items/portfolios which the selected item supports. You can define the type of dependency as well its weight and cost.
- **Links:** Provides a list of hyperlinks to web sites related to the item and to uploaded documents within the system. For information on how to obtain a PPM link, refer to *Obtaining a Primavera Portfolio Management Link* (on page 293).
- **Contacts:** Provides contact information for people related to the item.

> **Note:** Except for the **Life Cycle** tab, you can resize columns in the Workbook tabs by clicking and dragging the column divider to the desired column width. The resized column measurements are saved and displayed the next time you view the tabs in the workbook. The last workbook tab viewed will re-appear the next time you view this workbook.

- **Item Information:** The bar at the bottom of the workbook displays information about the item, including:
  - **Manager:** The user who is in charge of the item. Clicking the manager's name displays the user's contact information in the *User Wizard*.

> **Note:** For more information on working with user information, refer to ***Users*** (on page 156) in *Configuring the System Components*.

  - **Life Cycle:** The phases of the item are displayed as bars. Completed and current phases are color-coded. Clicking this area displays the *Life Cycle* dialog box, with the current phase's tab displayed. For more information on working with phase information, refer to ***Working with Life Cycles*** (on page 283).
  - **Current phase:** The name of the current phase is displayed, as well as the percentage of the current phase that is completed.

- **Item start date:** The date the item started.
- **Item end date:** The date the item is scheduled to end.

Accessing the Management Workbook

To access the management workbook:

- If you have selected the Workbook as your default entry module, it will be the first module to appear upon logging in.

> **Note:** For more information on defining a default entry module and default item to be displayed in the Workbook, refer to ***Entering User Preferences*** (on page 157) in Configuring the System Components.

- If you have already selected another module, click the **Workbook** tab. The Workbook module appears.

Working with Workbooks

Management workbooks enable you to view, change and update information relating to a selected item. You can also access the My Updates and My Requests dialog boxes from the User menu. For more information on working with My Updates and My Requests, refer to ***To-Do Module Overview*** (on page 329).

Working with Scorecards

In the management workbook, the current item is rated according to selected scorecards.

Selecting a Scorecard

You can set up an item scorecard by selecting the required item to be viewed, and the scorecard of categories to be used to assess the item.

To select the item and scorecard for the item workbook:

1) In the **Item** field in the Title area, from the drop-down list, select the item to be viewed.
2) In the **Scorecard** field, from the drop-down list, select the scorecard to be used to assess the item. The Workbook is refreshed, and the selected categories, values and indicators are displayed.

> **Note:**
>
> - If you accessed the item workbook from an item cell popup menu in the Scorecard module, the workbook for the current item is automatically displayed, and the scorecard used in the Scorecard module is displayed as the current scorecard.
> - If you selected the Workbook module as your default entry module, the item and scorecard are displayed according to your user preference settings.

Customizing the Scorecard

The scorecard has various customizable features, which enable you to highlight update information, resize columns, and hide or display columns. For more information on customizing the scorecard, refer to ***Customizing the Scorecard*** (on page 255) in Working with Scorecards.

Working with Scorecard Cells

Right-clicking the individual cells of the scorecard displays various popup menus, with options for editing or viewing information connected with the cell contents. The scorecard cells also display visual information, such as whether the data in the cell is outdated. For more information on working with scorecard cells, refer to ***Working with Scorecard Cells*** (on page 259) and ***Scorecard Information Displays*** (on page 277) in Working with Scorecards.

> **Note:** When viewing the scorecard in the Workbook module, there is no Summary Row.

Working with Action Items

This section describes how to work with action items.

Accessing the Action Item Dialog Box to Add

To access the Action Item dialog box in order to add a new action item for the item:

1) In the Action Items tab, click **New**. The General tab of the Action Item dialog box appears.
2) Enter action item information as required, in the following fields:
   - **Action**: Enter a descriptive name for the action item.
   - **Owner**: From the drop-down list, select the user responsible for the action item.
   - **Approver**: From the drop-down list, select the user who is to approve the completion of the action item.
   - **Start Date**: Enter the start date for the action item in the format mm/dd/yyyy, or select the start date from the drop-down calendar.

     > **Note:** Depending on your locale setting, the format you use for entering dates may be different.

   - **Due date**: Enter the date by which the action item is to be completed.
   - **Link**: Enter the web address of a web site related to the action item or a location within the system. For information on how to obtain a PPM link, refer to ***Obtaining a Primavera Portfolio Management Link*** (on page 293).
   - **Description**: Enter a brief description of the action item. You can include hypertext in the description.
   - **Alert when action item created/modified**: Check this option to have an e-mail alert sent when an action item is created or modified.
   - Click **Edit Alert** to open the Message step of the Alert wizard. For information on the Alert wizard, refer to ***Step 5: Defining the Alert Message Information*** (on page 198) in Configuring Alerts and Notifications.

3) To set or view the action item's security permissions, click **Security**. The Security tab of the Action Item dialog box is displayed. For information on security permissions, refer to ***Security*** (on page 443).
4) Click **OK**. The Action Items tab is refreshed, and the new action item is displayed.

Accessing the Action Item Dialog Box to Edit

To access the Action Item dialog box in order to edit action item information:

1) In the Action Items tab, highlight the row of the action item to be edited, and click **Edit**. The General tab of the Action Item dialog box is displayed.
2) Edit action item information as required.
3) To edit the action item's security permissions, click **Security**. The Security tab of the Action Item dialog box is displayed. For information on security permissions, refer to ***Security*** (on page 443).
4) Click **OK**. The updated information is displayed in the Action Items tab.

Notes:

- For more information on entering action item information, refer to ***Accessing the Action Item Dialog Box to Add*** (on page 282).
- Select **Action Item Completed** to indicate that the action item has been completed. You can also check the **Completed** box directly in the **Action Items** list after selecting the action item.

Removing an Action Item

To remove an action item from the Action Items tab:

1) In the Action Items tab, select the action item to be removed, and then click **Remove**. A confirmation dialog is displayed.
2) Click **OK**. The Action Items tab is refreshed, and the action item is deleted from the list.

Working with Life Cycles

The Life Cycle tab displays detailed information about the item's phases.

Note: If no life cycle is assigned for the item, click the **Assign Life Cycle** button that appears in the Life Cycle tab. The Life Cycle dialog box appears. Select a predefined life cycle. After confirming, the life cycle information will be displayed in the Life Cycle tab. For additional information, refer to ***Creating Life Cycles*** (on page 151) in *Configuring the System Components*.

The components of the Life Cycle tab are as follows:

- **Check-Mark** **Column:** A checkmark in this column indicates that the phase is finished. A right-pointing arrow indicates the item's current phase.
- **Phase Column:** Displays the name of the phase.

- **Annotation** **Column:** An annotation mark in this column indicates that the phase has some annotations, which are entered in the *Life Cycle* dialog box. Annotations are explanatory notes or comments about the phase.
- **Percentage** **Column:** Displays the completion percentage of the phase.
- **Gantt Bars:** Show the Planned, Forecast and Actual progress for the item's various phases. The bars lie one above the other with Planned at the top, Forecast in the middle and the colored Actual bar at the bottom. The color of the Actual bar indicates the health of the phase.
- **Edit Button:** Click to open the Life Cycle dialog box for the phase.
- **Item Information Area:** Displays the item's manager, start date, end date, and phases. You can click the manager name to open his or her user wizard.

Accessing the Life Cycle Dialog Box from the Life Cycle Tab

Do either one of the following to access the Life Cycle dialog box from the Life Cycle tab:

- Double-click the row of the phase to be edited.
- Select a phase, and then click **Edit**. The Life Cycle dialog box is displayed with the selected phase

> **Note**: You can also click the Life Cycle bar at the bottom of the Life Cycle tab.

Refer to ***Working with the Life Cycle Phases Dialog Box*** (on page 284) for more information.

Working with the Life Cycle Phases Dialog Box

You access the Life Cycle dialog box from the Life Cycle tab or from the row of the phase to be edited.

Each tab of the Life Cycle dialog box represents a single phase in the item's life cycle. You can access each phase by clicking on the relevant tab. Once you access the required phase, you can view, edit, or enter information as required, including information about deliverables.

Edit information as required in the following areas of the Life Cycle dialog box:

- **Status**: From the drop-down list, select the status of the phase. A phase can be **Not Started**, **Current Phase**, **Finished** or **Skipped**.
- **% Complete**: Indicates the percentage of the phase that has been completed.
- **Health**: Select an indicator to represent the health of the phase.
- **Start**: The start date of the phase. There are fields for the Planned, Forecast, and Actual Start dates. Select the dates from the drop-down calendar, or enter them manually in the default date format.

> **Note:** The date format depends on your locale and the date setting in the system defaults. For more information on the portfolio view mode, refer to ***Editing the Regional Options*** (on page 413) in Administration.

To the right of the **Start** fields is an indication of how early or late the actual start date is, as compared to the planned start date. This indication appears only when both the Planned and the Actual Start dates have content.

> **Note:** For a Planned and Forecast Gantt bar to appear in the Life Cycle dialog box, you must assign both a start and an end date. The Actual bar needs only a start date to appear.

- **End**: The end date of the phase. There are fields for the Planned, Forecast, and Actual End dates. Enter the dates manually in the default date format, or select from the drop-down calendar.

  > **Note:** The date format depends on your locale and the date setting in the system defaults. For more information on the portfolio view mode, refer to ***Editing the Regional Options*** (on page 413) in Administration.

  To the right of the **End** fields is an indication of how early or late the actual end date is, as compared to the planned end date. This indication appears only when both the Planned and the Actual Start dates have content.

  > **Note:** For a Planned and Forecast Gantt bar to appear in the Life Cycle dialog box, you must assign both a start and an end date. The Actual bar needs only a start date to appear.

- **Deliverables**: The Deliverables table displays the deliverables of the phase.

  > **Note:** You can resize the columns in the Deliverables table by clicking and dragging the column divider to the desired column width. You can also click the title of a column in the Deliverables table to sort the table according to the values in that column.

- **Annotation**: Click to write annotations for the phase
- **New**: Click **New** to access the Deliverable dialog box, in order to create a new deliverable.

  > **Note:** For more information on creating a new deliverable, refer to ***Creating Life Cycles*** (on page 151).

- **Edit**: Select a deliverable in the table and click **Edit** to access the Deliverable dialog box, in order to edit deliverable information.

  > **Note:** For more information on editing deliverable information, refer to ***Working with Deliverables*** (on page 286).

- **Remove**: Select a deliverable in the table and click **Remove** to delete the deliverable from the phase.

- **Description**: View the description for the selected deliverable.
- **Email Alert when this phase is modified**: Check this option to have an e-mail alert sent when an action item is created or modified.
  - Click **Edit Alert** to open the Message step of the Alert wizard. For information on the Alert wizard, refer to ***Configuring Alerts and Notifications*** (on page 188).

Working with Deliverables

The **Deliverables** tab displays detailed information about the deliverables for the phases of the item.

The components of the **Deliverables** tab are as follows:

- **Completed column:** A checkmark in this column indicates that the deliverable is completed.
- **Mandatory column:** An asterisk (*) in this column indicates that the deliverable is mandatory.
- **Deliverable column:** Displays the name of the deliverable.
- **Owner column:** Displays the name of the user responsible for the deliverable.
- **Phase column:** Displays the name of the phase.
- **Phase Status column:** Indicates the status of the phase, such as started or finished.
- **Link column:** Displays the link assigned to the deliverable.
- **Due date column:** Displays the date by which the deliverable is to be completed.
- **Edit button:** Click to edit a deliverable.
- **Phase button:** Click to display the *Life Cycle* dialog box.
- **Description area:** Displays a description of the selected deliverable.
- **Item Information area:** Displays the item's manager, start date, end data, and phases.

> **Note:** Clicking a phase bar in the **Item Information** area opens the *Life Cycle* dialog box.

Accessing the Deliverable Dialog Box from the Deliverables Tab:

Do either of the following to access the Deliverable dialog box from the Deliverables tab:

- Double click an entry in the list of deliverables.
- Select a deliverable, and then click **Edit**. The Deliverable dialog box appears.

Working with the Deliverable Dialog Box

Edit information as required in the following areas of the Deliverable dialog box:

- **Deliverable Completed**: Place a checkmark in the box to indicate that the deliverable has been completed.

  > **Note:** You can also indicate that a deliverable has been completed by directly checking the **Completed** column checkbox on the **Deliverables** tab.

- **Name**: Enter a name for the deliverable.

- **Phase**: Indicates the phase to which this deliverable belongs.

  Note: When creating a new deliverable, you can assign the deliverable to any of the life cycle phases.

- **Owner**: From the drop-down list, select the name of the user who is responsible for the deliverable.
- **Approver**: From the drop-down list, select the name of the user who approves the completion of the deliverable.
- **Due date**: Enter the date by which the deliverable is to be completed in the format m/d/yyyy. Alternatively, select a date from the drop-down calendar.

  Note: Depending on your locale setting, the format you use for entering dates may be different.

- **Link**: Enter the web address of a web site related to the deliverable or a location within the PPM system. The text entered in this field will be displayed as ***Obtaining a Primavera Portfolio Management Link*** (on page 293) or use the **Upload**, **Documents**, or **Browse** buttons (described below) to help you complete this field.
  - **Upload** button: Click to open the Upload Document dialog box to upload and link to a new document on the PPM server.

    For more information, refer to ***Working with Documents*** (on page 397).
  - **Documents**: Click to link to a document on the PPM server. The Documents dialog box appears, listing all uploaded documents. Select a document from the list and click **OK**. The document's link is entered in the Link field.
  - **Browse**: Click to browse to a document in the network. In the Choose File dialog box, select a document and click Open. The document's link is entered in the Link field.
- **Description**: Enter a brief description of the deliverable. You can include hypertext in the description.
- **Mandatory**: Select the **Mandatory** checkbox to make the deliverable mandatory for the completion of the phase.
- **Alert when deliverable created/modified**: Check this option to have an e-mail alert sent when an action item is created or modified.

Click **Edit Alert** to open the **Message** step of the Alert Wizard. For information on the Alert Wizard, refer to ***Step 5: Defining the Alert Message Information*** (on page 198) in Configuring Alerts and Notifications.

Accessing the Security Permissions of a Deliverable

To access the security permissions of a deliverable:

1) In the Deliverable dialog box, click the **Security** tab.

For information on security permissions, refer to ***Security*** (on page 443).

Accessing the Phase Information of a Deliverable Directly

To access the phase information of a deliverable directly:

1) Select a deliverable on the **Deliverables** tab, and then click **Phase**. The Life Cycle dialog box appears with the respective deliverable phase tab selected.

For more information on the Life Cycle dialog box, refer to ***Working with Life Cycles*** (on page 283).

Working with Dependencies

Dependencies determine the relationship between an item (or portfolio) and other items (or portfolios) independent of their grouping. Managing and analyzing dependencies is always done through the relevant dependencies list.

A dependency has several defining attributes:

- **Direction:** the direction of the dependency for the selected item. Is the item/portfolio dependent on another item / portfolio, or does it support another item/portfolio?
- **Type:** Classifies the dependency, e.g., mandatory or optional; or, software, hardware, or firmware. Type is a user-definable value list. For more information about value lists refer to ***Value Lists*** (on page 145), in Configuring the System Components.
- **Weight:** Determines the overall importance of the dependency and its contribution to the item/portfolio. Weight is a configurator-definable value list. For more information about value lists refer to ***Value Lists*** (on page 145), in Configuring the System Components.
- **Cost:** A quantitative measure of the dependency. For more information about Cost refer to ***The Defaults Tab*** (on page 409), in Administration
- **Annotation:** An annotation is an explanatory note or comment about the dependency.

The **Dependencies** tab in the **Workbook** module displays a list of dependency relationships between the selected entry and the other entries listed. Every row in the list represents a dependency item.

If you have edit permission for the entry, you can add, edit, and remove dependency items directly within the list.

The list is always filtered. You can control the filtering by selecting the **Direction** and **Type**.

- **Direction:** The direction of the dependency.
  - **Depends on:** The items/portfolios on which the item is dependent. This is the default list.
  - **Supports**: The items/portfolios that the item supports.
- **Type**: The dependency type(s) as defined by the user. There are two special options: All shows all the dependency items without regard to type, and *No Value* shows only those dependencies that have not been classified by type.

The dependencies list includes various columns grouped under **Dependency Properties** and **Item Properties**.

To sort the table, click a column heading. The columns are:

- **Item Name:** Displays the names of the items/portfolios that have a dependency relationship with the workbook item. The names are preceded by line numbers and icons:
  - An item is preceded by .
  - A candidate item is preceded by .

- A portfolio is preceded by .
- A portfolio of portfolios is preceded by .

- **Dependency Properties columns**:
  - **Type:** The dependency type(s) as defined in by the user.
  - **Weight:** The overall importance of the item and its contribution to the portfolio.
  - **Cost**: The quantitative measure of the item.
  - **Annotation:** If there is an annotation associated with the dependency an annotation icon appears in this column.
- **Portfolio:** Select the portfolio or super-portfolio that is to be displayed in the filter list of the **Add** button in Forms.
- **(Default) Item Properties columns:**
  - **Manager:** Name of the manager responsible for the item/portfolio.
  - **Start Date:** Item/portfolio start date.
  - **End Date:** Item/portfolio end date.
  - **Life Cycle:** Current state of the item/portfolio life cycle.

> **Note:** you can change the default item properties columns shown by selecting a different scorecard as item properties. For more information, refer to ***Workbook Dependencies List*** (on page 373) in Working with Dependencies

- **Annotation Box:** If there is an annotation for the selected dependency, it is displayed in this box.

Adding a Dependency

You must have edit permission on the item to add items/portfolios/super-portfolios to the dependencies list.

To add a Dependency:

1) Click **Add** to add one or more new items, portfolios, or super-portfolios to the dependencies list.

   The **Add Items to the Dependencies List** pop-up window appears.

2) Select one or more items or portfolios from the filtered dependency list. For each of the selected items and portfolios, a new dependency item is appended to the list.

> **Note:** To add multiple items or portfolios hold down the **Shift** or **Ctrl** key on your keyboard as you select.

3) Click **OK**.

Editing a Dependency

If you have edit permission on the item, you can edit a dependency relationship directly within the list or in the **Dependency Properties** dialog box.

To edit a Dependency:

1) Select and edit dependency cells directly in the list.

   Or

   Double-click the dependency **Item Name** in the list, or select a dependency and click **Edit**. The **Dependency Properties** dialog box appears.

   The top of the **Dependency Properties** dialog box shows the name of the selected item/portfolio, the direction of the dependency (Depends on or Supports), and the name of the dependent or supporting item/portfolio.

2) Edit information as required in the following fields:

   - **Type**: Classify the dependency by selecting an option from the drop-down list.

     Note: You can also edit the type directly in the dependencies list by double-clicking on the dependency's **Type** cell.

   - **Weight**: Define the overall importance of the dependency item and its contribution to the portfolio by selecting an option from the drop-down list.

     Note: You can also edit the weight directly in the dependencies list by double-clicking on the dependency's **Weight** cell.

   - **Cost**: Enter a numeric value for the dependency.

     Note: You can also edit the cost directly into the dependencies list by double-clicking on the dependency's **Cost** cell.

   - **Annotation**: Insert an annotation that further describes the dependency. When there is an annotation for the dependency, an annotation icon appears in the dependencies list. The annotation text appears on the **Dependencies** tab in the **Annotation** field (read-only) as well as in a tooltip when hovering over the annotation column icon in the table.

To remove a dependency from the Dependencies list:

Select the dependency to remove by clicking anywhere on the row. The selected row is highlighted in yellow. Click **Remove** to remove the dependency from the list.

Accessing the Dependency Item Shortcut Menu

Right-click on the **Item Name** for a specific entry in the dependency list. The **Dependency** shortcut menu pops up, enabling you to choose from the following options:

- **Forms**: Choose **Forms** to access the form for the corresponding item/portfolio.
- **Workbook**: Choose **Workbook** to access the management workbook for the corresponding item/portfolio.
- **Dependencies**: Choose **Dependencies** to access the dependencies list for the corresponding item/portfolio. The drill down can be to either the Workbook or Forms modules depending on your system settings. The Workbook is the default drill down. The default drill down can be changed to access a specific form and tab. For more information, refer to ***Workbook Dependencies List*** (on page 373) in Working with Dependencies.

- **New Alert**: Choose **New Alert** to open the New Alert Wizard to create an alert for the item. For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189), in Configuring Alerts and Notifications.

Customizing the Dependencies View

You can customize the way the Dependencies tab looks by changing the system defaults defined in the Admin screen. For more information on customizing the Dependencies list, refer to ***Workbook Dependencies List*** (on page 373) in Working with Dependencies.

Working with Links

A document uploaded to the PPM Server can be accessed using a URL (web link). You can use a document's link any place that supports links within the system (text fields, annotations, link lists, deliverables, etc.). This capability allows organizations to overcome existing network/firewall limitations that prevent dispersed users and departments from sharing documents.

The following types of documents can appear in the Links list:

- Uploaded documents in the item's central documents location. In the Links list, the document names are preceded by .
- Documents on the network. In the Links list, the document names are preceded by .
- Web sites. In the Links list, the document names are preceded by .

The Links tab displays information about the links.

The components of the Links tab are as follows:

- **Name column:** Displays the name of the link.
- **Link column:** Displays the URL of the link.
- **Size column:** Displays the size of the document.

  Note: Size is displayed only for uploaded documents.

- **Owner column:** Displays the user responsible for the link.
- **Uploaded column:** Displays the date the document was uploaded.

  Note: Date is displayed only for uploaded documents.

- **Description area:** Displays a description of the link.
- **New button:** Accesses the Link dialog box to add a new link to the Links list.
- **Edit button:** Accesses the Edit Link dialog box to edit the selected link.
- **Remove button:** Removes the selected uploaded document link from the list. Only the link is removed. The document is not removed from the system.
- **Upload button:** Access the Upload Document dialog box to upload a new document to the PPM Server and place its link on the Links list. Refer to ***Uploading Documents*** (on page 398) in Working with Documents.
- **Item Information area**: Displays the item's manager, start date, end date, and phases.

Creating a New Link

To create a new link in the Links list:

1) In the Links tab, click **New**. The Link dialog box is displayed.
2) Enter link information as required in the following fields of the Link dialog box:
   - **Name**: Enter a name for the new link. If you use the Upload, Documents, or Browse button (described below), then the selected name is automatically entered into the field.
   - **Link**: Enter the URL, or web address, of the new link. You can enter the URL of a web site or a location within the system. The text entered in this field will be displayed as ***Obtaining a Primavera Portfolio Management Link*** (on page 293). Use the Upload, Documents, or Browse button (described below) to help you link to uploaded documents in the system, or external documents in the network.
   - **Upload Button**: Click to upload a new document to the PPM server and link to it. The Upload Document dialog box is displayed. A link is placed in the Links list when the upload is complete. For more information, refer to ***Uploading Documents*** (on page 398) in Working with Documents.
   - **Documents Button**: Click to link to a document on the PPM server. The Documents dialog box appears. A list of uploaded documents appears in the Documents dialog box for the item/portfolio displayed in the **Documents of** field. Select a document from the list and click **OK**. The document's name and link are automatically entered in the Link dialog box.

     Note: If you want to link to a document that is stored under a different item/portfolio, open the **Documents of** drop-down list and select a different item/portfolio.

   - **Browse Button**: Click to browse to a document in the network. The Choose File dialog box is displayed. Select a document and click **Open**. The document's name and link are entered in the Link dialog box.

     Note: Do not link to a document located on a local computer.

   - **Owner**: From the drop-down list, select the user responsible for the link.
   - **Description**: Enter a brief description of the link. You can include hypertext in the description.
3) Click **OK**. The new link is added to the Links list.

Editing a Link

To edit link information:

1) In the Links tab, highlight the row of the link to be edited and click **Edit**, or double-click the row of the link to be edited. The Link dialog box is displayed.
2) Edit link information as required, and click **OK**. The selected link is updated.

Note: For more information on entering link information, refer to ***Creating a New Link*** (on page 292).

Removing a Link

To remove a link from the Links tab:

1) In the Links tab, select a link from the list, and then click **Remove**. A confirmation dialog box is displayed.
2) Click **OK**. The link is removed from the Links list.

> **Note**: For uploaded documents, you only remove the link to the document, not the document itself.

Uploading a Document

To upload a new document to the PPM server and link to it from the Links list in a single operation:

1) In the Links tab, click **Upload**. The Upload Document dialog box is displayed. For more information, refer to ***Uploading Documents*** (on page 398) in Working with Documents.

Obtaining a Primavera Portfolio Management Link

In Primavera Portfolio Management (PPM), a link that is entered into a cell or field can be the URL of a web site outside of the application or of a location within it. For example, an action item in the Workbook module can contain a link to a specific form in the PPM application.

To obtain a link:

1) From the **Collaborate** menu on the **Menu Bar**, select **Obtain Page Address**. The Page Address dialog box appears.
2) Uncheck the **Include Item** box to reference workbook details of the item previously selected in the workbook, or the item set as default in the User Wizard. For more information on the User Wizard, refer to ***Creating a User with the User Wizard*** (on page 156) in Configuring the System Components.

> **Note:** The Include Item box is checked by default, and when checked, indicates that the page address references the workbook details of the current item.

3) Click **Copy** to obtain the page address. You can now paste the URL into any application.

Working with Contacts

This section describes how to work with the *Contacts* tab.

Accessing the New Contact Dialog Box

To access the Add Contact dialog box, where you can enter contact information for people connected with the item:

1) In the Contacts tab, click **New**. The Add Contact dialog box is displayed.
2) Select **New Contact** to add a contact who is not currently a PPM user.

Or

Select **Existing User (Contact)** to add an existing PPM user as a contact for the item. From the drop-down list, select the user to be added to the contact list.

3) Click **OK**. If you selected a current user as the new contact, the Contacts tab is refreshed, and the user's name and information is displayed in the contact list.

   If you selected **New Contact**, the Contact dialog box is displayed.

4) Enter contact information in the following areas of the New Contact dialog box:
   - **First Name**: Enter the new contact's first name.
   - **Last Name**: Enter the new contact's last name.
   - **Job Title**: Enter the new contact's position.
   - **Company**: Enter the name of the new contact's company.
   - **Department**: Enter the new contact's department.
   - **Address**: Enter the new contact's business address.
   - **Phone**: Enter the new contact's office phone number.
   - **Fax**: Enter the new contact's office fax number.
   - **E-mail**: Enter the new contact's business email address.
   - **Description**: Enter a brief description of the new contact's connection to the item. You can include hypertext in the description.
5) Click **OK**. The Contacts tab is refreshed, and the new contact is displayed in the contact list.

Accessing the Contact Dialog Box

To access the Contact dialog box, where you can edit information about the contacts for the item:

1) In the Contacts tab, highlight the row of the contact to be edited and click **Edit**, or double-click the row of the contact to be edited. The Contact dialog box is displayed.
2) Edit contact information as required, and click **OK**. The Contacts tab is refreshed, and the updated contact is displayed in the contact list.

Removing a Contact

To remove a contact from the list in the **Contacts** tab:

1) In the **Contacts** tab, select a contact from the list, and then click **Remove**. A confirmation box appears.
2) Click **OK**. The **Contacts** tab is refreshed, and the contact is removed from the contact list.

Forms Module Overview

In PPM, you can view data in a variety of ways. Forms are designed for entering or reporting the data of one specific item or portfolio at a time. This data is then aggregated into big picture formats that provide you with an overall view of your portfolio, such as investor maps and scorecards. Forms have several unique features and qualities that make them more suitable for some Portfolio Management tasks:

- **Data Entry:** forms are an intuitive data entry mechanism for single items and portfolios. Data entry components are arranged using tabs and group boxes, enabling a flexible form design. Form designers can tailor specific forms, guiding the user through an efficient work process.
- **Reports:** forms are a great reporting tool, displaying up-to-date information in both alpha-numeric and graphical formats. Users can access external web sites, documents, and other modules within the PPM application by embedding web links in any text they enter.

  Status reports can be circulated within the organization in several ways. Links to forms can be sent using email, hard copies can be printed, and forms can be exported as Microsoft Word files. These links can also be embedded in other document formats including Microsoft Excel and PowerPoint.
- **Item/Portfolio Repository:** forms are excellent *main repositories*, storing all the relevant data and analysis information on each item in the system. While working with portfolio level views like Scorecards and Investor Maps, one can drill down to the main repository and get comprehensive information on the item in focus.

About the Forms Module

The *Forms* module provides you with all the necessary tools for entering data easily and efficiently. You can use forms to view, summarize, and categorize data. Additionally you can use form wizards to create custom-designed forms that cater to the specific needs of your organization.

A form is made up of various tabs. A tab is a single display page containing data entry components arranged in group boxes. Group boxes are visual aids used to separate a form's fields into manageable groups. Group boxes may contain various types of data entry elements.

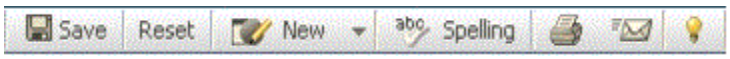
Part I: Working with Forms

Tour of Forms

Forms include a variety of features that enable you to enter and organize all of the information regarding your investment portfolios.

The **Forms** module includes the following components:

- **Title Area:** Enables you to select the form, item or portfolio, and the version (Data as of) to be viewed. Click the fields and select values from their respective pop-up windows.
- **Menu Bar:** Provides Forms menu options, which enable you to create, edit, print, and export forms. The menu bar also provides the standard **Item, Collaborate, User, Setup,** and **Help** menu options.
- **Toolbar:** Displays the following buttons:



  - **Save**: Updates the system with all the new data that was entered in the form and records the date and time of the update.

    Notes:

    - The system saves your data automatically when you navigate to

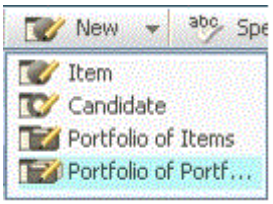
another module or close your browser screen.

- When you click **Save**, all the tabs in the form are saved, not just the currently displayed tab.
- The **Save** button is also available on the bottom of the form, for your convenience.

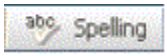
- **Reset:** Replaces all the new values that were entered in the form since the last save.

  Note: The **Reset** button is also available on the bottom of the form for your convenience.

- **New:** (Available only if the form was defined as new-item enabled.) Allows you to create new items and portfolios from within the form. The New drop-down menu displays object types that may be added to the form. The list reflects the checkboxes selected in the **Defaults** step of the Form Wizard. For more information on object types, refer to ***Setting Form Defaults and Required Field Enforcement*** (on page 79).



  Note: If only one object type is selected as available for entry, the arrow next to the **New** button is disabled. Clicking **New** creates the predefined new item/portfolio.

- **Spelling:** Checks the spelling on the currently displayed tab. Click 

to open the **Spell Check** dialog box.

  Words that do not appear in the spell checker's standard and/or custom dictionaries appear in the **Not in Dictionary** field. You may choose one of the following options:

  Ignore: The word will be left as it appears on the tab.

  Ignore All: All instances of the word will be left as they appear on the tab.

  Add Custom: The word will be added to your PPM custom dictionary.

  Change: Whatever you entered into the *Change to* box, or selected from the *Suggestions* box, will replace the current word.

  Change All: Whatever you entered into the *Change to* box, or selected from the *Suggestions* box, will replace all the instances of the current word.

- **Print:** Prints the form.
- **Send Email:** Sends an email with a web link (URL) to your form.
- **Knowledge:** Opens a Knowledge dialog box with form related Knowledge (if available).
- **Tab Component Knowledge:** The icon appears at the top-right corner of the group box title bar. Clicking the icon will open the Knowledge dialog box. When there is no knowledge, the icon appears ghosted.

Tabs: A tab is a single display page containing data components arranged in group boxes. Each form is composed of one or more tabs. Forms may contain as many as twenty tabs. Only one tab is displayed at a time. The same tab can be included in many different forms. For information about Tabs refer to ***Tabs*** (on page 59).

> **Note:** The tabs library is shared by both forms and dashboards. The same tab can be used in many different forms or dashboards.

Accessing the Forms Module

To access the Forms module:

- If you have selected *Forms* as your default entry screen, it will be the first screen you see when you log on.
- If you have already selected another view, click the **Forms** tab. The **Forms** module appears.

Displaying a Form

To display item or portfolio data in the **Forms** module:

1) Click the **Forms** module tab at the top of the screen.
2) Click the **Form** field.
3) From the **Select a Form** pop-up window, select a form.

> **Notes:**
>
> - The **Select a Form** pop-up window shows the last five forms you viewed on top.
> - You can resize the width of the pop-up window to view long names. Place your mouse over the bottom right corner and drag to the desired size.

4) To search for a form, click the **Search** tab. Type a search string (not case sensitive) in the **Search** field and click the **Search** button. The search results appear in the window.

> **Note:** The search results include all forms that begin with the requested string first, followed by any form that contains the string. The number of retrieved objects is limited, so you may need to refine your search.

5) Click the **Item** field in the title area. The **Select an Item or Portfolio** pop-up window appears. Select an item or portfolio.
6) Click the **Data as of** field in the Title area. Select a version from the Select a *Version Pop-up* list.

> **Notes:**
>
> - Pop-up windows feature a *favorites* list, showing the last five selections on top.
> - Resize or scroll the pop-up window to select a value. For further

details about pop-up windows, refer to ***Selecting Portfolios*** (on page 44) System Components.

Editing Forms and Tabs

You can edit forms and tabs at any time.

Note: Only an administrator or the creator of the form can edit a form or its tabs.

To edit a form or tabs:

1) Select the form you wish to edit. For instructions, refer to ***Displaying a Form*** (on page 297).
2) From the **Form** menu, choose **Edit** or **Edit Tab**. The Form or Tab Wizard appears, depending on the option you selected.

Entering Data in a Form

Forms use various types of data entry elements. An explanation of each element and the manner of entering data into each one is detailed below.

Note: You must click the **Save** button on the toolbar to save the data in the system. Data is saved automatically when you navigate to another form, item, or module.

Working with a Data-Entry Field

The following types of data-entry fields exist in Forms:

- **Text/Numeric**: Enter the specified text or numeric value.
- **Drop-down list**: Select a value from the drop-down list.

  The values available in the drop-down list are configured by the user. The values shown in the drop-list can be limited by a selection elsewhere in the Form.

  In the examples below, the "Country" list is seen unfiltered on the left. On the right, the same list is filtered by the "Language" field-- so only those countries in which English is spoken are shown.
- **Text Area/Annotation**: The text area and annotation fields have a scroll bar to enable you to view all of the characters in the fields. You can cut and paste characters into a text area/annotation field. You can enter a maximum of 2,000 characters in annotation field.
- **Date Box**: Enter a date into the field or select a date from the date popup.
- **Indicator**: Select an Indicator from a drop-down list.
- **For User Category field**: Click on the field. The User pop up dialog appears. Then type a search string in the Search field, select the applicable matching result, and click OK.

Entering Data in a Data-Entry Field

To enter data in a data entry field:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).

2) Click the name of the tab you want to display.
3) Click the cell and enter the appropriate value into the data entry field, for example, type a text or numeric value, or select a value from the drop-down list, pop up window, or calendar.
4) From the toolbar, click **Save**.

Entering Data in an Item's Parents Field

An item's or portfolio's parent portfolio is any portfolio that contains the item or portfolio. However, each item or portfolio only has one home portfolio from which the item or portfolio inherits its security settings.

The Item's Parents field can be displayed in the following modes:

- **Home Portfolio** (default): allows you to select a single portfolio as the home portfolio of the item. This field can appear alone or with the Other Portfolios field.
- **Other Portfolios**: allows you to select a single portfolio as the home portfolio of the item and also display an editable list of all other parent portfolios that are not the home portfolio.

Selecting a portfolio as the Home Portfolio field

To select a portfolio as the Home Portfolio field:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.
3) Click in the Home Portfolio field. The **Select a Portfolio** pop-up window appears.
4) Select the home portfolio for the item from the **Select a Portfolio** pop-up window.

> **Note:** Pop-up list cannot be selected. These are either portfolios you cannot access due to security permission, or Query Based Portfolios to which items or portfolios belong only if they meet pre-specified criteria.

5) From the toolbar, click **Save**.

Adding a portfolio to the Other Portfolios field

To add a portfolio to the Other Portfolios field:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.
3) Click next to the Other Portfolios field. The Select a Portfolio pop-up window appeSelect a parent portfolio for the item.

> **Note:** Portfolio names that appear faded in the Select a Portfolio pop-up window cannot be selected. These are either portfolios you cannot access due to security permission, or Query Based Portfolios to which items or portfolios belong only if they meet pre-specified criteria.

4) From the toolbar, click **Save**.

Removing a portfolio from the Other Portfolios field

To remove a portfolio from the Other Portfolios field:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.
3) Click a portfolio name in the Other Portfolios list.

> **Note:** Portfolios' names that appear faded in the Portfolio Pop-up list cannot be selected. These are either portfolios you cannot access due to security permission, or Query Based Portfolios to which items or portfolios belong only if they meet pre-specified criteria.

4) Click . The selected portfolio is removed from the Other Portfolios list.
5) From the toolbar, click **Save**.

Entering Data in a Table

Tables enable you to view data in an efficient manner. The arrangement of data in columns and rows allows you to easily scan the data and make comparative evaluations and summaries.

The following types of data-entry cells exist in a Table:

- **Text/Numeric**: Enter the specified text or numeric value.
- **Drop-down list**: Select a value from the specified drop-down list.
- **Date Box**: Enter a date into the cell or select a date from the date box.
- For User Category cell: Click on the cell. The User pop up dialog appears. Select a user from the list. You can narrow the list using the search field. Click OK to confirm your selection.

To enter data in a Table:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297). Click the name of the tab you want to display.
2) Double-click a cell in the table in which you wish to enter data.
3) Enter the new value.

   Or

   Click the drop-down list arrow button to display a drop-down list of available values or indicators and select the desired option.
4) Repeat steps 2-3 as necessary.

> **Note:** Press **TAB** or **ENTER** to move from one cell to another when entering values.

5) From the toolbar, click **Save**.

Entering Text in a Graph Annotation

To include an Annotation field below the graph:

1) Check the **Ann** cell, on the graph's component row. The Graph Details pop-up includes an annotation field.

   Annotation text entered here is displayed as a tool tip when the cursor hovers above the graph in the form display.

Entering Data in a Dynamic List

A Dynamic List in a form shows entities related to the selected item. These entities are relevant only to this **particular** item or portfolio. Dynamic lists record sub-items' data.

The Dynamic List component contains a predefined set of columns that can differ from one dynamic list to another. A dynamic list can be defined as either **Editable** or **Read Only**.

Read-Only Dynamic Lists

In a read-only dynamic list, the **New**, **Remove**, and **Move Row** buttons are hidden. In addition, when double-clicking on the dynamic list, the area is hatched, marking it as read-only. The dynamic list can only be viewed.

Entering data in an Editable Dynamic List

In an editable dynamic list, the **New**, **Remove**, and **Move Row** buttons are shown. The dynamic list can be edited.

> **Note:** The dynamic list is editable within the security constraints of the logged-in user.

To enter data in an Editable Dynamic List:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.
3) On the dynamic list component, double-click on any cell.
   If the cell is editable, it changes to edit mode and you can enter the desired input. Cells that cannot receive input (e.g. calculated, or read only categories) are hatched.
   - For User Category cells: Click on the cell. The User pop up dialog appears. Select a user from the list. You can narrow the list using the search field. Click OK to confirm your selection.
4) Complete all required cells. An asterisk (*) in a column header designates it as mandatory. If data is not filled into a required cell, the system indicates this error by underlining the field with a red wavy line and issues a warning message.

   > **Note:** The degree of enforcement of required fields is defined for the entire form. For more information about defining required fields refer to ***Setting Form Defaults and Required Field Enforcement*** (on page 79) in Creating a Form.

5) Click **Save** to save your input.

Creating Entries of Dynamic List Categories

In a form, you can update sub-items cell entries of a dynamic list as follows:

1) In the dynamic list table on a form, right-click on a sub-item cell and select **Create in a Window** or **Update in a window**.
2) In the **Update** dialog box, update the entries for each category for a selected row.
3) Click any of the following buttons:
   - Select **Next** to select the next row in the dynamic list on the form.
   - Select **Back** to select the previous row in the dynamic list categories on the form.
   - Select **Cancel** to discard all changes made in this dialog box.
   - Select **OK** to update the dynamic list category entries.

Adding, Removing, or Changing the order of the rows in the dynamic list

To add, remove, or change the order of the rows in the dynamic list:

1) To add a new row click **New**.

> **Note:** Every time you double click on a cell in the row, that row is numbered and the marker moves down to the next row in the dynamic list. When the default rows are exhausted, a new row is generated automatically. This enables unlimited data entry.

2) To change the order of the rows in the dynamic list, focus on a row and select the desired **Move Row** arrow option.
3) To remove a row from the dynamic list click **Remove**.

> **Note:** As always when working in a form, all changes take effect only after you click **Save**.

Sorting Data in a Dynamic List

In the dynamic list, you can select a category by which the sub-items are sorted. You can sort the sub-items in ascending or descending order according to categories included in the displayed scorecard or according to the categories included in the dynamic list.

You can also define a multiple column sort.

Changing the Sorting Order

In the dynamic list:

1) Right-click the column header which you want to use as the basis for the sort. A popup menu is displayed.
2) From the popup menu, select **Sort Ascending** or **Sort Descending**.

   The dynamic list is refreshed and sorted according to the selected category's values.

> **Notes:**
>
> - The last sort order viewed is displayed the next time you select the current form.
> - For ascending order, empty cells are listed before cells that contain

values. For descending order, cells that contain values are listed before empty cells.

Sorting Based on Multiple Columns

In the form:

1) Select **Multiple Column Sort...** from the **Forms** menu, or right-click any of the column headers in the Form. The Multiple Column Sort dialog box opens.
2) Define the order by which the dynamic list will be sorted.
3) Click **OK**. The dynamic list is refreshed and reordered according to the defined multiple column sort values.

Notes:

- The last sort order viewed is displayed the next time you select the current Form.
- For ascending order, empty cells are listed before cells that contain values. For descending order, cells that contain values are listed before empty cells.

Freezing Columns in a Dynamic List

In the dynamic list:

1) Right-click the column header up to which you want to freeze the columns. A popup menu is displayed.
2) From the popup menu, select **Freeze All Left Columns**.

Note: You can unfreeze all frozen columns by selecting **Unfreeze** from the popup menu.

Transferring data between Dynamic Lists

It is possible to configure an automatic transfer of data between two dynamic lists. This is useful when you want utilize the information from one dynamic list as the basis for another list, or to save a reference copy of the original list. For more information on dynamic lists, refer to ***Working with Dynamic Lists*** (on page 377).

Note: For instructions on how to add a transfer tool widget to a tab in Forms, refer to ***Customizing Transfer Tool Components*** (on page 379) with Dynamic Lists.

Initiating data transfer between two dynamic lists

To initiate data transfer between two dynamic lists:

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.

3) Check the check box of the relevant transfer tool.
4) When you click **Save**, the data from the Source dynamic list is automatically transferred to the Target dynamic list, based on the rules defined by the system configurator.

> **Note:** It is possible to check the box of **only one transfer tool** at a time. All other transfer tool check-boxes are disabled until you click **Save**.

Working with a Phases List

A Phases List in a form lists all the phases in the life cycle of an item or portfolio together with relevant phase details. A life cycle is a collection of phases that helps track the status of an item. For example, a software project's life cycle may contain phases such as an R&D phase, a marketing phase, etc. Life cycles enable the manager to track the progress and status of each phase of a managed item.

> **Notes:**
>
> - If a life cycle has not yet been assigned for an item, click the **Assign Life Cycle** button on the upper right corner of the Phases List group box to open the Life Cycle dialog box. Once a life cycle is defined the button will not be available anymore. For more information on the Life Cycle dialog box, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
> - For instructions on modifying a life cycle, refer to ***Working with Life Cycles*** (on page 283), in Working with Management Workbooks.

The Phases List contains the following columns, as shown in the figure below:

- **(Phase Completed)**: A checkbox indicating whether a phase is complete.
- **Phase**: The name of the phase.
- **(Health)**: The health indicator of the phase.
- **Status**: The status of the phase.
- **(Percent Completed)**: The percentage of the phase that is complete.
- **Planned Start**: The original date on which you plan to begin the phase.
- **Planned End**: The original date on which you plan to end the phase.
- **Forecast Start**: The date on which you forecast the phase will **begin**. The Forecast Start date reflects the dynamic fluctuations in the phase plan.
- **Forecast End**: The date on which you forecast the phase will **end**. The Forecast End date reflects the dynamic fluctuations in the phase plan.
- **Actual Start**: The date on which the phase begins.
- **Actual End**: The date on which the phase ends.
- **(Phase Annotation)**: Enter and read comments or notes about the phase.

Entering Data in a Phases List

To enter data in a Phases List:

Notes:

- The cells are automatically checked based on the **Status** cell values. A checkmark in this column indicates that the phase is finished or skipped. A indicates the item's current phase. For more information on Life Cycles, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
- Press **TAB** or **ENTER** to move from one cell to another when entering values.
- You can place your mouse over the vertical lines that divide the row headers and drag the column width to the desired size.

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297)
2) Click the name of the tab you want to display.
3) Double-click the **(Health)** cell and select the health indicator for the phase.
4) Double-click the **Status** cell and select the phase status.

Note: The value **Current Phase** can exist for only one phase in the Phases List. If **Current Phase** status is selected for more than one phase, all phases with **Current Phase** status will revert to their previously listed statuses after the form is saved.

5) Double-click the **(Percent Completed)** cell and enter the percent of the stage that is complete.
6) Double-click the **Planned Start** cell and enter a planned start date for the phase.
7) Double-click the **Planned End** cell and enter a planned end date for the phase.
8) Double-click the **Forecast Start** cell and enter a forecast start date for the phase.
9) Double-click the **Forecast End** cell and enter a forecast end date for the phase.
10) Double-click the **Actual Start** cell and enter the actual start date for the phase.
11) Double-click the **Actual End** cell and enter the actual end date for the phase.
12) Click the **(Phase Annotation)** cell to open a dialog box in which you can enter comments or notes about the phase. If there is already an annotation entered for a phase, an annotation icon will appear in the Phase Annotation cell. Click the icon to view and edit the annotation.
13) Enter an annotation and click **OK** on the annotation dialog box. An annotation icon appears in the selected cell of the Phases List.

> **Note:** You can place your mouse over the selected annotation icon to view a tool tip containing the text of the annotation.

14) From the toolbar, click **Save**.

Working with a Deliverables List

A Deliverables List allows you to track deliverables associated with the selected item/portfolio. The list displays the deliverable's name and additional related information, such as the deliverable owner's name and the due date.

> **Note:**
>
> - If a life cycle has not yet been defined for an item, click **Assign Life Cycle** button on the upper right corner of the Deliverables List group box to open the Life Cycle dialog box. Once a life cycle is defined the button will not be available anymore. For more information on the Life Cycle dialog box, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
> - For instructions on modifying a life cycle, refer to ***Working with Life Cycles*** (on page 283) in Working with Management Workbooks.

The Deliverables List group box contains the following command buttons:

- **New**: Click **New** to open the Deliverable dialog box and create a new deliverable. For information on predefining deliverables, as part of a specific phase and life cycle, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
- **Edit**: Select a deliverable from the Deliverables List and click **Edit** to open the Deliverable dialog box and edit the selected deliverable. For information on editing deliverables, refer to ***Working with Deliverables*** (on page 286), in Working with Management Workbooks.

> **Note:** You may also edit the deliverable directly inside the Deliverables List by double-clicking inside any cell (except the Phase Status cell).

- **Remove**: Select a deliverable from the Deliverables List and click **Remove** to remove the selected deliverable from the list.

The Deliverables List contains the following columns, as shown in the figure below:

- **(Deliverable Completed)**: A checkbox indicating whether a deliverable is complete.
- **(Deliverable Mandatory)**: A checkbox indicating whether the deliverable is mandatory.
- **Deliverable**: The name of the deliverable.
- **Owner**: The owner of the deliverable.
- **Phase**: The phase to which the deliverable belongs.
- **Phase Status**: The current status of the phase.
- **Link**: A web link (URL) related to the deliverable.
- **Due Date**: The date by which the deliverable is due. When the deliverable is late, its due date appears in red.

- **Description**: The description of the selected deliverable is displayed in a separate text area that is below the Deliverables List.

To adjust the deliverable's security permissions, click the **Security** tab. The Security tab is displayed.

The **Security** tab of the Deliverables dialog box enables you to determine the level of access to the deliverable users have within your system. In the Security tab, you can:

- **Add** additional security rows without stopping inheritance.
- **Stop** inheritance and determine whether or not to copy the inherited security permissions.

> **Note:** You must have Admin permission on the deliverable to adjust its security permissions.

For an explanation of system security and instructions for setting permissions, refer to ***Security*** (on page 443).

Entering Data in a Deliverables List

To enter information in a Deliverables List:

> **Notes:**
>
> - The **Phase Status** cells are entered automatically by the system based on the status of the Phase that is assigned to each deliverable. Phase status can be set in the Phases List.
> - Press **TAB** or **ENTER** to move from one cell to another when entering values.

1) Select the form in which you wish to enter data. For instructions, refer to ***Displaying a Form*** (on page 297).
2) Click the name of the tab you want to display.
3) Double-click the **(Deliverable Completed)** checkbox if the deliverable is complete. (The checkbox appears after you click in the cell).
4) Double-click the **(Deliverable Mandatory)** cell if the deliverable is mandatory. (A dropt-down list appears after you click in the cell).
5) Double-click the **Deliverable** cell and enter a name for the deliverable.
6) Double-click the **Owner** cell and select an owner for the deliverable from the drop-down list.
7) Double-click the **Phase** cell and enter a phase from the drop-down list.
8) Double-click the **Link** cell and enter a web address (URL) related to the deliverable.
9) Double-click the **Due date** cell and select a Due date for the deliverable.
10) Click in the **Description** box located beneath the Deliverables List and enter a description for the selected deliverable.
11) From the toolbar, click **Save**.

Working with a Dependencies List

A Dependencies List allows you to manage and analyze dependencies between items/portfolios, regardless of their grouping. You can set the Dependencies List to display items/portfolios that an item depends on, and items/portfolios that the item supports.

Dependencies Lists support your decision-making process, as you are able to consider the impact actions in your portfolio will have on other portfolios.

A dependency has the following properties:

- **Direction**: the direction of the dependency for the selected item. Is the item /portfolio **dependent** on another item / portfolio, or does it **support** another item/portfolio?
- **Type**: Classifies the dependency, e.g., software/hardware/ firmware; or, mandatory / optional. Type is a user-definable value list. For more information about value lists refer to ***Value Lists*** (on page 145), in Configuring the System Components.
- **Weight**: Determines the overall importance of the dependency and its contribution to the portfolio. Weight is a user-definable attribute of a value list. For more information about value lists refer to ***Value Lists*** (on page 145), in Configuring the System Components.
- **Cost**: A quantitative measure of the dependency. For more information about Cost refer to ***The Defaults Tab*** (on page 409), in Administration.
- **Annotation**: An annotation is an explanatory note or comment about the dependency.

You can drill down to the Dependencies List from the Scorecard (refer to ***Scorecard Module Overview*** (on page 248)), Investor Map (refer to ***Investor Module Overview*** (on page 223)), or from a dependency item in another Dependencies List in the Workbook (refer to ***Workbook Module Overview*** (on page 278)).

The Dependencies List shows a list of items which have a dependency relationships with the selected item. Every row in the Dependencies List represents a dependency item.

If you have Edit permission on the item, you can add, edit, and remove items/portfolios in the Dependencies List.

The Dependencies list is always filtered by Direction and Type. When setting up the tab, the configurator selects the Direction filter, and defines the ability of the user to change the Type filter.

The listed items are described in two types of columns: Dependency Properties, and Item Properties. By default the Dependency columns include Type, Weight, Cost and Annotation. These columns are used to describe the dependency relationship. The Item Properties describe the listed item itself.

A Dependencies List set in a form displays the following information:

- **Dependencies List Header**: Shows the Dependencies List's Label, its Direction and the dependency Type.
  - **Direction**: Defines the direction of the Dependencies List as defined by the configurator. The direction can be defined as either **Depends On**, or **Supports**.
  - **Type**: The dependency type(s). There are two special options: All- shows all the dependency items without regard to type, and No Value - shows only those dependencies that have not been classified by type.

When the Dependencies List type is defined in advance, there is no drop-list and the type is simply stated in the heading.

- **Dependencies list**: Includes various columns grouped under Dependency Properties and Item Properties. To sort the table, click the column heading. The columns are:
  - **Item Name**: Displays a numbered list of items/portfolios:

    An item is preceded by

    A candidate item is preceded by

    A portfolio is preceded by

    A portfolio of portfolios is preceded by
- **Dependency Properties columns**: These columns are used to describe the dependency relationship.
  - **Type**: The dependency type(s) as defined in by the user.
  - **Weight**: The overall importance of the dependency and its contribution to the portfolio.
  - **Cost**: The quantitative measure of the dependency.
  - **Annotation**: If there is an annotation associated with the dependency an annotation icon appears in this column.
- **(Default) Item Properties columns**: The Item Properties describe the listed item itself.
  - **Manager**: Name of the manager responsible for the item/portfolio.
  - **Start Date**: Item/portfolio start date.
  - **End Date**: Item/portfolio end date.
  - **Life Cycle**: Current state of the item/portfolio life cycle.

> **Note:** You can change the default item properties columns by selecting a different scorecard for the item properties.

- **Annotation Box**: If there is an annotation for the selected dependency, it is displayed in this box.

Customizing the Dependencies View

The Dependencies list has two areas-Dependency Properties and Item Properties. You can customize the Dependencies list by changing the system defaults defined in the Admin screen, or by changing the setting of the specific Dependencies List instance in the tab wizard. For more information on customizing the Dependencies list, refer to ***Workbook Dependencies List*** (on page 373), in Working with Dependencies and Customizing Item Properties step in ***Inserting a Dependencies List Component*** (on page 70), in Working with Tabs.

Adding a Dependency

You must have edit permission on the selected item to add items/portfolios to the Dependencies List.

To add a Dependency to the Dependencies List:

1) Click **Add**. The Items dialog box, with the items list, is displayed:
2) Select an item or portfolio from the items list, The selected item or portfolio is appended to the list.

> **Note:** To select multiple items or portfolios, hold down the **Shift** or **Ctrl** key on your keyboard as you select additional phases.

Editing a Dependency

You must have editing permission on the selected item to edit items/portfolios to the Dependencies List.

To edit a Dependency in the Dependencies list:

1) Edit the dependency directly in the list by selecting and editing Dependency cells.

   Or

   Double-click the Dependency Item Name.

   Or

   Select a dependency and click **Edit**. The Dependency Properties dialog box is displayed.

   At the top of the Dependency Properties dialog box, the name of the selected item or portfolio, the direction of the dependency (either Depends on or Supports), and the name of the dependent or supporting item or portfolio are shown.

2) **Edit** properties in the following areas:

   - Type: When the Dependency List is set to show all types, you may choose from the type drop-down list. In dependency lists set to show only one type, this option is disabled. This option is also disabled if the Type column was not checked in the dependency list.

     > **Note:** You can also select the dependency type directly in the Dependencies List table, by double clicking on the dependency's Type cell.

   - **Weight**: Define the overall importance of the dependency and its contribution to the portfolio by selecting an option from the drop-down list.

     > **Note:** You can also select the dependency weight directly in the Dependencies List table, by double clicking on the dependency's Weight cell.

   - **Cost**: Enter a numeric value for the dependency.

     > **Note:** You can also insert the dependency cost directly into the Dependencies List table, by double clicking on the dependency's Cost cell.

   - **Annotation**: Insert an annotation to further describe the dependency. When there is an annotation for the dependency, an annotation icon appears in the Dependencies list.

     To view the annotation you can select the dependency from the Dependencies List. The annotation text appears in the Annotation Box below the Dependencies List table.

     Or

You can hover above the annotation icon in the Dependencies List table. The annotation text appears as a tooltip.

To remove a dependency from the Dependencies List:

Select the dependency to remove by clicking anywhere on the row. The selected row is highlighted. Click **Remove** to remove the dependency from the list.

Accessing the Item Menu

When you right-click an item or portfolio in a Dependencies list, a popup menu is displayed.

The item popup menu enables you to choose from the following options:

- **Forms**: Select **Forms** to show the focused dependency item as the selected item in the current form.
- **Workbook**: Select **Workbook** to access the Workbook module for the selected item/portfolio.
- **Dependencies**: Select **Dependencies** to access the Dependencies list for the selected item/portfolio, either in the default Workbook or a Dependencies list in the Forms module. The drill down target depends on your system settings For more information, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

Working with a Links List

A Link List includes links to documents that were uploaded to the server, document on the network, and item related web sites. This capability allows organizations to overcome existing network/firewall limitations that prevent dispersed users and departments from sharing documents.

A Links List can be one of the following types:

- **Item Links** - Stores and displays links associated with the item or portfolio. The same content in the item's links list also appears in the Links tab of the item's Workbook. You can display an item's Link List to help user's manage and view the links associated with the item.
- **Category Links** - The list stores and displays links associated with an item within a specific category. For example, if you have the category Budget, there might be a Links List associated with an item in the Budget category. The Links List displays links to documents associated with item's Budget (i.e., spreadsheets). You can add to the form or dashboard a prompt for the user to link spreadsheets that are associated with the item's Budget. After defining the List type as Category Links, you should select the relevant category from the Name cell's pop-up list.

> **Note:** Category links are not displayed in the Links tab of the item's Workbook.

If you have Edit permission on the item, you can add and remove links from the list.

The Links List contains the following columns:

- **Name column**: Displays the name of the link. If the document was uploaded to the PPM server, then the document name is preceded by . If the document is located on the network or is a web site, then the document name is preceded by .

- **Link column**: Displays the URL of the link.
- **Size column**: Displays the size of the document.

> **Note:** The size is only displayed for uploaded document.

- **Owner column**: Displays the PPM user responsible for the link.
- **Uploaded column**: Displays the date the document was uploaded.

> **Note:** The date is displayed only for uploaded document.

- **Description area**: Displays a description of the link.
- **New button**: Accesses the Link dialog box to add a new link to the Links list.
- **Edit button**: Accesses the Edit Link dialog box to edit the selected link.
- **Remove button**: Removes the selected link from the list.

> **Note:** For uploaded documents, you only remove the link to the document, not the document itself.

- **Upload button**: Access the Upload Document dialog box to upload a new document and place its link on the Links List.

Creating a New Link

To create a new link:

1) In the Links List, click **New**. The Link dialog box is displayed.
2) Enter properties in the following fields:
   - **Name**: Enter a name for the new link. If you use the Upload, Documents, or Browse button (described below), then the selected name is automatically entered into the field.
   - **Link**: Enter the URL, or web address, of the new link. You can enter the URL of a web site or a location within the PPM system. The text entered in this field will be displayed as hypertext. For information on how to obtain a link, refer to ***Obtaining a Primavera Portfolio Management Link*** (on page 293) in Working with Management Workbooks.Use the Upload, Documents, or Browse button (described below) to link uploaded documents in the system, or external documents in the network.
   - **Upload Button**: Click to upload a new document to the server and link to it. The Upload Document dialog box appears. For more information, refer to ***Uploading Documents*** (on page 398) in Working with Documents.
   - **Documents Button**: Click to link to a document on the PPM server. The Documents dialog box appears, listing the uploaded documents. Select a document from the list and click **OK**. The document's name and link are entered in the Link dialog box.
   - **Browse Button**: Click to browse to a document in the network. The Choose File dialog box is displayed. Select a document and click **Open**. The document's name and link are entered in the Link dialog box.
   - **Owner**: From the drop-down list, select the user responsible for the link.
   - **Description**: Enter a description of the link. You can include hypertext in the description.
3) Click **OK**. The new link is added to the Links list.

Editing a Link

To edit a link:

1) Highlight the row of the link to be edited and click **Edit**, or double-click the row of the link to be edited. The Link dialog box is displayed.
2) Edit link information as required, and click **OK**. The selected link is updated.

> **Note**: For more information on entering link information, refer to ***Creating a New Link*** (on page 292).

Removing a Link

To remove a link:

1) Select a link from the list, and then click **Remove**. A confirmation message is displayed.
2) Click **OK**. The link is removed from the Links list.

Viewing a Web Portlet

The web portlet component is used to display web pages within a tab. It can be configured to show information or images from external sources such as internet web sites, corporate intranet systems, or any other source that can be accessed by specifying a URL.

The web portlet can be used to retrieve information relevant to an item from a target web server. The server retrieves specific information for each item using the web portlet. For example, a portfolio manager can use a web portlet to view information from another corporate management system enabling him to make informed decisions about the project.

Error Indication in Forms

The PPM application features an error checking mechanism that notifies you when improperly formatted data has been entered on a form. This does not prevent you from saving the form and proceeding with your work.

The following error indications exist in Forms:

- **Tool Tips**: Errors related to data entry are indicated in the forms. The system underlines the names of components that contain errors with red wavy lines. Place your mouse pointer over error indications to view tool tips describing the errors.
  - Following is a list of the error types that are indicated:
  - **Tab errors**, when one or more errors exist in a form, a wavy line appears underneath the names of tabs that contain the errors. The wavy line is colored beige when it is located under a currently displayed tab, and red when it is located under a tab that is not currently displayed.
  - **Required fields errors**, when data has not been filled for a required field (marked with an asterisk), a red wavy line appears under the field's name.
  - **Data-entry field errors**, when data has been entered incorrectly into a data-entry field, a red wavy line appears underneath the label of the data-entry field or cell.
  - **Table/List cell errors**, when data has been entered incorrectly into a cell in a table or a list, a red wavy line appears underneath the value in the cell.

- **Phases status errors**, when you select the **Current Phase** status for more than one phase in a Phases List, a red wavy line appears under the selected **Phase Status**.
- **Date errors**, when you specify end dates that are earlier than the existing start dates, a red wavy line appears under the label of the field.

- **Error Message**: When you save a form that contains errors, an error message appears, informing the user that only fields with no errors will be saved. You will not be able to save the form if Item Name or Home folder are missing.

Custom Exporting a Form

Custom export supports the export of PPM data in various customized XML format type, such a Microsoft Word 2007, Microsoft PowerPoint, and so on. The custom export is available for exporting portfolios, items, or sub-items. The information exported and the structure of the XML are determined by configuration files pre-loaded by the configurator. The information exported is not necessarily the information shown on the form. The currently selected portfolio or item can be custom exported using the Custom Export option in the module menu.

You can initiate a custom export from the menu bar or from a sub-item in a dynamic list, enabling the custom export of the selected sub-item.

> **Note:** Custom export is available only if the associated template and its configuration files have been created and uploaded. See your system administrator for more information.

Initiating a custom export from the Menu bar

To initiate a custom export from the Menu bar:

1) Click **Form** in the Menu Bar. The Form drop-down list appears.
2) Select **Custom Export** from the drop-down list. The Custom Export dialog box appears.
3) In the **Type** field, select the type of export format (the custom export template) from the drop-down list options. (The export types that are available are determined by the configurator.)
4) Click **OK**.

   If the process fails, a message displays and a detailed error report subsequently appears.

   If the export succeeds, you are prompted by the File Download dialog box to open or save the generated XML file.

   Included on the File Download dialog box is the name of the file, which is automatically generated, and the file type (file name extension) as defined by the configurator.

Initiating a custom export from a sub-item in a dynamic list

To initiate a custom export from a sub-item in a dynamic list:

1) Click the sub-item to display the options, then select **Custom Options**.

2) In the Type field of the Custom Export dialog box, select the type of export format (the custom export template) from the drop-down list options. (The export type names vary since they are defined by the name parameter set by the configurator. The configurator creates the configuration file that must be created and uploaded for the custom export feature to be enabled.)
3) Click **OK**.

   If the process fails, a message displays and a detailed error report subsequently appears.

   If the export succeeds, you are prompted by the File Download dialog box to open or save the generated XML file. Included on the File Download dialog box is the name of the file, which is automatically generated, and the file type (file name extension) as defined by the configurator.

   Exporting and Printing a Form

You can export or print a form in PPM.

Exporting a Form

PPM enables you to export your form to an XML file for later use by a third-party word processor such as Microsoft Word or OpenOffice. Exporting the form will allow you to modify it, include it in another document, or share it with others.

Modify the form data using your word processing application's editing tools. For example, you can add color to the cells, widen or shorten their length, and change fonts, styles, etc.

Additionally, you can copy and paste data from the form to a spreadsheet program and perform calculations on that data. You can edit the form, for reporting purposes, by deleting data from the report while leaving it in the form, or by adding new data to the exported report.

To export a form:

1) Select **Export** from the **Form** menu.
2) In the **Export Settings** dialog box, specify your preferences for the following settings:
   a. Select any of the following export formats:
      - **Export as Doc format**: Exports as a Microsoft word document.
      - **Export as HTML format**: Exports as a HTML document.
   b. In the **Range** field, select the range of the export:
      - **All Tabs**: Exports all of the tabs in succession.
      - **Current Tab**: Exports only the contents of the active tab.
   c. In the **Content** field, select the content to be exported:
      - **All**: Exports the complete form.
      - **Graphs Only**: Exports only the graphs.
   d. In the **Displays Graphs** section, select the Microsoft Office version to use.

      If you chose *Office 2003 / 2007*, select the graph format:
      - **Graphically:** Exports the graphs as they are.
      - **As Tables**: Exports the tabular data used to generate the graph.

      If you chose *Office 2000*, the tabular data used generate the graphs is exported.

e. If you chose **Export as Doc format**:
   - In the **Page Orientation** section, select either **Portrait** or **Landscape**.
   - In the **Paper Size** section, select either **Letter** or **A4**.

3) Click **OK** to save your selections.
4) In the **File Download** dialog box, select any of the following buttons:
   - Click **Open** to view the downloaded file in your application.
   - Click **Save** to download the file to your computer.

Notes:

- In Microsoft Word, some table borders may appear to be missing due to Word's display functionality. Exported items are best viewed without gridlines (from the Microsoft Word Table menu, choose **Hide Gridlines**).
- The file format used for Microsoft Word 2003/2007 is XML. In some systems, this file format is not associated with Microsoft Office applications. If you cannot see the exported file properly use the **Save** option instead of **Open**. Afterwards, browse to the location of the file on your hard-disk and right-click on the file name. Choose **Open With - Microsoft Office Word**.

Printing a Form

PPM enables you to print your form.

To print a form:

1) Select **Print** from the **Form** menu.
2) In the **Print Settings** dialog box, select print options for the following:
   a. In the **Range** section, select the range of the print.
      - **All Tabs:** Prints all the dashboard tabs in succession.
      - **Current Tab:** Prints the contents of the active tab.
   b. In the **Content** section, select the content to be printed:
      - **All**: Prints the complete form.
      - **Graphs Only**: Prints only the graphs.
   c. In the **Display Graphs** section, select the format printing the graphs.
      - **Graphically**: Prints the graphs as they are.
      - **As Tables**: Prints the tabular data used to generate the graphs.
   d. In the **Page Orientation** section, select **Portrait** or **Landscape**.

Note: PPM has no control over browser-initiated printing. Make sure the local settings of your printer match the page orientation defined here.

3) Click **OK**, and then click **Print** to print the form.

Note: A page break separates the various tabs in a form.

Assigning Default Values

PPM provides you with the ability to set default values for fields in a form. When a new item (item, candidate, portfolio, or super portfolio) is created in such a form, it is assigned those default values. For example, if you design a form for creating new candidates for Department 3, the default value "Department 3" can be assigned to the "department" category.

Constant and known values can be assigned as default values, and automatically entered. This saves time and reduces manual entry mistakes.

To assign default values in forms:

1) In the Form module, select the desired form. The selected form must be set to allow creation of new items. For more information on how to define a form to allow the creation of new items, refer to ***Setting Form Defaults and Required Field Enforcement*** (on page 79).
2) From the Form menu, choose **Assign Default Values**.
   The form is displayed in Default Values Mode. <Default Values Mode> appears in the Item field, as if a new item was created. If default values were already assigned and are applicable, they appear in the form.
3) Enter default values for all appropriate fields on all the relevant tabs of the form.
4) From the Form menu, select **Save Default Values**.
   Or
   Click

   .
   All values that were filled, on all tabs of the form are saved as default values of the form.
5) Exit Default Values Mode by clicking

   .

Notes:

- If default values were already assigned to a form, the new values will replace the existing defaults.
- To restore the previous values, click

  .
- Default values defined for calculated cells are overridden by the calculation.

6) To exit Default Values Mode without saving, click

   .

Dashboards Module Overview

Dashboards are assemblies of graphs which enable intuitive tracking and assessment of your investments. In the **Dashboard** module you can see a broad and comprehensive view of information stored in PPM. Dashboards share the same tabs library as forms.

Although they share the same components, the **Dashboards** module provides an interface for viewing data, while the **Forms** module provides an interface for entering data.

Using versions, you might set up a dashboard with multiple tabs showing different **Data as of** dates for comparative analysis. For example, define four tabs showing the same graph but with each tab's **Data as of** version set to a different fiscal quarter (Q1, Q2, Q3, and Q4). You might define a fifth tab with its version set to < user selected >, allowing the user to specify a version as they compare all five graphs.

About the Dashboards Module

Dashboards are collections of graphs that are composed and customized in order to track and assess the status of items or portfolios. In the Dashboard module you can see a broad and comprehensive view of information stored in Oracle Primavera Portfolio Management. Dashboards share the same Tabs library as Forms. Although they share the same components, in Dashboards the emphasis is on *viewing* data, while Forms are about *entering* data.

Dashboard information can be viewed dynamically. By selecting various time ranges, or versions, for example, **Trend Graph Period** or **Data as of** period, the progress of an investment can be tracked for overall performance, or performance within a very specific phase or period.

Dashboard graphs can include multiple parameters for comparison purposes, providing a useful decision-making tool and an early warning system. This early warning system enables the user to set upper and lower bounds (or limits) to better determine whether the particular measure is progressing in a positive or negative direction.

Tour of Dashboards

In the Dashboards module you can view graphs reflecting the history or status of an item or portfolio.

To access the Dashboards module:

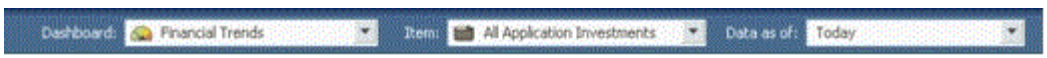
For an Executive Dashboard, select this module as your default entry screen. Dashboards will be the first PPM screen you see after logging on, showing a graphical overview of your investments. For more information on defining a default entry module, refer to ***Entering User Preferences*** (on page 157) in Configuring the System Components.

On the main page, click the **Dashboards** tab. The Dashboards module appears.

> **Note:** The Dashboards module can also be accessed from the Investor, Scorecard, Workbook, and To-Do modules. Focus on an item and select Dashboard from the right-click menu. For more information on accessing the dashboard from these modules, refer to ***Investor Module Overview*** (on page 223), ***Working with Scorecards*** (on page 281), ***Workbook Module Overview*** (on page 278), and ***To-Do Module Overview*** (on page 329).

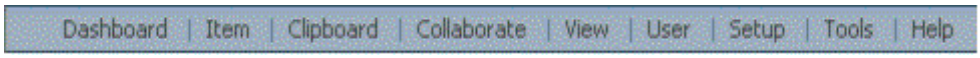
The dashboard is comprised of the components and features discussed in the topics below.

Title Area



In the title area, you can select the dashboard, item or portfolio, and data version to be viewed. Click the fields and select from their respective pop-up windows.

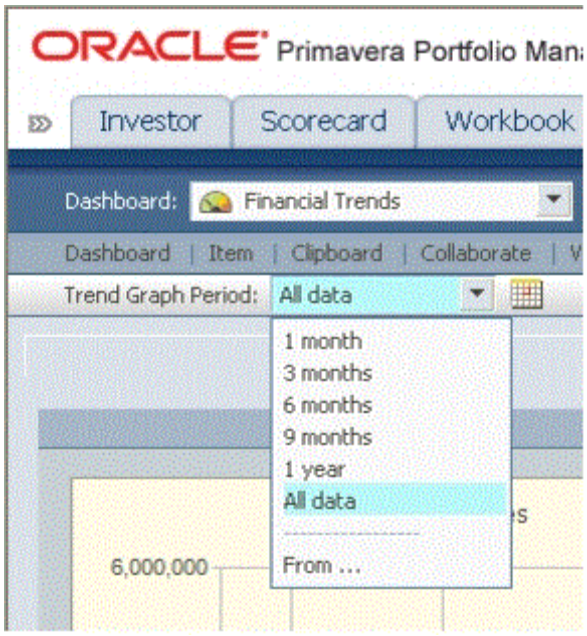
Menu Bar



The menu bar provides the Dashboards menu options, which enable you to create, edit, assign default values, access the knowledge information, print, and export a dashboard. The menu bar also provides the standard Item, Clipboard, Collaborate, User, Setup, and Help menu options.

Toolbar

Trend Graph Period: when a Trend Graph is included in the selected tab, the Period drop-down list is shown on the left side of the Toolbar. You can specify the period that is graphically represented.



You can show ALL data that has been collected since item inception, or select a particular period (e.g. 3 months) from the drop-list.

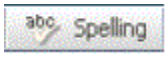
To exclude prior data from the graph, select the **From** option from the drop-list and specify the date on the popup calendar. You may also click directly on the icon to open the pop-up calendar.

The right side of the toolbar displays the following buttons:

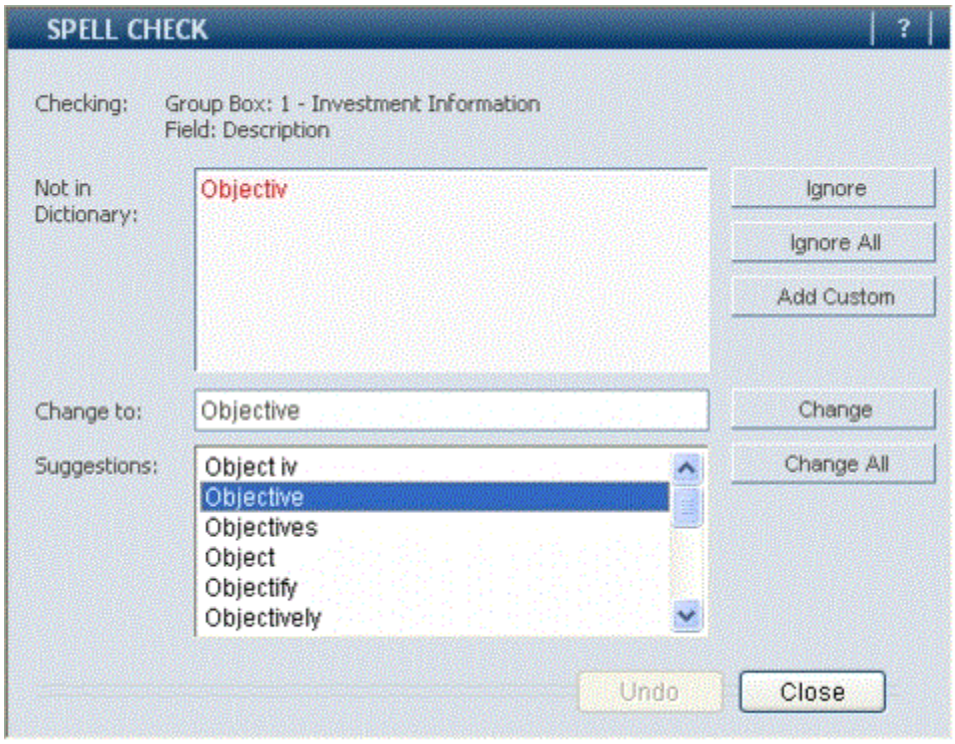
- **Save** - Updates the system with all the new data that was entered in the dashboard and records the date and time of the update.

Notes:

- The system saves your data automatically when you navigate to another module or close your browser screen.
- When saving a dashboard, all the tabs are saved, not just the currently displayed one.

- **Reset** - Replaces all the new values that were entered in the dashboard since the last save.
- **Spelling** - Checks the spelling on the currently displayed tab. Click 

to open the Spell Check dialog box.

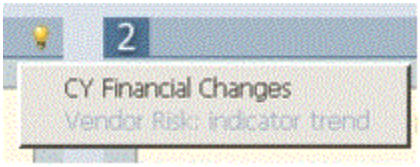


  - Words that do not appear in the Spell Checker's standard and/or custom dictionaries appear in the Not in Dictionary box. You may choose one of the following options:
    - **Ignore:** The word will be left as is.
    - **Ignore All:** All instances of the word will be left as they are.
    - **Add Custom:** The word will be added to your custom dictionary.
    - **Change**: Whatever you entered into the Change to box, or selected from the Suggestions box, will replace the current word.
    - **Change All**: Whatever you entered into the Change to box, or selected from the Suggestions box, will replace all the instances of the current word.
- **Print** - Prints the dashboard.
- **Send Email** - Sends an email with a web link (URL) to your dashboard.
- **Knowledge** - Opens a Knowledge dialog box with dashboard related Knowledge (if available).

- **Tab Component Knowledge:** The icon appears at the top-right corner of the group box title bar. Clicking the icon will open the knowledge dialog box. When there is no knowledge, the icon appears ghosted.

  When a single graph is set within the group box, and has associated knowledge, the icon is enabled. Clicking on the icon opens a dialog box where the knowledge is shown.

  When more than one graph is set within a group box, there is a drop-list arrow next to the icon.

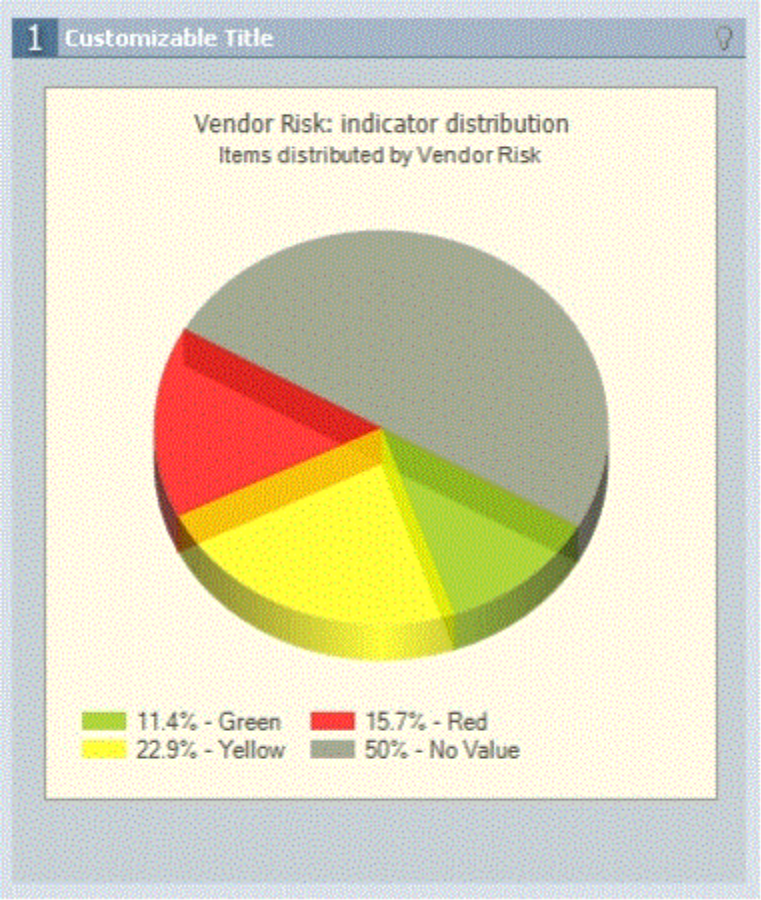


  Clicking the arrow opens a drop list of the different graph labels. Graphs which have associated knowledge are enabled. Graphs with no associated knowledge are disabled. Clicking on the enabled graph label opens the relevant Knowledge dialog box.

Tabs

A tab is a single display page containing data components arranged in group boxes. Each dashboard is composed of one or more tabs. Dashboards may have as many as twenty tabs, but will display only one tab at a time. The same tab can be used in many different dashboards or forms. For more information on Tabs, see ***Creating a Tab*** (on page 59), in Working with Tabs.

Group Boxes

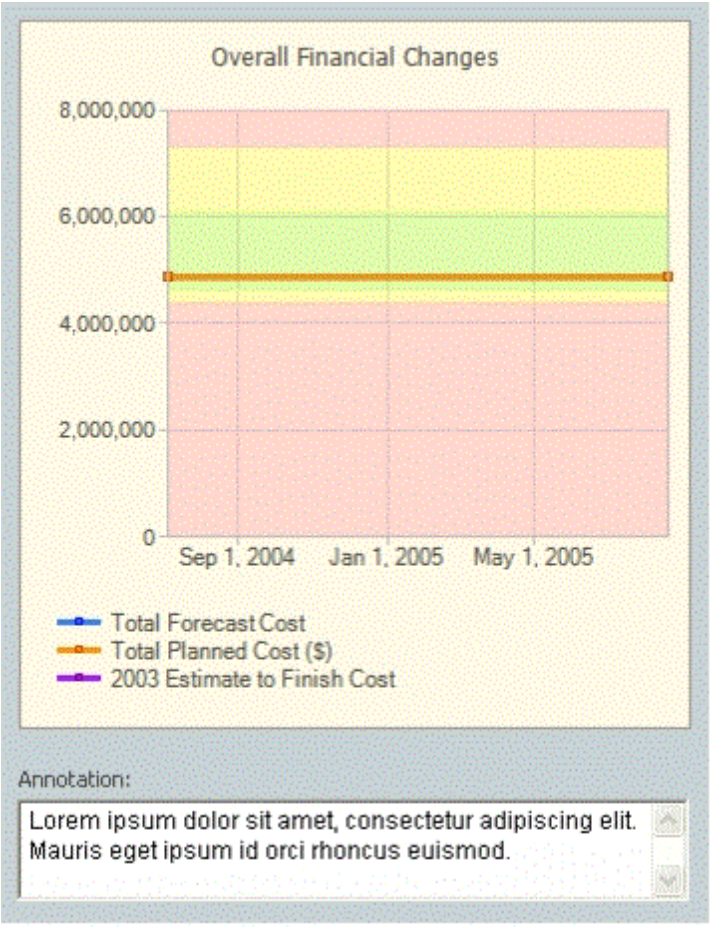


Group boxes are visual aids used to arrange components in manageable groups. There are four group box widths, relative to the screen's width: 4/4 (full screen), 3/4, 2/4 (half screen) and 1/4. Group boxes are automatically arranged according to their order and size. Group boxes may contain various types of components, such as text/numeric fields, tables, lists, etc, but in Dashboards, they usually contain graphs.

> **Note:** The Target Display definition impacts the way the screen is displayed. Make sure you select a group box size that will show coherently on your target screen.

Group Box Headers: Display the name of the group box to which the graph belongs. If there is Knowledge information in the icon is enabled. Click to display Knowledge information.

Graphs



Graphs display historical or current information graphically. The data is displayed with its indicator or value colors enabling an instant recognition of areas requiring attention. The graph's name appears at the top of the graph area.

Below the graph, the following additional elements may appear:

- **Prompt Line:** Displays the prompt defined for the graph.
- **Annotation Text Box:** Displays the annotation for the graph.

Graph Types

There are four types of graphs:

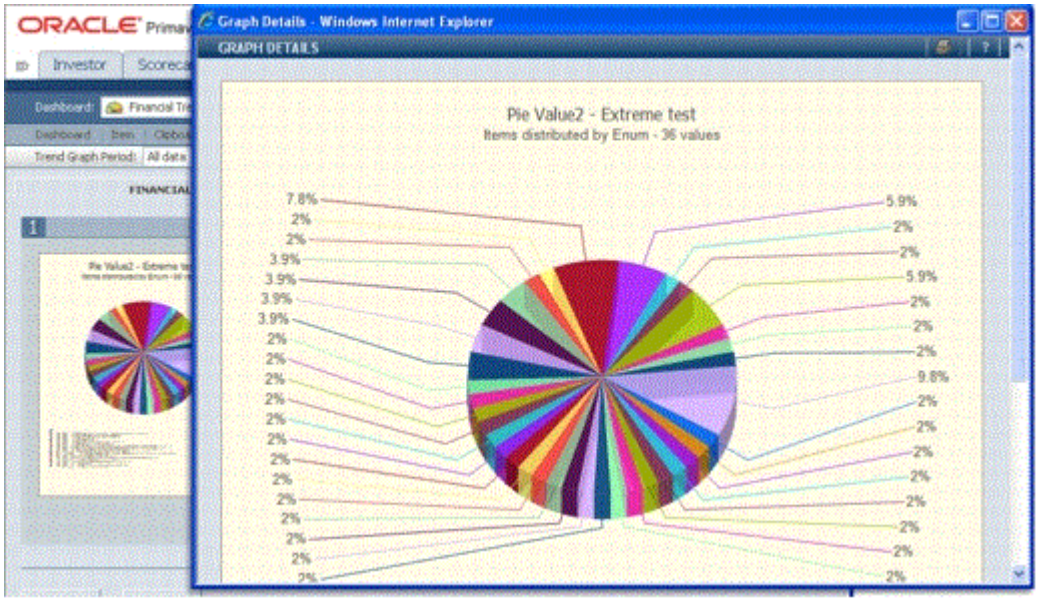
- **Column/Bar Graph:** Converts tabular data into a Clustered or Stacked Column, or Bar graph.
- **Scatter Graph**: Displays data as scattered points indicating values on the x-axis and y-axis. Scatter graphs reflect the distribution of the items in a portfolio according to two defined parameters.
- **Distribution Graph:** Displays the distribution of the items in a portfolio according to the values of a specific category. These graphs apply only to portfolios.

- **Trend Graph**: Display a line graph indicating performance over time.
- **Radar Graph**: Allow you to compare the magnitude of multiple properties on a single chart.
- **Pareto Graph**: Show incremental quantities of one category in descending order with bars, and the cumulative total percentage of the same category, over the same period, with a line.

For more information on graph types refer to ***Graph Types*** (on page 90) in Configuring the System Components.

Graph Details Pop-Up

Clicking a graph opens the Graph Details pop-up window in which the graph is maximized. When a pie graph is shown within the Graph Details popup, the distribution percentages are rendered as callouts, connected to each slice, as can be seen below:



On the bottom of the Graph Details pop-up window is an annotation box (you may need to scroll down to see it). The annotation text entered here is also displayed as a tooltip when the cursor is above the graph in the Dashboard display.

Working with the Dashboard Wizard

This section describes how to create and edit dashboards using the Dashboard Wizard.

Saving an Automatic Dashboard

When you create categories, relevant graphs can be automatically created and saved. These automatically-generated graphs are listed in the graph lists and can be included in any tab within Forms or Dashboards.

When you drill down to **Dashboards** from a scorecard or an investor map, the system looks for the associated dashboard to display. If none was associated, an automatic dashboard is generated. These automatically-generated dashboards are created ad-hoc and are not listed in the system. If you want to customize or print an automatic dashboard, you need to save it. Once saved, the dashboard is part of the dashboards list and is accessible like any other dashboard in the list.

To save an automatic dashboard:

1) Select **Save As** from the Dashboard menu. The Save Automatic Dashboard dialog box opens.
2) Enter the **Name** of the dashboard.
3) Enter the location of its **Home Folder**.
4) Enter the **Name** of the tab.
5) Enter the location of its **Home Folder**.
6) Check the "Make these the Item Dashboard and Tab for... " checkbox if you want the **saved** dashboard to replace the **automatic** dashboard at whatever system location you drilled down from.

Custom Exporting

Custom export supports the export of PPM data in various customized XML format type, such a Microsoft Word 2007, Microsoft PowerPoint, and so on. The custom export is available for exporting portfolios, items, or sub-items. The information exported and the structure of the XML are determined by configuration files pre-loaded by the configurator. The information exported is not necessarily the information shown on the dashboard. The currently selected portfolio or item can be custom exported using the Custom Export option in the module menu.

You can initiate a custom export from the menu bar or from a sub-item in a dynamic list, enabling the custom export of the selected sub-item.

> **Note:** Custom export is available only if the associated template and its configuration files have been created and uploaded. See your system administrator for more information.

Initiating a Custom Export from the Menu Bar

To initiate a custom export from the Menu bar:

1) Click **Dashboard** in the Menu Bar. The Dashboard drop-down list appears.
2) Select **Custom Export** from the drop-down list. The Custom Export dialog box appears.
3) In the Type field, select the type of export format (the custom export template) from the drop-down list options. (The export types that are available are determined by the configurator.)

4) Click **OK**.

   If the process fails, a message displays and a detailed error report subsequently appears.

   If the export succeeds, you are prompted by the File Download dialog box to open or save the generated XML file.

   Insert Bitmap

   Included on the File Download dialog box is the name of the file, which is automatically generated, and the file type (file name extension) as defined by the configurator.

Initiating a Custom Export from a Sub-Item in a Dynamic List

To initiate a custom export from a sub-item in a dynamic list:

1) Click the sub-item to display the options, then select Custom Options.
2) In the Type field of the Custom Export dialog box, select the type of export format (the custom export template) from the drop-down list options. (The export type names vary since they are defined by the name parameter set by the configurator. The configurator creates the configuration file that must be created and uploaded for the custom export feature to be enabled.)
3) Click **OK**.

   If the process fails, a message displays and a detailed error report subsequently appears.

   If the export succeeds, you are prompted by the File Download dialog box to open or save the generated XML file. Included on the File Download dialog box is the name of the file, which is automatically generated, and the file type (file name extension) as defined by the configurator.

Exporting and Printing a Dashboard

You can export and/or print a dashboard.

Exporting a Dashboard

PPM enables you to export your dashboard to an XML file for later use by a third-party word processor such as Microsoft Word or OpenOffice. Exporting the dashboard will allow you to modify it, include it in another document, or share it with others.

Modify the dashboard data using your word processing application's editing tools. For example, you can add color to the cells, widen or shorten their length, and change fonts, styles, etc.

Additionally, you can copy and paste data from the dashboard to a spreadsheet program and perform calculations on that data. You can edit the dashboard, for reporting purposes, by deleting data from the report while leaving it in the dashboard, or by adding new data to the exported report.

In order to make the most out of your exported file refer to ***Controlling Layout in Export and Print*** (on page 328).

To export a dashboard:

1) Select **Export** from the **Dashboard** menu.
2) In the **Export Settings** dialog box, specify your preferences for the following settings:
   a. Select any of the following export formats:
      - **Export as Doc format**: Exports as a Microsoft word document.
      - **Export as HTML format**: Exports as a HTML document.
   b. In the **Range** section, select the range of the export:
      - **All Tabs**: Exports all of the dashboard tabs in succession.
      - **Current Tab**: Exports only the contents of the active tab.
   c. In the **Content** section, select the content to be exported:
      - **All**: Exports the complete dashboard.
      - **Graphs Only**: Exports only the graphs.
   d. In the **Displays Graphs** section, select the Microsoft Office version to use.
      If you chose *Office 2003 / 2007*, select the graph format:
      - **Graphically:** Exports the graphs as they are.
      - **As Tables**: Exports the tabular data used to generate the graph.

      If you chose *Office 2000*, the tabular data used generate the graphs is exported.
   e. If you chose **Export as Doc format**:
      - In the **Page Orientation** section, select **Portrait** or **Landscape**.
      - In the **Paper Size** section, select **Letter** or **A4**.
3) Click **OK** to save your selections.
4) In the **File Download** dialog box, select any of the following buttons:
   - Click **Open** to view the downloaded file in your application.
   - Click **Save** to download the file onto your computer.

> **Note:** In Microsoft Word, some table borders may appear to be missing due to Word's display functionality. Exported items are best viewed without gridlines (from the Microsoft Word Table menu, choose **Hide Gridlines**).

Printing a Dashboard

PPM enables you to print your dashboard. In order to make the most out of your printed file refer to ***Controlling Layout in Export and Print*** (on page 328).

To print a dashboard:

1) Select **Print** from the **Dashboard** menu.
2) In the **Print Settings** dialog box, select print options for the following:
   a. In the **Range** section, select the range of the print.

- **All Tabs:** Prints all the dashboard tabs in succession.
- **Current Tab:** Prints the contents of the active tab.

b. In the **Content** section, select the content to be printed:
- **All**: Prints the complete dashboard.
- **Graphs Only**: Prints only the graphs.

c. In the **Display Graphs** section, select the format printing the graphs.
- **Graphically**: Prints the graphs as they are.
- **As Tables**: Prints the tabular data used to generate the graphs.

d. In the **Page Orientation** section, select either **Portrait** or **Landscape**.

> **Note:** PPM has no control over browser-initiated printing. Make sure the local settings of your printer match the page orientation defined here.

3) Click **OK** to view a printer-friendly alternative view of the dashboard appears in a new window.
4) In the **Print** dialog box, click **OK** to print the dashboard.

Controlling Layout in Export and Print

Graphs are set in three different sizes according to the size of their group box - 1/4, 1/2 and 4/4. Graphs set in 3/4 group boxes are treated as 4/4. Group boxes and their headers stretch to the full width of the page, regardless of their on-screen size. Graphs, like all other tab components, are arranged one above the other.

Since PPM has no control over browser-initiated printing, page breaks might cut across graphs.

If you want to export or print graphs next to each other, the graphs should be set in separate, same sized group boxes, with no other tab components included in their group box.

Annotations and prompts are considered part of the graph, and do not disrupt the sequence.

Users can prepare printer-friendly copies of their on-screen dashboards, removing all but the graphs from the group boxes, thus retaining most of the on-screen layout, in the printout.

Sequences of single graphs, set in same-sized group boxes are arranged in rows, utilizing the printed page, and avoiding unexpected page breaks. Every group box containing a single graph is arranged with a page break above it. This enables printing full page sequences.

Whenever the sequences of single graphs, set in same sized group boxes ends, the next group box is arranged in a new row. This enables printing or exporting many layout combinations.

Printing Only Graphs

If you want to export or print only the graphs, avoiding the disruption of graph sequences by other components, select the **Graphs Only** option in the Print Settings dialog box.

In this setting, only graphs are printed, according to the same single-size sequence rows. The setting ignores all but the graphs included in the defined range. For example, if you have a dashboard that includes four tabs, and each tab includes a single, 1/4 size graph, these graphs will never be seen on screen next to each other. However, if you choose to print Graphs Only, these four graphs will be arranged side by side, as a row at the top of the printed page. The headers above the graphs will not contain labels or numbers.

Repeated Headers

If you want any of the tabular components (Table, Phases List, Links List, Dependencies or Deliverables List) to have Repeated Headers when they extend to the next page, place each component in its own group box.

To-Do Module Overview

The **To-Do** module of PPM provides you with a summary of all the management actions for which you are responsible, as well as those have requested.

The **To-Do** tabs provide detailed information about each management function, such as action items, updates, update requests and deliverables.

About the To-Do Module

The To-Do module serves as a home page for the individual user. It identifies all your reporting and updating responsibilities. In addition, it alerts you to action items and deliverables related to your investment and portfolio responsibilities.

The To-Do module helps you track and prioritize your own tasks and to ensure that others are carrying out their responsibilities in connection with your investments.

Tour of Your To-Do Module

The **To-Do** module includes the following components:

- **Menu Bar**: Provides menu options, which enable you to print a to-do report, update user preferences and information, access *Item* and *Portfolio wizards* and the **Setup** module, and access Help information.
- **To-Do Tabs**: Provide details regarding the management of your items and the cells they contain, or of other users' items that you are responsible for updating, or for which you have requested updates, as follows:
  - **My Updates**: Provides a list of the cells for which you are responsible to provide information. From the My Updates tab, you can update the cell value indicators and annotations, and view the cell dashboard. You can also access the Cell Properties dialog box, as described in ***Scorecard Module Overview*** (on page 248).
  - **My Requests:** Provides a list of the cells for which you have requested an update. From the My Requests tab, you can access the Request Properties dialog box and view the cell dashboard. You can also access the Cell Properties dialog box, as described in ***Scorecard Module Overview*** (on page 248).

- **Action Items**: Provides a list of action items for the items that are not yet complete. The action item may be owned by you or by another PPM user. In the latter case, the action item will appear in this list only if you are the project manager. The list includes information regarding the action item and its due date. From the **Action Items** tab, you can access the **Edit Action Items** dialog box, where you can edit action item information or indicate that the action item has been completed. You can also access the management workbook for the item, in order to view or edit information relating to the item, such as action items.
- **Deliverables**: Provides a list of phase deliverables that are not yet complete, and indicates the status of each pertinent phase. The deliverables may be owned by you or by another user. In the latter case, the deliverable is displayed in this list only if you are the item/portfolio manager. The list includes the phase name, status and due date information. From the **Deliverables** tab, you can access the **Deliverable** dialog box, where you can edit deliverable information or indicate that the deliverable has been delivered. You can access the **Life Cycle** dialog box, where you can update phase information, or add deliverables to the phase. You can also access the management workbook for the item.

Accessing the To Do Module

To access the To-Do module:

- If you have selected the To-Do module as your default entry screen, it will be the first screen displayed upon logging on.
- On the main page, click the **To-Do** module tab. The To-Do module appears.

Working with the To-Do Module

To-Do module provides you with an overview of the management items for which you are responsible. It facilitates prioritization of required tasks, whether they are to be completed by you or by other users. This enables you to ensure that the data in PPM is current, and to manage your items according to plan.

Working with My Updates

This topic and its associated topics explain how to manually update cell information, access cell dashboards and view the **Cell Properties** dialog box.

> **Note:** When you access the **To-Do** module while working in PPM, the last tab used is the first tab displayed.

The **My Updates** table includes the following information for each update:

- **Item Status Icon:** An icon that represents the status of an item. For more information on status icons, refer to ***Filtering the Items View by Status*** (on page 236) in Working with Investor Maps.
- **Name:** The item or portfolio of the cell to be updated.
- **Category:** The category of the cell to be updated.
- **Requester:** The user requesting the update.

- **Next Update:** The date of the next scheduled update.

  Note: Past-due dates appear in red.

- **Value:** The cell's current value.
- **Indicator:** The cell's current indicator.

In addition, a **Summary Row** along the bottom of the My Updates table provides a summary of the information in the My Updates tab, including the total number of updates, the number of overdue updates, and the updates that have already been performed.

The To-Do module enables you to update cell information, access cell dashboards and view the **Cell Properties** dialog box from the **My Updates** tab.

Accessing the My Updates Table

To access the My Updates table:

1) Click **My Updates** in the To-Do tabs. The My Updates table appears.

Updating Cell Information

To update cell information:

1) On the **My Updates** tab, select a row representing the scorecard cell to be updated, and click **Update**. The **Cell Properties** dialog box appears.
2) Enter update information, as required. After the update is successfully completed, the new cell data and properties are updated in the list, and the item or portfolio icon changes to reflect the update.

   Note: Although the value of the **Next Update** column may change as a result of the update, this does not change the order of the lines in the table. For more information on updating cell information, refer to ***Scorecard Menus*** (on page 266), in Working with Scorecards.

Accessing a Cell Dashboard

To access a cell dashboard:

1) On the **My Updates** tab, select the row of the cell to be viewed, and click **Dashboard**. The associated category dashboard appears.

   For more information on associated dashboards, refer to ***Step 6: Entering Dashboard Information*** (on page 108), in Working with Categories.

For more information on working with dashboards, refer to ***Dashboards Module Overview*** (on page 317).

Working with My Requests

This topic and its associated topics explain how to access the **Update Request** dialog box, the cell dashboard and the **Cell Properties** dialog box.

Each line in the **My Requests** table represents a cell in a scorecard. Cells that appear in this table are cells for which you have requested an update. The lines representing the cells are in order of the update due dates.

The **My Requests** table includes the following information for each request:

- **Item Status Icon:** An icon that represents the status of an item. For more information on status icons, refer to ***Filtering the Items View by Status*** (on page 236), in Working with Investor Maps.
- **Name:** The item or portfolio of the cell to be updated.
- **Category**: The category of the cell to be updated.
- **Updater:** The user requested to perform the update.
- **Next Update:** The date of the next scheduled update.

  Note: Past-due dates appear in red.

- **Value:** The cell's current value.
- **Indicator:** The cell's current indicator.

In addition, a **Summary Row** along the bottom of the My Requests table provides a summary of the information in the My Requests tab, including the total number of requests, the number of requested updates that are overdue, and the requested updates that have already been performed.

The **To-Do** module enables you to access the Update Request dialog box, the cell dashboard and the Cell Properties dialog box in order to enter, modify, and view update request information.

Accessing the My Requests Table

To access the My Requests table:

1) Click the **My Requests** tab. The **My Requests** table appears.

Entering or Modifying Update Request Information

To enter of modify update request information:

1) In the My Requests tab, highlight the row of the cell information to be updated, and click **Request**. The Cell Request dialog box is displayed.
2) Select the names of the users who are requesting and responsible for the cell update. Then, specify the required update scheduling information.

Accessing a Cell Dashboard

To access a cell dashboard:

1) In the My Requests tab, highlight the row of the cell to be viewed, and click **Dashboard**. The cell dashboard is displayed.

   For more information on working with dashboards, refer to ***Dashboards Module Overview*** (on page 317).

Modifying Cell Properties

To modify cell properties:

1) In the My Requests tab, highlight the row of the cell to be modified, and click **Properties**. The Cell Properties dialog box is displayed.

   For more information on working with the Cell Properties dialog box, refer to ***Scorecard Module Overview*** (on page 248).

Working with Action Items

This section and its associated topics explain how to access the Edit Action Items dialog box, where you can edit action item information or indicate that the action item has been completed. This section also describes how to access the item management workbook, where you can view and edit item information.

Each line in the Action Items table represents an action that must be performed in an item. In the Action Items tab, you can view and edit action item information, and access the item workbook.

The Action Items table includes the following information for each item:

- - Indicates that the action item is complete.
- **Item Status Icon:** An icon that represents the status of an item. For more information on status icons, refer to ***Filtering the Items View by Status*** (on page 236), in Working with Investor *Maps.*
- **Item:** The item for which the action item must be completed.
- **Action Item:** The name of the action item to be completed.
- **Owner:** The owner of the action item.
- **Link:** A link to a relevant web site or internal document, as required. You can also enter a link to a page within the PPM application. For information on obtaining a link, refer to ***Obtaining a Primavera Portfolio Management Link*** (on page 293) in Working with Management Workbooks.
- **Due date:** The date by which the action item must be completed.

> **Note:** Due dates that have not been met appear in red.

In addition, a **Summary Row** along the bottom of the Action Item table provides a summary of the information in the Action Items tab, including the total number of action items, the number of action items that are overdue, and the action items that have already been performed.

The To-Do module enables you to access the Action Item dialog box in order to edit action item information and indicate that the action item has been completed. You can also access the item workbook in order to enter, modify and view item information.

Accessing the Action Item Table

To access the Action Items table:

1) Click **Action Items** in the To-Do tabs. The Action Items table is displayed.

Editing Action Items

To edit action item information and indicate that an action item has been completed:

1) Select the action item to be edited, and click **Open**. The Action Item dialog box appears.

2) Enter information as required, and click **OK**. The updated information is displayed in the Action Items table.
3) Alert when action item created/modified.

> **Note:** Mark the **Action Item Completed** checkbox to indicate the action item has been completed. It is also possible to indicate that an action item has been completed by selecting a line in the table and marking the checkbox displayed in the left-most column.

Accessing the Item Workbook

To access the item workbook:

1) Select the required action item, and click **Workbook**.
   The management workbook for the item is displayed.

Working with Deliverables

This topic and its associated topics explain how to access the *Edit Deliverables* dialog box, where you can edit deliverables information; the Phases dialog box, where you can edit life cycle information; and the item management workbook, where you can view and edit item information.

Each line in the Deliverables table represents a deliverable of a phase of an item. Deliverables are the results defined for each phase in an item's life cycle. In the Deliverables tab, you can view and edit deliverable information, view and edit life cycle information, and access the item workbook.

The Deliverables table includes the following information for each deliverable:

- - Indicates that the deliverable is complete.
- **Item Status Icon**: An icon that represents the status of an item. For more information on status icons, refer to ***Filtering the Items View by Status*** (on page 236), in Working with Investor *Maps.*
- **Item Name**: The item for which the deliverable must be completed.
- **Phase**: The phase for which the deliverable must be completed.
- **Status**: The status of the deliverable, such as whether it is finished or not yet started.
- **Deliverable**: The name of the deliverable.
- **Owner**: The owner of the deliverable.
- **Link**: A link to a relevant web site or internal document, as required. You can also enter a link to a page within the PPM application. For information on obtaining a link, refer to ***Obtaining a Primavera Portfolio Management Link*** (on page 293) in Working with Management Workbooks.
- **Due date**: The date by which the deliverable must be completed.

> **Note:** Past-due dates appear in red.

In addition, a **Summary Row** along the bottom of the Deliverables table provides a summary of the information in the Deliverables tab, including the total number of deliverables, the number of deliverables that are overdue, and the deliverables that have already been completed.

The To-Do module enables you to access the Deliverable dialog box in order to edit deliverable information and indicate that the deliverable has been completed. You can also access the Life Cycle dialog box for the item in order to view and edit life cycle information, and the item workbook in order to enter, modify and view item information.

Accessing the Deliverables Table

To access the Deliverables table:

1) Click **Deliverables** in the To-Do tabs.
   The Deliverables table is displayed.

Editing Deliverables

To edit deliverable information and indicate that a deliverable has been completed:

1) In the Deliverables table, highlight the deliverable to be accessed, and click **Open**. The Deliverable dialog box for the selected deliverable is displayed.
2) Edit information, as required, and click **OK**. The updated information is displayed in the Deliverables tab.

> **Note:** It is also possible to indicate that a deliverable has been completed by selecting a line in the table and marking a check in the checkbox displayed in the left-most column.

Accessing Life Cycle Information

Access the **Life Cycle** dialog box to view or edit life cycle information for a selected deliverable's item.

To access the **Life Cycle** dialog box:

1) In the **Deliverables** table, select the deliverable to be accessed, and click **Life Cycle**. The **Life Cycle** dialog box for the selected deliverable's item appears. The tab for the deliverable's phase also appears automatically.

> **Note:** You can access the other phases of the item by clicking on the relevant tab. Once you access the required phase, you can view, edit and enter information, as required.

2) Create, edit or remove deliverables as required in the Deliverables table, from the following options:
   - **New:** Click **New** to open the **Deliverable** dialog box, in order to create a new deliverable.

> **Note:** For more information on creating a new deliverable, refer to ***Creating Life Cycles*** (on page 151), in Configuring the System Components.

- **Edit:** Select a deliverable in the table, and click **Edit** to access the Deliverable dialog box, in order to edit deliverable information.

> **Note:** For more information on editing deliverable information, refer to ***Editing Deliverables*** (on page 335).

- **Remove:** Select a deliverable in the table, and click **Remove** to delete the deliverable from the phase.

> **Note:** For more information on working with deliverables, phases and life cycles, refer to ***Components*** (on page 33).

Accessing the Item Workbook

To access the item workbook:

1) Select the required deliverable, and click **Workbook**.
   The management workbook for the item is displayed.

Sorting To-Do Information

This topic and its associated topics explain how to customize the order of information displayed in the **To-Do** tabs.

Each of the To-Do tables is sorted by default according to the update or due date, as applicable. The parameter according to which table information is sorted is indicated by an arrow above the parameter name. A downward pointing arrow

means the cells are sorted in ascending order, and an upward pointing arrow

means the cells are sorted in descending order.

In the To-Do tables, you can customize the sort order.

Changing the Parameter

To change the information parameter according to which the cells are sorted:

1) Click the name of the required parameter.
   - For example, in the Deliverables table, the cells are sorted by default according to the deliverables due date.
   - To sort the cells according to item name, click **Item Name**. The order of the cells in the list changes accordingly.

Changing the Order

To change the sort order from ascending to descending, or vice versa:

1) Click the column heating of the selected parameter.
   - For example, in the Deliverables table, the cells are sorted by default according to the deliverable's Due Date. By default, the dates are in ascending order, which means the earliest date is first.
   - If you want to view the cell updates in descending order, click **Due Date**. The sort arrow changes direction and the order of the cells in the list changes so that the scheduled deliverable that is furthest away is shown first.

Using Security of Modules

Security settings allow you to configure and limit access to modules and data. Administrators can control which options and tasks are presented to each user. For more information, refer to ***Security*** (on page 443).

The Guide Pane

The Guide Pane section of the Navigation pane, by way of its Processes and Workflows features, directs you through the various PPM screens. The Processes tab displays sets of favorite URLs and guided processes that provide you with direct access to various objects, including PPM documents, and any local or web URLs. The Workflows tab closely guides you through your current tasks.

For more information about processes, refer to ***Working with Processes*** (on page 339). For more information about the workflows, refer to ***Opening Workflows*** (on page 346).

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Processes

Working with Processes

The **Processes** and **Workflows** features, together in the Guide pane, provide you with ways to organize your work in Primavera Portfolio Management (PPM). The **Processes** tab displays sets of favorite URLs and guided processes that provide you with direct access to various objects, including PPM documents, and any local or web URLs. The **Workflows** tab displays your workflows.

Processes also enable you to create text objects, for use as titles and explanatory text for your processes.

The guided processes are displayed as links with descriptions in user-defined folders in a pane to the left of the workspace in any of the PPM modules. Folders are organized in a processes hierarchy and can be manipulated like any other PPM folder.

It is possible to export and import **Processes** process folders through PPM packages. This enables Playbook writers and solution developers to define structured flows for different processes and different rolls within the playbooks/solutions they are providing.

Benefits of Using Processes

Processes in the Guide pane provide a single destination for all your process, presentation, navigation, collaboration, and training needs. It results in an easier, faster, and more powerful product. **Processes** introduce a dynamic aspect to playbooks and other solutions.

Benefits are especially realized in the following areas:

- **Guided Processes:** Guided processes can be provided with Playbooks and any other solution supplied by Playbook writers or anyone else preparing a process for an organization or group in an organization. Guided processes provide the following benefits:

- Guided processes which clarify what to do and in what order.
- Centralized process definitions and deployment.
- Distributed process management for workgroups.
- Established organization standard processes and processes that can be centralized and shared.

- **Meetings and Discussions:** Processes helps facilitate more productive meetings and discussions. It allows a structured walk-through during presentations based on up-to-date data.
- **Personal Favorites:** Each PPM user has a private area called **Processes** in which private links to frequently used modules and items can be saved. These links are accessible from any machine since the links reside on the server.

Processes provide better collaboration that helps focus group cooperation. You can email a copy of a process folder to group members. This folder contains all relevant links and descriptions. The group members can read the explanations and use the links for mission specific navigation.

You can also e-mail a link of a shared folder. By following this link, group members focus directly on the necessary PPM object, since the **Processes** bar opens displaying the folder's processes.

Examples

The following examples demonstrate possible use cases for **Processes**:

- **Meetings:** Before your meeting, create a folder in **Processes** that contains links to the screens you will be discussing during the meeting. Send the links to the meeting participants prior to the meeting so that they can prepare. During the meeting, follow the links in the meeting folder to view the correct screens in order. The last visited link feature helps to orient your presentation during the meeting.
- **Process Distribution:** Create a public folder with ordered processes for distribution. Send a folder link to the distribution list so that everyone has quick access to the process distribution.
- **Playbook Creator:** As a playbook creator, you can create a task oriented folder of processes to help users accomplish a task. Users of this Playbook automatically get these processes in their **Processes**.

Opening Processes

The **Processes** appear in its own tab within the Guide pane to the left of the main window. You can show or hide the Guide pane.

Showing the Guide Pane

To show the Guide pane:

1) From the **View** menu of any module, choose ☰ **Show Navigation Pane**.
2) Choose **Processes**.

Hiding the Guide Pane

To hide the Guide pane:

1) Choose ✕ **Hide 'Guide' Pane**.

Working with Processes

Processes opens and displays both your personal and public available processes and text objects. You can add processes that link to other pages, objects, documents and general links to your Intranet or the Internet.

Each process has an icon, a clickable name, and a description:

The icons appear as follows:

PPM pages. The icon matches the target module.

PPM documents.

Links to other web sites.

When you click a process, the destination page replaces the current page in the main module area. When you click a document or Web link, the document or Web page opens in a new window on top of the current window.

You can create text objects to enrich the display and better convey how to use the processes. Text objects are not clickable links; they add descriptive instructions to clarify the process.

A text object consists of a title, a description, or both a title and a description.

Showing/Hiding Process Descriptions

You can show/hide the process descriptions.

To show/hide a process's descriptions:

1) From the Options menu in Processes select **Show/Hide Description**.

Selecting a Process Folder and Displaying Its Links

Processes links are arranged in Process Folders. A Process Folder is a regular PPM folder in which you can arrange the order of the links that the folder contains.

A special folder called Processes displays your private links and process folders.

To select a folder and display its links:

1) Click the **Selected Folder** field. The Process Folders tree appears.
2) Select a folder from the Process Folder hierarchy.

Adding Links

You can add the following kinds of links:

- A link to the current page
- A document link
- A Web link
- A text object
- A Process Folder link

Adding a PPM Link

When you create a PPM link, the **Link to** field displays the name of the view and the item.

Linking to Specific Items

If you create a link for your own needs, you usually want this link to include a specific item. If you are creating a link that serves multiple users, such as a Playbook link, the item context should be removed.

> **Note:** It is possible to remove the item context when editing a link. When the item context is removed, it is not possible to recheck this option.

To add a link to Processes:

1) Browse to the desired page in the application.
2) From the **Collaborate** menu, choose **Add Process Link**.

   Or

   In the Guide pane, on the Processes tab, click the **Add** button's arrow and choose **Process Link** from the drop-down menu.

   The **Add Process Link** dialog box appears.
3) In the **Name** field, enter a name for the view.

> **Note:** The current view name appears by default.

4) In the **Description** field, enter a useful description.
5) In the **Folder** field, click **Browse** and select the folder from the **Folders Tree** dialog box in which you want to create the link.
6) Check the **Include item in link** checkbox to include the item. Refer to ***Linking to Specific Items*** (on page 342).
7) Click **OK**. The link is appended to the end of the process's list in the selected folder.
8) To rearrange the order of the links, refer to ***Arranging Links in a Folder*** (on page 344).

Adding a Document Link

To add a document link to Processes:

1) In Processes, click the **Add** button's arrow and choose **Document Link** from the drop-down list.

   The Document Repository opens.
2) Select a document from the Document Repository.

   The Add Document Link dialog box appears.
3) In the Name field, enter a name for the document.

> **Note:** The current document name appears by default.

4) In the Description field, enter a useful description of the document.
5) In the Folder field, click **Browse** and select the folder from the Folders Tree dialog box in which you want to create the link.

   The Link to field displays the name of the document
6) Click **OK**. The PPM document link is appended to the end of the process's list in the selected folder.

Adding a Web Link

To add a Web link to Processes:

1) In Processes, click the **Add** button's arrow and select **Web Link** from the drop-down list.

   The Add Web Link dialog box appears.
2) In the Name field, enter a name for the Web link.
3) In the Description field, enter a useful description of the web page.
4) In the Folder field, click **Browse** and select the folder from the Folders Tree dialog box in which you want to create the link.
5) In the Link to field enter a URL or click **Browse** and select a file.
6) Click **OK**. The Web link is appended to the end of the process's list in the selected folder.

Adding a Text Object

To add a text object to Processes:

1) In Processes, click the **Add** button's arrow and choose **Text** from the drop-down list.

   The Add Text dialog box appears.
2) In the Title field, enter a title. If this field is left empty, no title appears.
3) In the Text field, enter the text. If this field is left empty, no text appears.
4) In the Folder field, click **Browse** and select the folder from the Folders Tree dialog box in which you want to create the link.
5) Click **OK**. The text is appended to the end of the process's list in the selected folder.

Adding a Process Folder Link

To add a Process Folder Link to Processes:

1) In Processes, click the **Add** button's arrow and choose **Process Folder Link** from the drop-down list.

   The Process Folder dialog box appears.
2) In the Link to field, enter the name of the target folder of the link.
3) In the Name field, enter the title of the link.
4) In the Description field, describe the target and the task to be performed.
5) In the Folder field, click **Browse** and select the folder from the Folders Tree dialog box in which you want to create the link.
6) Click **OK**. The text is appended to the end of the process's list in the selected folder.

Arranging Links in a Folder

To arrange the links in the current folder:

1) In Processes toolbar, click **Edit**.
   The Folder wizard opens to the Links step.
2) To move a link up or down in the list, select the link and click **Move Row** arrows.
3) To remove a link from the list, select the link and click **Remove**.
4) To edit a link, select the link and click **Edit**. The appropriate Link dialog box appears. Edit the required fields.
5) Click **Finish**. The links in the Processes bar reflects your updates.

Organizing Your Folders

To setup your Processes folders:

1) From the Options menu select **Setup**.
   The Setup dialog box opens displaying the Processes hierarchy.

   Note: Links are not visible in the Setup module.

2) To create a new folder, refer ***Creating Folders*** (on page 213) in Organizing Hierarchies.
3) To arrange the links in a folder, select the folder and click **Edit**. The Links appear in the Links tab of the Folder wizard.
4) To add, remove, and edit links, refer to ***Arranging Links in a Folder*** (on page 344).

   Notes:

   - Links are not visible in the Setup module.
   - To add, remove, or edit links to a folder you must have Edit permission for that folder.

5) To remove a folder, refer to ***Removing Objects and Folders*** (on page 216) in Organizing Hierarchies.
6) To add a folder, refer to ***Adding Primavera Portfolio Management Elements*** (on page 216) in Organizing *Hierarchies.*
7) To move a folder, refer to ***Moving Objects*** (on page 215) in Organizing Hierarchies.

Security Settings

The Processes root folder has the same security policy as any other hierarchy in the application; it inherits the system security policy settings.

Users' Processes is a folder containing all the Processes folders for all users in the system. It is a system folder. The following security applies to this folder:

- Security is NOT inherited
- Owner = Full Access
- Admin Group = Custom (Read and View; Remove and Admin)

Every user in the system has a My Processes folder, which is also a system folder. In the setup, these folders are located in the Users' Processes folder, and they appear with the user login name as follows:

- <user's login name>'s Links

The following security applies to these folders:

- Security is inherited
- Owner = Full Access
- Admin Group = Custom (Read and View; Remove and Admin)

For more information about Security Settings, refer to ***Security*** (on page 443).

Collaborating

Just as you can send pages by email (refer to ***Collaborating with Others*** (on page 393)) you can also send links and folders. Sending links and folders enables you to direct other users to specific information in the system.

Sending Links

You can send an email containing all links contained in the folder currently displayed. Sending links provides you with a way to share Processes links. The recipient of the email can follow the links from the email message dialog box.

To send links in an email:

1) From the Options menu in Processes, select **Send Links**.

   The Send Mail dialog box appears with all the links of the current folder contained in the text of the email.

   > **Note:** The links appear as clickable blue underlined links only in the receiver's mail application.

2) In the To field, type the required email address.

   Or

   Click

. The Add User dialog box opens. For information on selecting users or user groups from the Add User dialog box, refer to ***Adding a User*** (on page 394) in Collaborating with Others.

   The name of the current view objects automatically appears in the subject field. You may overwrite the subject. The body message contains the URL to the page. You can add/edit the content of the body message as needed.

3) Click **Send**.

Sending Folders

You can send an email containing a link to the folder currently displayed on your Processes tab. The recipient of the email can follow the link and view the folder's links in the recipient's Processes tab of their own Guide pane.

> **Note:** Sending folders is not available when the current folder is *Processes* or one of its children.

To send folders in an email:

1) From the Options menu in Processes, select **Send Folder**.
   The Send Mail dialog box appears with the link to the current folder contained in the text of the email.

   > **Note:** The links appear as clickable blue underlined links only in the receiver's mail application.

2) In the To field, type the required email address.
   Or
   Click

   . The Add User dialog box opens. For information on selecting users or user groups from the Add User dialog box, refer to ***Adding a User*** (on page 394) in Collaborating with Others.
   - The name of the current view objects automatically appears in the subject field. You may overwrite the subject. The body message contains the URL to the page. You can add/edit the content of the body message as needed.
3) Click **Send**.

Workflows

Opening Workflows

The **Workflows** appear in its own guide pane within the Navigation pane to the left of the main window. You can show or hide the guide pane.

> **Note:** For information about creating and managing workflows, refer to ***Working with Workflows*** (on page 396).

Showing the Guide Pane

To show the Guide pane:

1) From the **View** menu of any module, choose ☰ **Show Navigation Pane**.
2) Choose **Workflows**.

Hiding the Guide Pane

To hide the Guide pane:

1) Choose ✕ **Hide 'Guide' Pane**.

Viewing Workflows, Steps, and Tasks from the Navigation Pane

You can use the Guide pane to display all currently running workflows whose current workflow steps contain workflow tasks in which you are either a performer or manager.

You can search the workflows section of the Guide pane by Scope or by Workflow name.

Displaying Workflows, Steps, and Tasks

When you open the Guide pane, you can view the information in one or two primary ways: Performer view or Manager view.

Performer View

Performer View displays only those workflows whose current step contains tasks in which you are a performer.

To display Performer View, Click **Options**, **Show Performer View**.

For a single workflow, the following information is visible in Performer View:

- The name of the workflow instance
- Show Diagram link for accessing the Workflow template diagram from which the current workflow was instantiated.
- The date and time the workflow instance started
- The name of the user who started the workflow, if the workflow was started manually, the host workflow instance name if the workflow was embedded in another workflow, or the name of the alert if started by an alert.
- The name of the item/portfolio of the workflow scope
- The name of the manager of the workflow
- The description of the workflow
- The name of the current step containing the task of which you are a performer
- The name of the item/portfolio of the step scope
- The name of the step manager
- The description of the step
- The total number of tasks that you must sign off in the current step. The total number of tasks changes dynamically as you sign off tasks.

> **Note:** You can hide most of the above details associated with workflows by selecting **Options, Hide Details**. Select **Options, Show Details** to redisplay the details.

Displaying Tasks in Performer View

When viewing workflow information in the Guide pane, you can display the tasks of the currently active step in which you are a performer by clicking on the name of the workflow. You can return to the workflow list by clicking on the Show Workflow List button.

The tasks in which you are a performer display beneath the workflow and step details. Each task lists its name, scope, and description.

A manual decision would appear with its name, decision question, and sign off link.

If the current step is a parallel step, then when viewing its tasks, in Performer View, the tasks are clustered according to the current Step of each track of the parallel step.

A check mark appears ahead of each completed task in the Guide pane, unless you choose to hide completed tasks, as discussed in the note below.

Notes:

- You can hide or show details when displaying tasks by selecting **Options, Hide Details** or **Options, Show Details**, as applicable.
- You can hide or show completed (checked off) tasks when displaying tasks by selecting **Options, Hide Checked off Tasks** or **Options**, **Show Checked off Tasks**, as applicable.

Manager View

Manager View displays information only for those workflows whose current step contains tasks in which you are either a performer or manager.

To start Manager View, Click **Options**, **Show Manager View**.

For a single workflow, you see all the same information listed for the Show Performer View, but in addition to the total number of tasks that you must perform as a performer, another field displays that provides the total number of tasks remaining for the current step in which you are manager.

- If you are both the designated performer and manager of a task, the task is counted only as a perform task and you receive this task only as a performer (sign off task).
- If you are the manager of a task in more than one way (Step and Workflow manager, Step and Parallel Step Manager, Parallel Step and Workflow Manager, Step, Parallel Step and Workflow Manager), the task is counted as a Manager task (Manager Sign off task).

Note: You can hide most of the details associated with workflows by selecting **Options, Hide Details**. Select **Options, Show Details** to redisplay the details.

Displaying Tasks in Manager View

When viewing workflow information in the Guide pane, you can display the tasks of the currently active step in which you are a performer or manager by clicking on the name of the workflow.

Task details for a manual decision would appear with its name, decision question, performer, and Manager sign off link.

In Manager View, two sets of tasks can display: Tasks for which you are a performer, along with a sign off link for each uncompleted task, and tasks for which you are the manager, with a Manager sign off link appearing after each uncompleted task. The task details displayed in the Manager view are the same as in the performer view with the addition of the name of the designated performer of the task.

Tasks for which you are a performer appear above a dashed line that separates them from tasks for which you are a manager.

If the current step is a parallel step, then when viewing its tasks, whether in Manager View, the tasks are clustered according to the current Step of each track of the Parallel step.

A sign off link appears after each uncompleted task.

If you approve one of the tasks for which the performer is a Group and the completion policy is **Any** or **Majority**, the system would automatically withdraw the rest of the tasks (in the case of **Any**) or would withdraw the rest of the tasks in the case majority approval occurs (in the case of **Majority**). When that happens:

- If there are still pending tasks in the same Step for the Manager, then a check mark (approval symbol) appears next to the remaining tasks along with text that identifies that the task was a “Group Sign off:” followed by the name of the group and the completion policy type (**Any, All**, or **Majority**). For example, Group Sign off: Finance Group (**Any**).

A check mark appears ahead of each completed task, unless you choose to hide completed tasks, as discussed in the note below.

Notes:

- You can hide or show details when displaying tasks by selecting **Options, Hide Details** or **Options, Show Details**, as applicable.
- You can hide or show completed (checked off) tasks when displaying tasks by selecting **Options, Hide Checked off Tasks** or **Options, Show Checked off Tasks**, as applicable.

To learn more about Workflows, refer to ***Working with Workflows*** (on page 396).

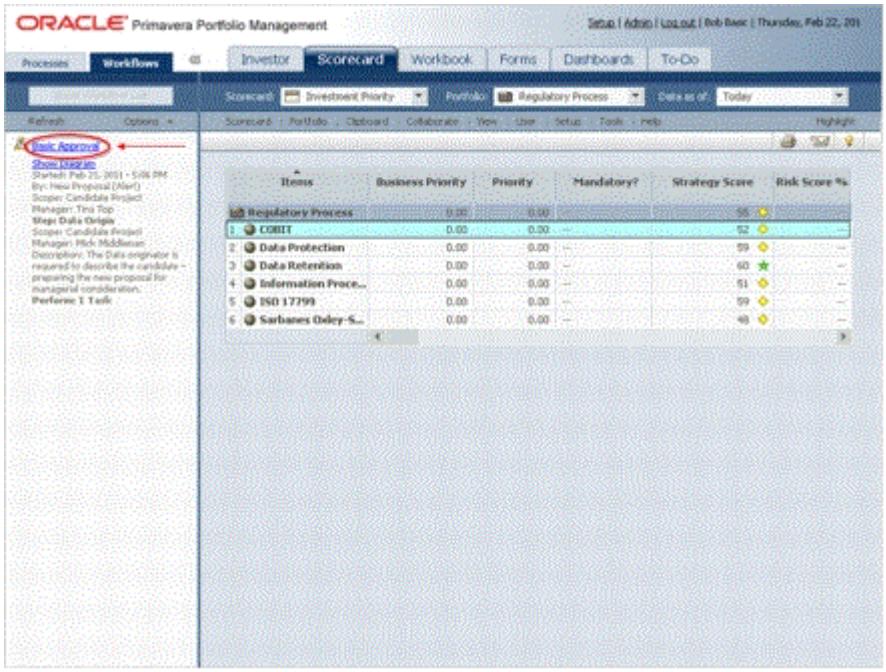
Participating in Workflows

This subsection provides a simple example of a workflow to convey a fundamental sense of what you see and do when you are a participant in a running workflow.

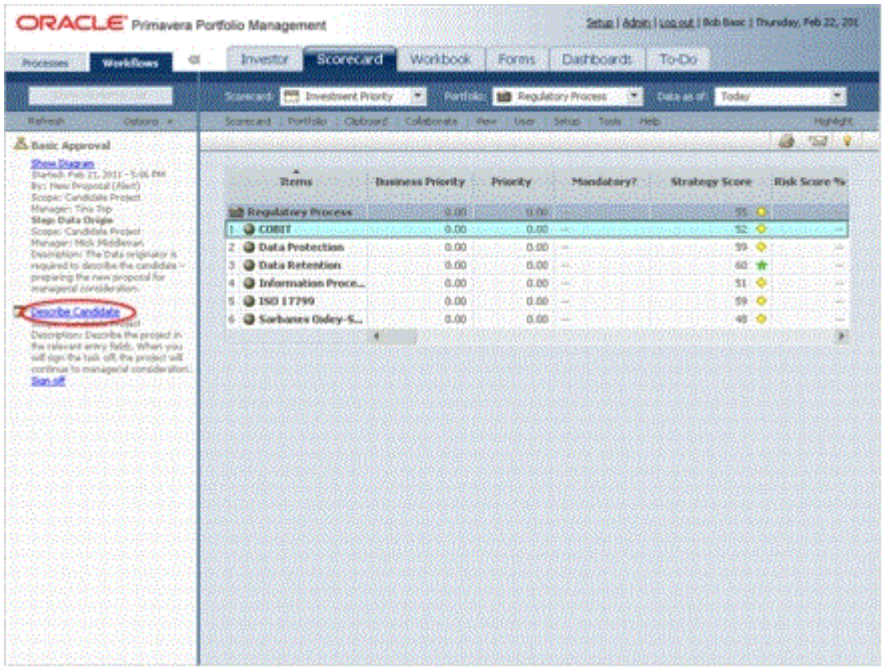
For this example, know that the performers are Bob Basic, Mick Middleman (Bob's manager), and Tina Top (the project manager).

Before this workflow begins, Bob Basic receives an e-mail from Tina Top who requests that Bob submit candidate IT projects for the Cloud Computing Initiative by way of the Candidate Project Form. Bob subsequently submits the candidate, upon which an "item added to portfolio" alert triggers the Basic Approval workflow.

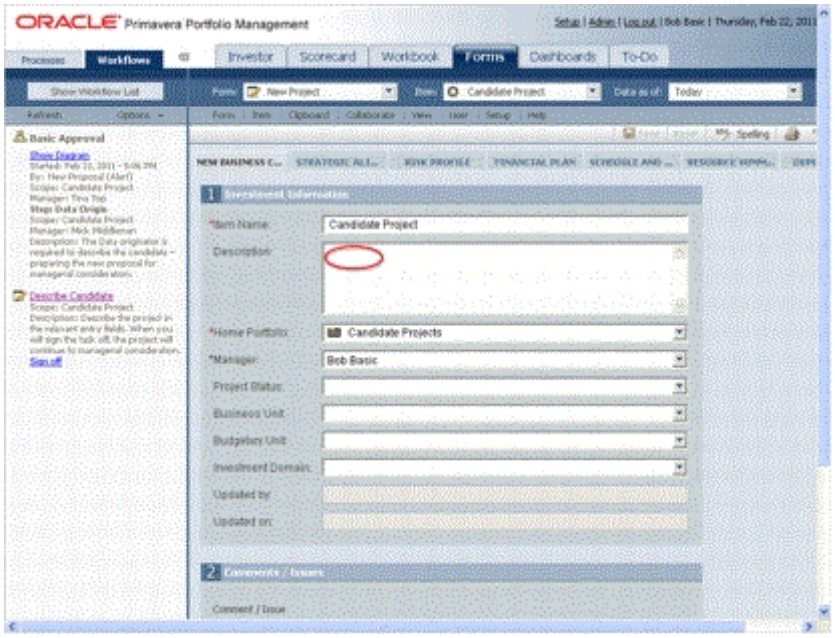
Bob opens the Guide pane and sees that Basic Approval is currently the only workflow instance relevant to him, as shown below:



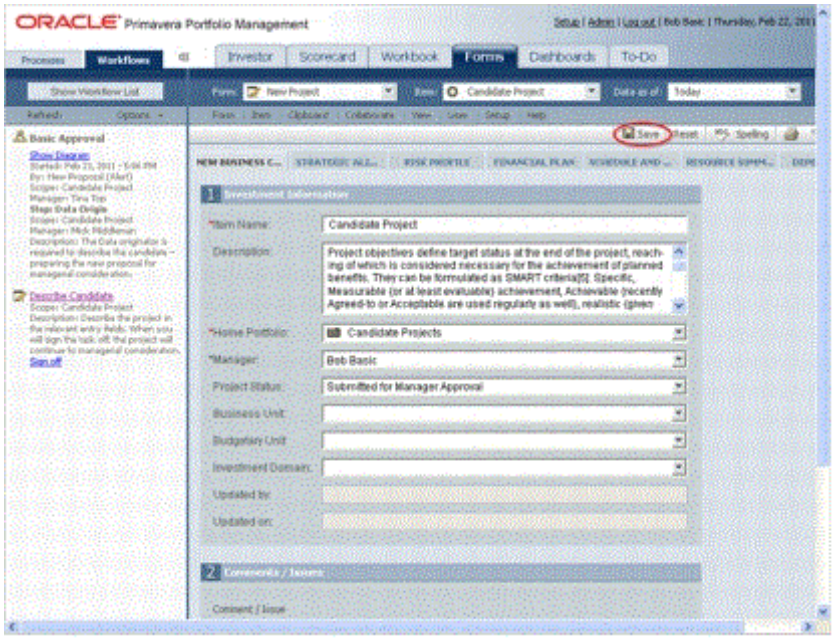
Bob clicks on the workflow's name to display its tasks:



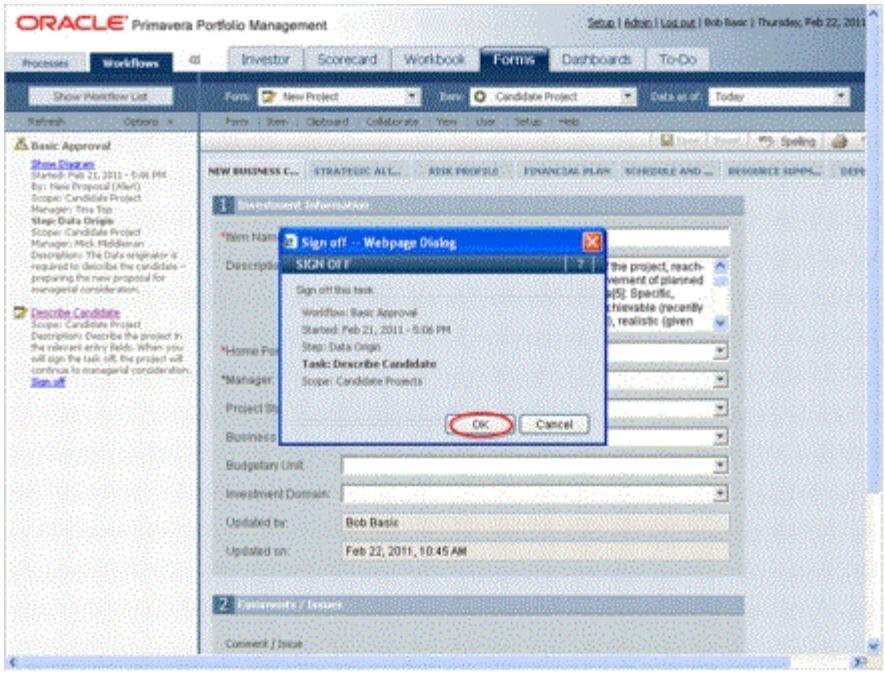
Bob clicks on the Describe Candidate task, which displays the screen relevant to performing his task:



Bob completes the applicable fields as shown below.



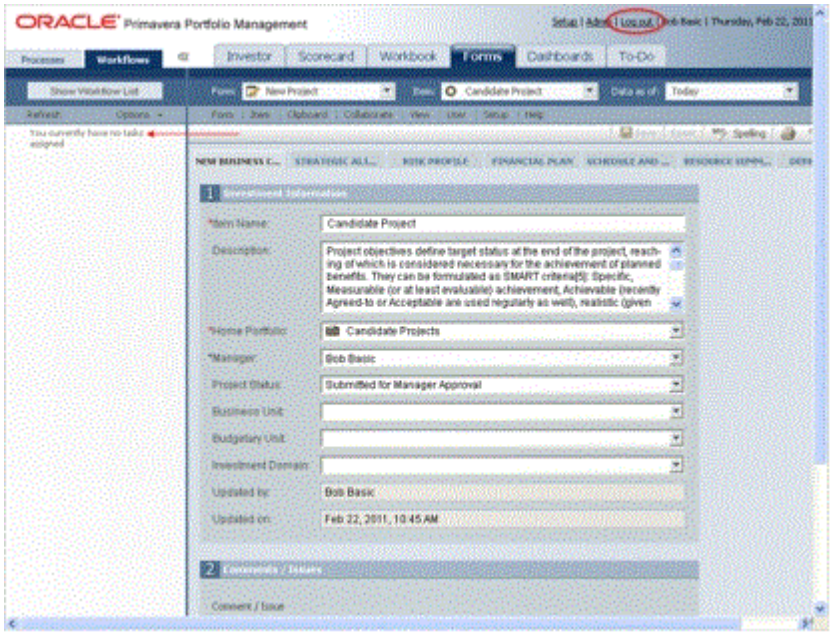
Upon completing the previous screen, Bob clicks Save and then, since he has now completed his task, he clicks the Sign off link under his task in the Guide pane. The associated sign off appears:



Bob clicks OK to complete the Sign off, and the workflow progresses.

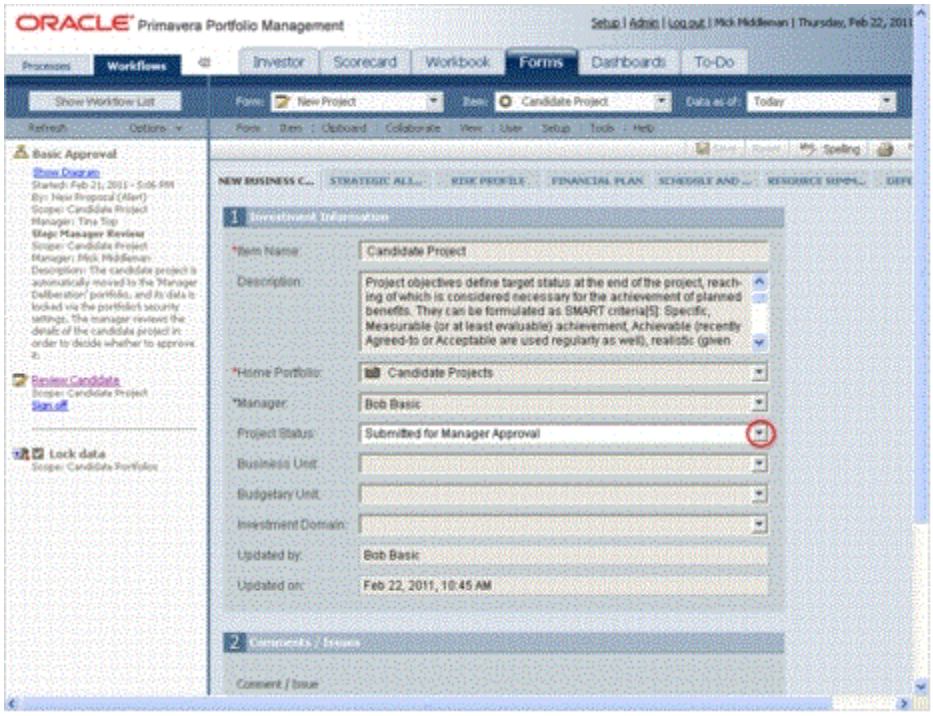
Be aware that once OK is clicked on a sign off, the action is irreversible; there is no undo.

Since Bob has no further tasks, his Guide pane appears as follows:

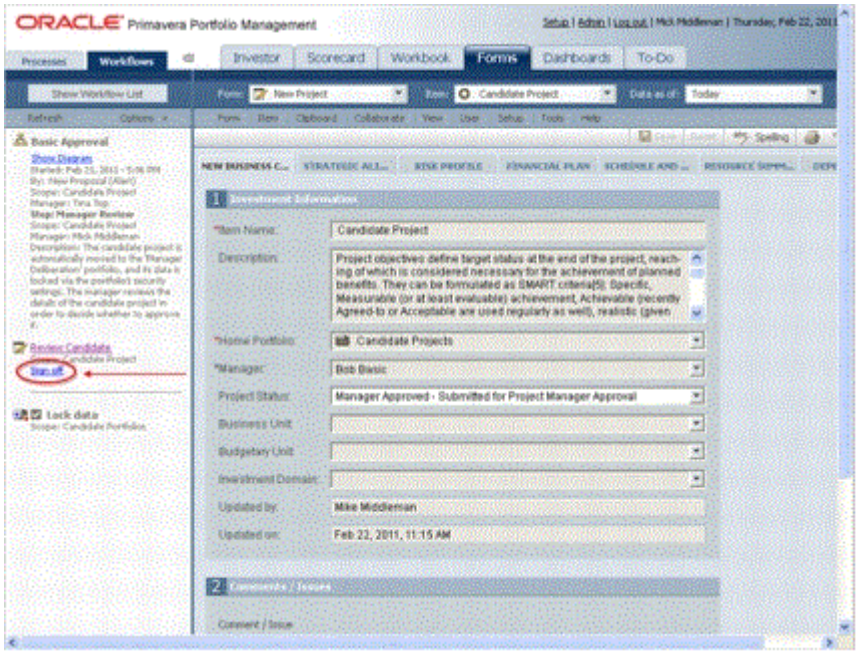


The workflow progresses and the current step includes a task for Mick along with a system task that was already performed, as shown in Mick's Guide pane below:

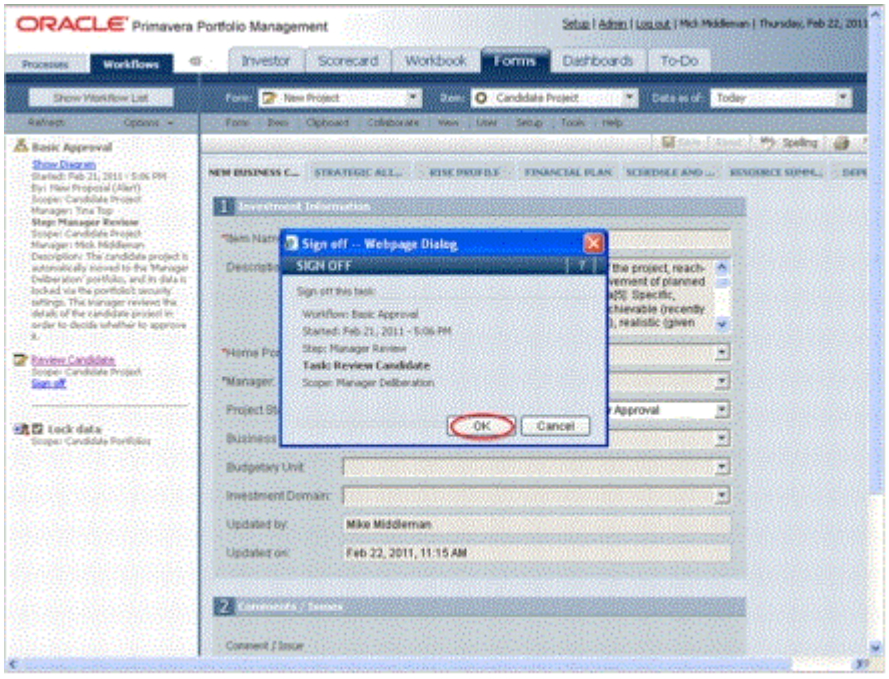
Mick clicks on the Review Candidate task in his Guide pane, which displays the screen relevant to performing his task:



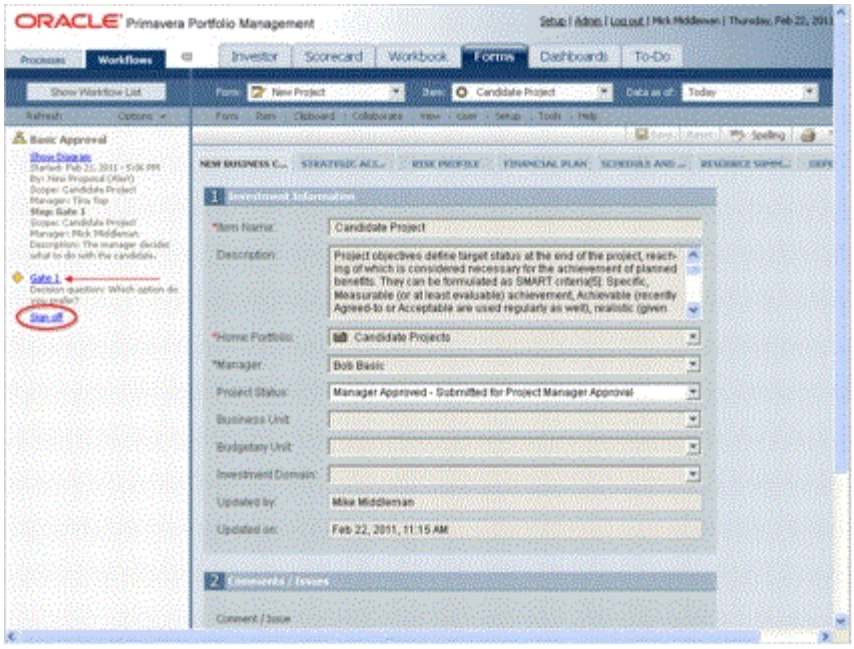
Mick reviews the form and then clicks on Project Status and changes the status to Manager Approved - Submitted for Project Manager Approval. He then clicks Save. Having reviewed the form and changed the status, Mick then clicks the associated Sign off link, circled below:



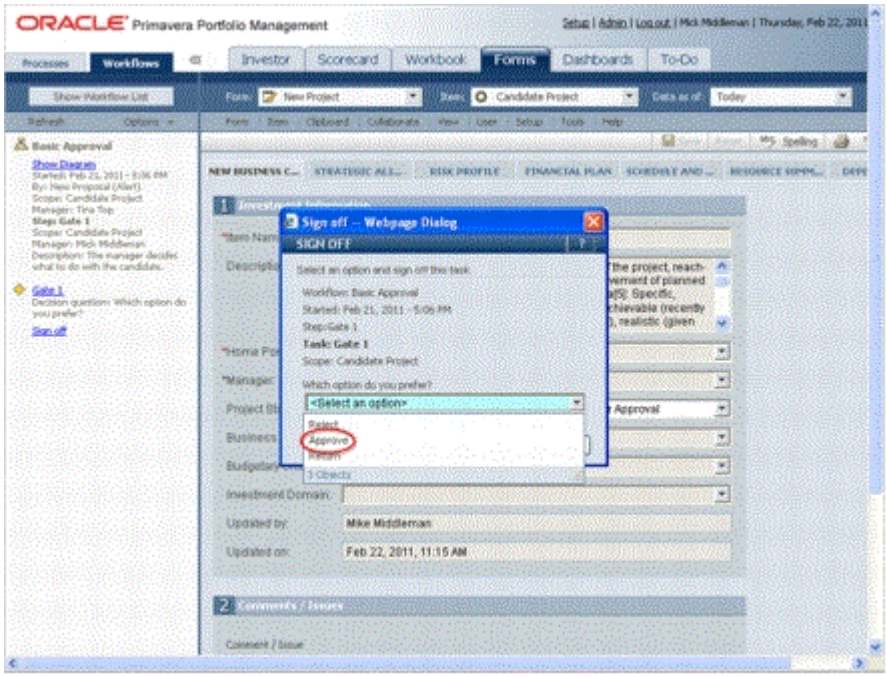
Upon clicking Sign off, the Sign off appears:



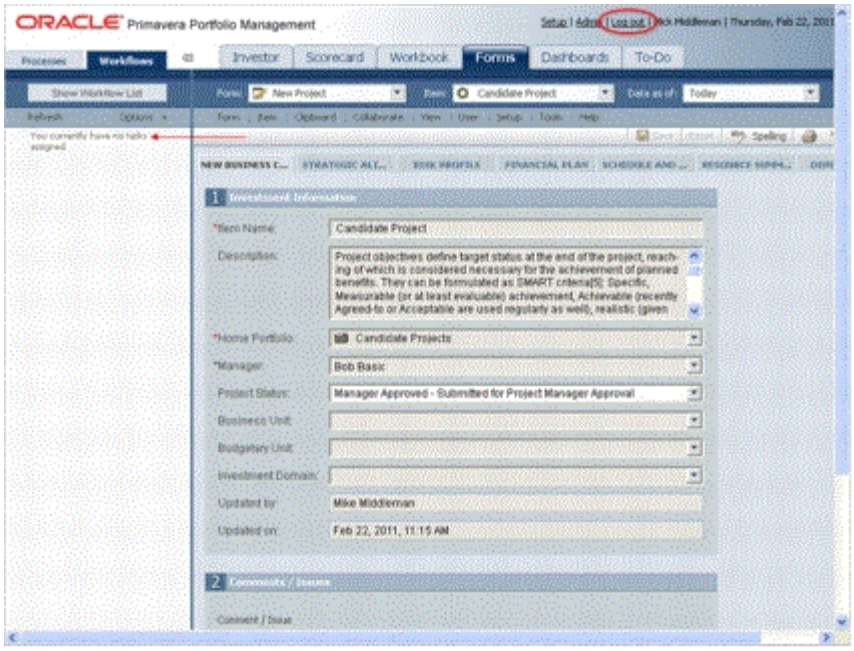
Mick clicks OK to complete the Sign off, and the workflow progresses to the next step, in which Mick has a decision to make, as shown in his Guide pane:



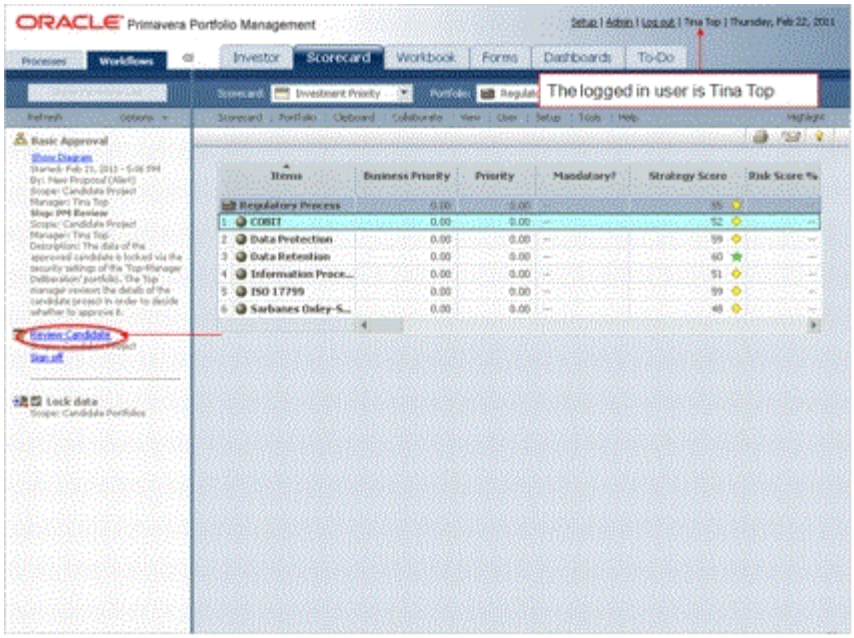
Mick clicks on Sign off to display the Sign off and then on the Which option do you prefer field, as shown below:



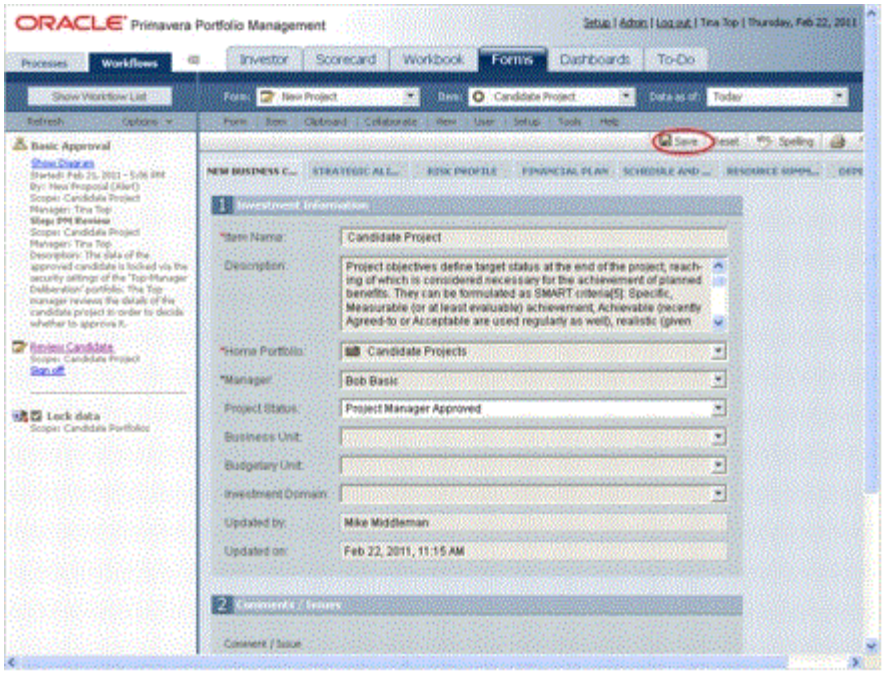
Mick selects Approve, and then clicks OK to complete the Sign off. The workflow then progresses. Since Mick has no further tasks, his Guide pane appears as follows:



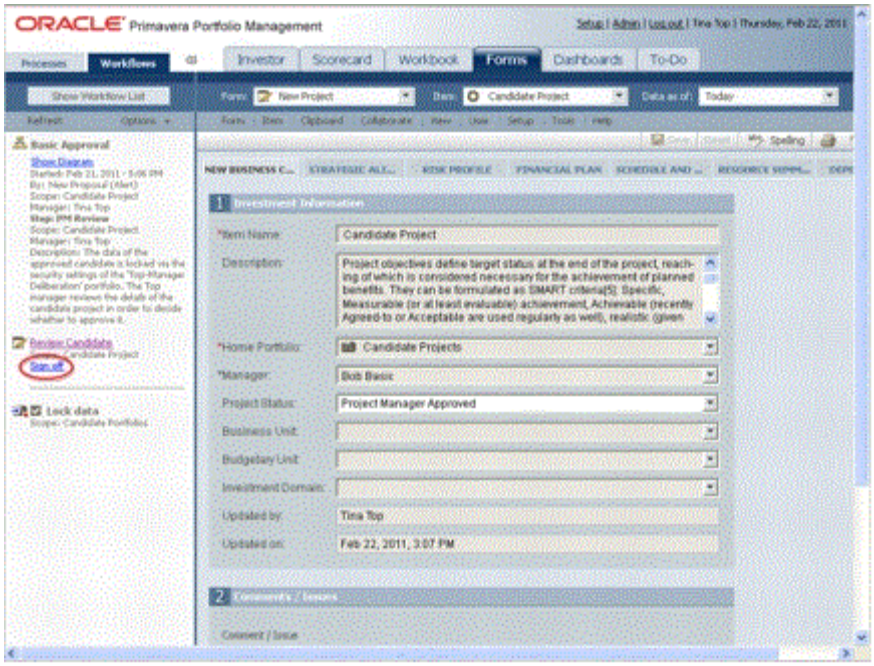
The workflow progresses and the current step includes a task for Tina along with a system task that was already performed, as shown in Tina's Guide pane below:



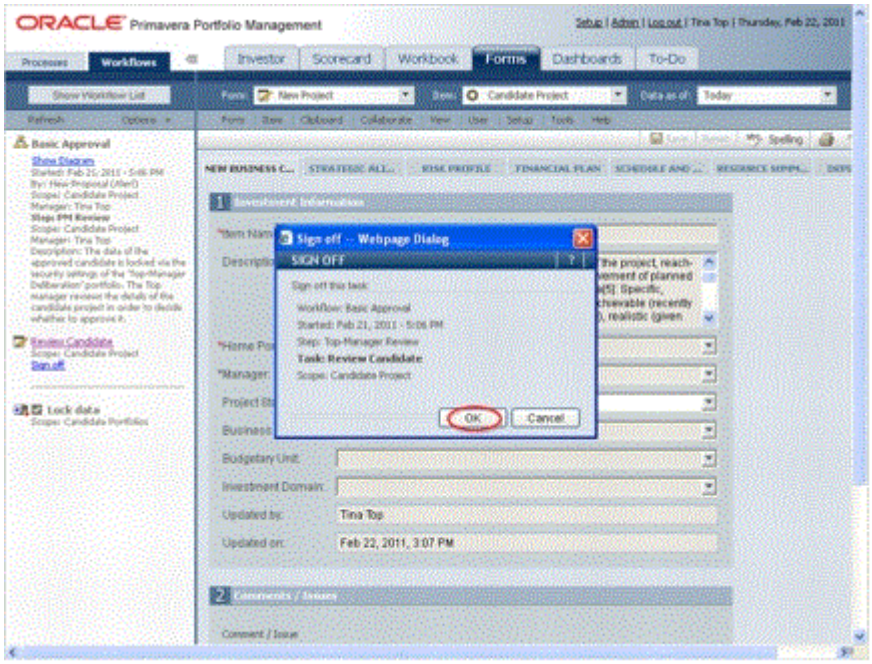
Tina clicks on the Review Candidate task in her Guide pane, which displays the screen relevant to performing her task. Tina reviews the form and then clicks on Project Status and changes the status to Project Manager Approved. She then clicks Save.



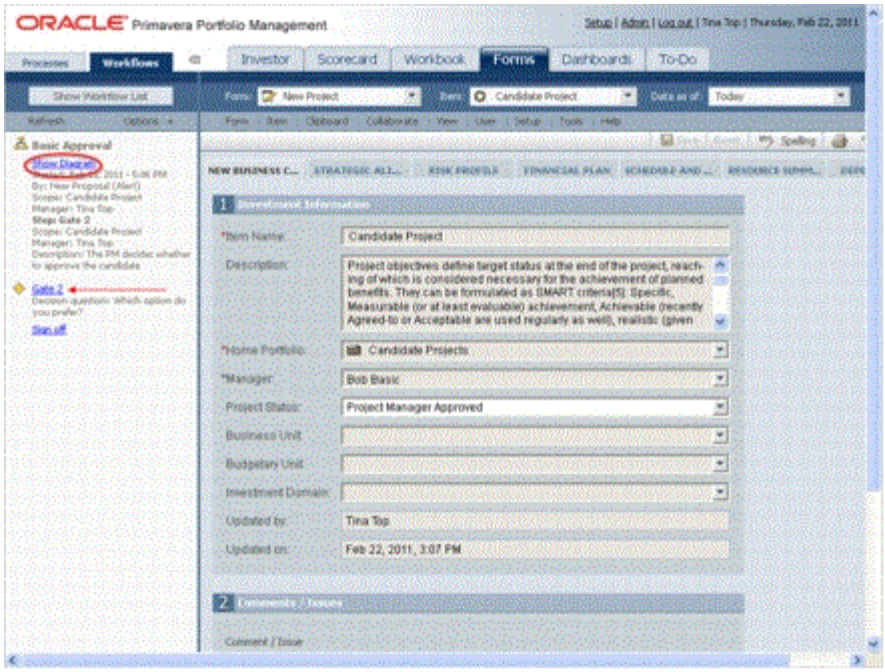
Having reviewed the form and changed the status, Tina then clicks the associated Sign off, circled below:



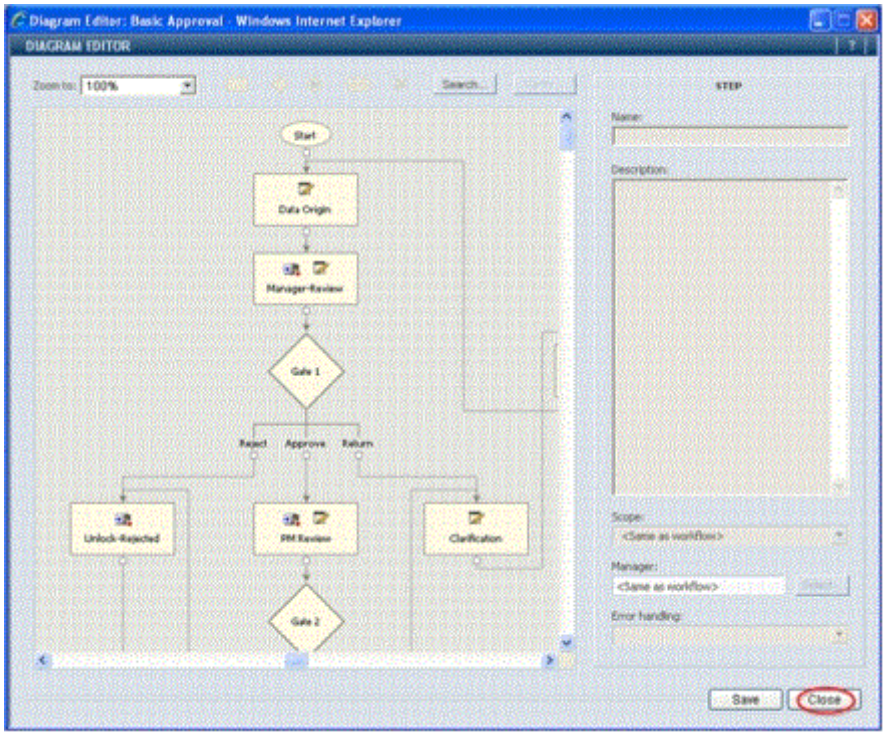
Upon clicking Sign off, the Sign off appears:



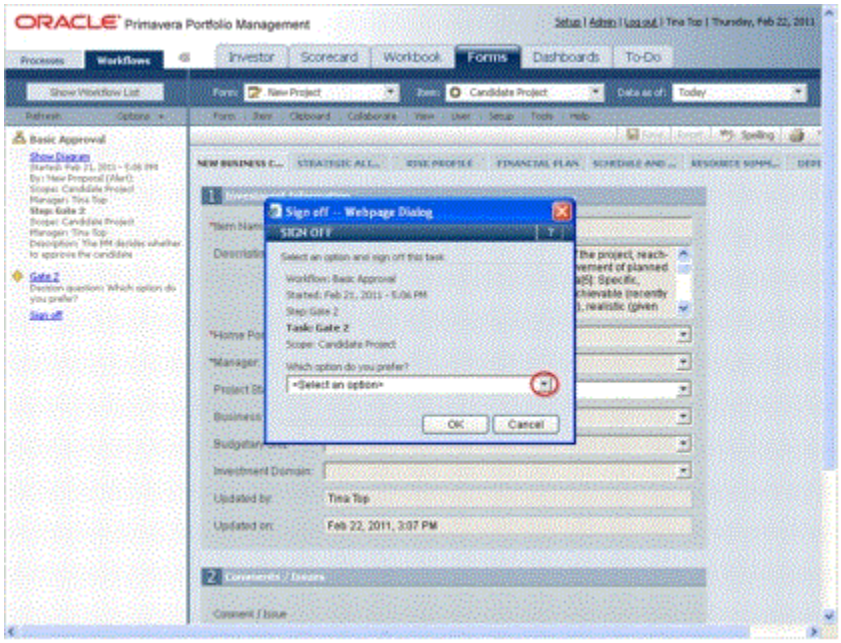
Tina clicks OK to complete the Sign off, and the workflow progresses to the next step, in which Tina has a decision to make, as shown in her Guide pane. However, before she makes the decision, she wants to review the workflow, so she clicks Show Diagram, as circled below.



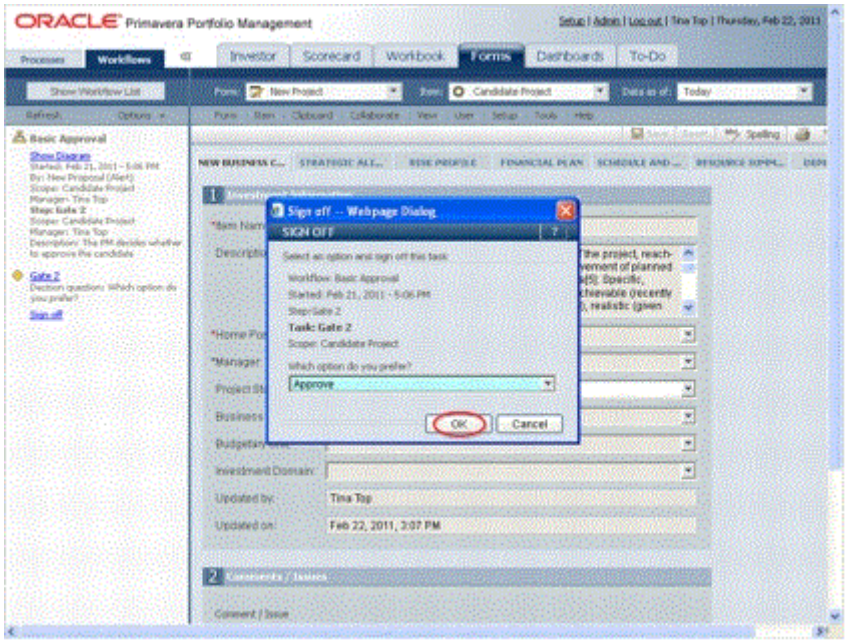
Clicking Show Diagram displays the workflow in the Diagram Editor, shown below. After reviewing the workflow, she closes the editor by clicking Close.



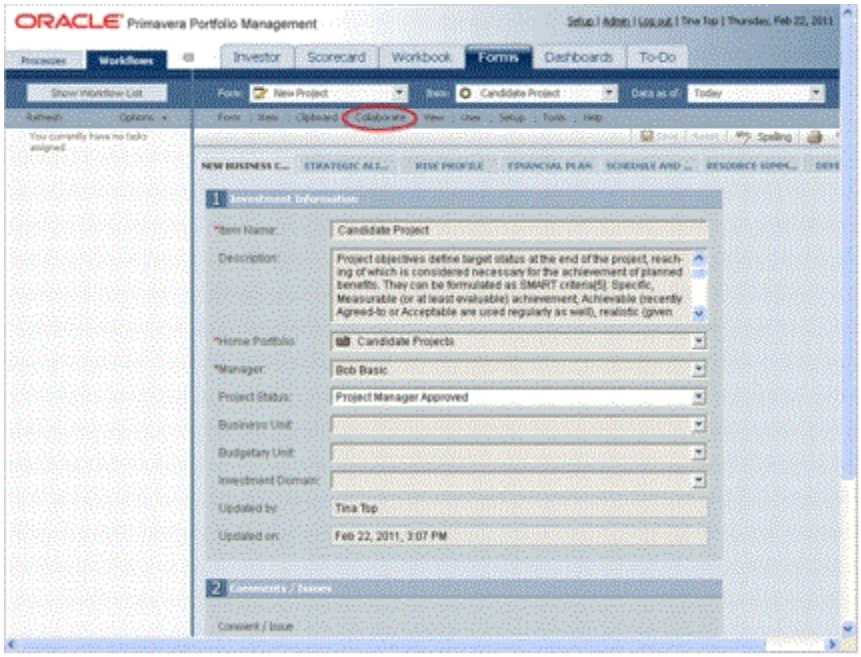
Tina has now considered what has been done and clicks Sign off to display the sign off and to select an option. She clicks the down arrow to display the options.



Tina selects Approve and then clicks OK to complete the Sign off.



This instance of Basic Approval workflow is now complete.



Reassigned Due to Error (Error Handling) Tasks

Error handing for a step is defined using the Step tab in the Workflow diagram editor. (For more information about the Workflow diagram editor, refer to Workflow Diagram Editor in Working with Workflows.) If the Error handling option selected was `Notify Manager,' an error in the task will cause a new task to be reassigned to the Manager of the step. The reassigned task will be shown in the manager's navigation pane.

The Manager can choose whether to ignore the error and sign the task off, or stop the workflow.

Sign Offs

Most uncompleted tasks that display in Performer or Manager view are associated with a Sign off, which appears as a link under the task information.

A sign off for a task is defined using the Workflow diagram editor. (For more information about the Workflow diagram editor, refer to Workflow Diagram Editor in Working with Workflows.)

Clicking on a Sign off link displays the Sign off dialog box for that task. The performer must complete the sign off to complete the task.

> **Note:** Be aware that once the performer (or manager) clicks OK on a sign off, the task is marked as completed and the action is irreversible; there is no undo.

The sign off dialog box can vary, depending on the sign off option defined when the task was defined using the Workflow Diagram Editor.

Performer Sign Offs

A sign off that requires a simple OK or Cancel is defined using the Workflow Diagram Editor (by selecting OK/Cancel in the Sign off field). Clicking a sign off link for a sign off that was defined as OK/Cancel causes a sign off dialog box to appear.

A sign off that requires an OK or Cancel response as well as the performer's password is defined using the Workflow Diagram Editor (by selecting OK/Cancel + Password in the Sign off field).

Clicking a sign off link for a sign off that was defined as OK/Cancel + Password causes a sign off dialog box with a password field to appear.

If when using the Workflow Diagram Editor "None" was selected for the Sign off field, then the task becomes checked off as it is completed and no intermediate sign off dialog box appears.

A sign off for a manual decision task that requires a simple OK or Cancel response subsequent to selecting an option is defined using the Workflow Diagram Editor (by selecting OK/Cancel in the Sign off field). The options presented in the drop-down list are those defined using the Task tab in the Workflow Diagram Editor.

Clicking a manual decision sign off link for a sign off that was defined as OK/Cancel causes a sign off dialog box with a drop-down menu to appear.

A sign off for a manual decision task that requires an OK or Cancel response as well as the performer's password subsequent to selecting an option is defined using the Workflow Diagram Editor (by selecting OK/Cancel + Password in the Sign off field). The options presented in the drop-down list are those defined using the Task tab in the Workflow Diagram Editor.

Clicking a manual decision sign off link for a sign off that was defined as OK/Cancel + Password causes a sign off dialog box with a drop-down menu and a password field to appear.

Manager Sign Offs

Clicking on a Manager sign off link causes a sign off dialog box to appear. The sign off dialog box can vary, depending on the sign off option.

A sign off that requires an OK or Cancel response as well as the manager's password is defined using the Workflow Diagram Editor (by selecting OK/Cancel + Password in the Sign off field).

Clicking a Manager Sign off link for a sign off that was defined as OK/Cancel + Password causes a sign off dialog box with a manager password field to appear.

A manager sign off for a manual decision task that requires an OK or Cancel response as well as the manager's password subsequent to selecting an option is defined using the Workflow Diagram Editor (by selecting OK/Cancel + Password in the Sign off field). The options presented in the drop-down list are those defined using the Task tab in the Workflow Diagram Editor.

Clicking a manual decision sign off link for a sign off that was defined as OK/Cancel + Password causes a Manager Sign off dialog box with a drop-down menu and a manager password field to appear.

Accessibility Features

This section describes the various accessibility features of Oracle Primavera Portfolio Management.

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Screen Readers 367
High Contrast Mode 370

Introduction

The built-in accessibility features of Oracle Primavera Portfolio Management (PPM) provide enhanced productivity for all users. The features include:

- **Keyboard commands**: Perform virtually any task, using familiar Windows and Web keyboard commands. These keystrokes provide more advanced users with quicker interactions, while also benefiting users who prefer the keyboard to the mouse due to motor skill impairment or injury.
- **High Contrast mode** (for graphs only): This feature benefits users with vision impairment or those suffering from eye fatigue. It also provides users and viewers with better screen definition during projected presentations or in poor lighting conditions.
- **Screen Reader support**: Provides better compatibility with screen reading software, such as *Jaws*, and Braille displays used in conjunction with PPM. Compatibility with such software and devices makes the product more accessible to users with vision impairment.
- **Enhanced support for third party accessibility tools**: the built-in accessibility support allows better interaction with various third party accessibility-enhancing tools such as screen magnifiers, high contrast schemes, screen readers, and voice command software.

> **Note**: Administrators can set the High Contrast mode and Screen Reader support in advance on the Accessibility tab of the User Wizard. In this way the administrator can make PPM accessible to visually impaired users from the first time they log in.

Keyboard Commands

You can use keyboard commands to perform virtually any task, previously achieved only with the aid of a mouse. The benefits of keyboard commands include:

- Greatly improved productivity in cases where repeated operations are carried out, especially for more advanced users who are proficient with keyboard shortcuts.
- Improved accessibility for users suffering from mouse related repeated stress injuries.

- Improved accessibility for users with motor skill impairment. Some of these users may prefer the use of the keyboard to a mouse, while others may depend upon it.
- Keyboard commands provide the ability to program dedicated voice commands for interacting with Primavera Portfolio Management using voice command software.

Keyboard navigation is easy and intuitive. It is based on familiar navigation commands used by Windows and on the web.

> **Note:** Additional keyboard commands are available when ***Working with Screen Readers*** (on page 368).

The following keys provide navigation and editing functions:

Keys	Action
Ctrl + M	Moves the focus to the main (right) pane.
Ctrl + L	Moves the focus to the left pane
Tab	Moves the focus between the interactive elements on screen (links, buttons, data entry elements, tables, etc.). The focus moves from the top left to the bottom right of a window. Tab between open menu items.
Shift + Tab	Moves the focus backwards between interactive elements.
Arrow keys	Provides navigation in lists and tables by moving the focus up or down in a list or between rows and columns in a table.
Enter	Opens menus, opens tabs, and activates links and buttons.
Esc	Undoes an action or closes the interactive element.
Ctrl + Enter	Submits a form.
Alt + Down Arrow	Opens a drop down list. Opens menu lists.
Ctrl + Shift + >	Navigates to the tab on the right (no effect if focus is already on the last tab on the form). This is applicable to forms with more than one tab.
Ctrl + Shift + <	Navigates to the tab on the left (no effect if the focus is already on the first tab on the form). This is applicable to forms with more than one tab.
Alt+M	(For 19 SP 1 Only) Maximizes the window in all the Tab tree drop downs.

Keyboard Commands for Map Tools

Keys	Action

Alt+number	Focus respective section in the Map Tools.
Tab	Focus items inside the selected Map Tools section.

Keyboard Commands for Tables

Most of the tables in the product act as *Inventory Lists*. You can use the keyboard to select a row from the list, and you can then use **Tab** to navigate to the table's command buttons to perform commands such as **Edit**, **Remove**, etc.

Some tables such as Scorecard, Phases List, and Deliverables List are *Data Entry* tables that allow you to directly edit the contents of each cell. In these tables you can use the keyboard to access any of the cells in the table.

The following sections describe how to navigate inside tables, and how to edit the contents of a table.

Use the **Tab** key to navigate to a table. You can use the following keys to navigate within the table:

Keys	**Action**
Right Arrow	In a data entry table only: Moves cell focus to the right, one cell at time.
Left Arrow	In a data entry table only: Moves cell focus to the left, one cell at time.
Up Arrow	Moves focus one row up at a time.
Down Arrow	Moves focus one row down at a time.
Home	Moves focus to the top row of the table.
End	Moves focus to the bottom row of the table.
Page Up	Moves focus one page up at a time.
Page Down	Moves focus one page down at a time.
Letter Keys	Moves focus to the first row below containing an object name that starts with that letter.
Context Menu Key	Opens the right-click pop-up menu, if available. (Press Shift + F10 if your keyboard does not include this key.)

Note: Arrow keys cannot move the focus to the title cells of a table.

Editing Tables with Buttons

Navigate to the table, select a row if desired, and then use **Tab** to navigate to the table's command buttons to perform actions such as **Edit**, **Add**, **Remove**, etc.

Tips:

To exit an edited table, press **Enter** (to save the current value and move to the next cell), then press **Esc** (to exit Edit mode), then press **Tab** (to navigate out of the table).

To edit links in a data entry table, navigate to the cell containing the link, press **Enter** and start editing.

To open the link, copy the link using **Ctrl+C**, navigate to the address bar in your web browser, paste the link in the address bar using **Ctrl+V**, and then press **Enter**.

Editing a Data Entry Table

Once you navigate to the location you wish to edit, use the **Enter** key to change to Edit mode.

In Edit mode, edit the cell contents as desired. To continue editing the table, use the following keys:

Keys	Action
Tab	Saves the current value, and moves the focus to the next interactive cell (to the right).
Shift + Tab	Saves the current value, and moves the focus to the previous interactive cell (to the left).
Enter	Saves the current value, and moves the focus to the next interactive cell below the current one.
Shift + Enter	Saves the current value, and moves the focus to the next interactive cell above the current one.
Esc	Reverts to the previous cell value (undoes editing), and exits Edit mode, with the focus remaining on the current cell.

Tips:

To exit an edited table, press **Enter** (to save the current value and move to the next cell), then press **Esc** (to exit Edit mode), then press **Tab** (to navigate out of the table).

To edit links in a data entry table, navigate to the cell containing the link, press **Enter** and start editing.

To open the link, copy the link using **Ctrl+C**, navigate to the address bar in your web browser, paste the link in the address bar using **Ctrl+V**, and then press **Enter**.

Screen Readers

The Screen Readers Support mode is intended to make the product more accessible to users with vision impairment. Screen Reader Support mode can be used to provide better compatibility for screen reading software and Braille displays used in conjunction with PPM.

Screen Readers Support mode alters the user interface to enhance the experience of users relying on screen readers. These changes are generally "in the background" and in most cases do not greatly affect the display, providing a common ground for collaboration with users who are not using this mode.

When Screen Reader Support mode is turned on, the following productivity enhancements for screen readers are enabled:

- Non-visible text is available in many places, aiding orientation and providing helpful descriptive information. This text also increases the efficiency of navigation and search options provided by screen readers.
- Invisible links and page headers are available to allow users to navigate directly to places of interest without proceeding linearly through all the links and options provided in the display. This feature considerably shortens task completion time.
- Tables in the application can be read with a screen reader. For data entry tables, a special **Table Update** button, which precedes each table, launches a window that is used to navigate within the table and enter values in it.

Screen Reader Support mode can be set using the User Wizard.

Setting the Screen Reader Support Mode in the User Wizard

Activating this mode changes visual appearance of some parts of Primavera Portfolio Management' user interface. For example, when selecting a drop-down menu in screen reader support mode, the user will be presented with a list of links in a new browser window instead of the drop-down menu. The list of links will be the same as the choices that the drop down menu offers, but the new browser window is optimized for screen reader use. If a screen reader is active on the client system Screen Reader Support Mode must be enabled.

It is suggested to activate screen reader support mode mode only for users who use third party screen readers to work with Primavera Portfolio Management.

To set the Screen Readers Support mode in the User Wizard:

1) Choose **Preferences...** from the User menu.
2) Select the **Accessibility** tab.
3) Check the **Screen Readers Support Mode** checkbox.
4) Click **Finish**.

Notes:

- For Screen Reader Support mode to take effect, log out and log back in.
- It is recommended to turn on Screen Reader Support mode only for users who use screen readers, since in some cases this mode favors

compatibility with screen readers over quality of display.

Working with Screen Readers

Please familiarize yourself with the following information about using screen readers with PPM.

Screen Reader Support mode turns on many enhancements within the product that are used along with the screen readers' capabilities to improve productivity. Special textual descriptions and HTML elements are added in this mode that enables the user to shorten the time and lessen the number of keyboard strokes needed to complete common tasks.

Page Headers:

You can directly access different sections of the displayed page using the screen readers' ability to recognize and target page headers. Page headers are titles that are assigned to different sections of the screen and are recognized by the screen reader.

Use page headers to skip directly to particular screen areas without the need to tab or use the down arrow to navigate through all the elements on the screen. For example, in the Forms module, you can navigate directly to the beginning of the Form, the Tab area, any given Group Box, the Guide pane, or the list of processes on the Processes tab within the Guide pane.

Page headers have different header levels. The main areas, such as the Forms module and the Processes tab are header level 1. The Tab within the Forms module is header level 2, and the Group Boxes inside the Tab are level 3.

The above principles can also be used in some of the more complex dialog windows that have different sections, such as the Select Item and the Select Form windows

The Home Position:

If you lose your page orientation or context, navigate to the top of the current page where you can hear orientation information and use the inner page navigation links to continue navigating. The orientation information that is provided is in the following sequence:

- selected Module
- selected Item
- selected Form

Inner page links are provided to help you navigate directly to the Processes links list where you can select your choice of navigation links (Favorites), or to the top of the Tab where you can access the information or enter data in the form.

Link Numbers:

You can quickly navigate to any of your links by using link numbers. The Processes tab in the Guide pane contains a list of your favorite links. These links save you time navigating to forms, scorecards, or items that you most frequently use. Items in the Processes links list are numbered sequentially allowing you to easily select them from a links list that screen readers usually provide.

The same principles apply to items and Forms that appear in the Select Item and Select Form windows. You can quickly navigate to folders or portfolios in those lists without navigating through the entire list.

Find Your Current Selection:

The @ sign is added by the system in front of the name of the currently selected Module and the selected Tab. This allows you to recognize the currently selected Module or Tab.

Loading Items and Forms:

When you want to access Items, Forms, Scorecards, Folders, Dashboards or other locations that are not currently listed in your Processes links list, you need to use one of the selection windows. For example, in the Forms module, you can select a different Form using the Select Form window that is accessed through the Select Form link. If you want to select a different Item, use the Select Item link to open the appropriate window.

Tilde Tips:

To provide information that is otherwise indicated by visual cues, Primavera Portfolio Management uses a Tilde Tip. For example, if a Form field contains errors, a red underline appears below the label name to indicate the error. In Screen Readers Support mode, the screen reader reads the field name followed by the phrase, ~ Field Contains Errors. The tildes are used to convey the following types of visual information:

- Required field
- Fields containing errors
- Calculated field
- Non Available Button (for buttons)

> **Note**: You may need to select all (ctrl + a) of the contents of a data entry field to read all of the content in the field.

Reading tables with a screen reader:

Tables in the application can be read with a screen reader.

Tables like Scorecard, Phases List, and Deliverables List are Data Entry tables. For data entry tables, a special **Update Table** button, which precedes each table, launches a dialog that is used to navigate within the table, read the table, and enter values in it.

The Update Table Dialog:

The Update Table dialog has these controls to navigate and edit data entry tables:

When you click the Update Table button, the dialog reads the selected column and row number, along with the row and heading label, and the value in the selected cell.

Navigation Buttons

You can tab between the following buttons to navigate the table cells:

Next (**alt + n**)

Right (**alt** + **r**)

Down (**alt** + **d**)

Left (**alt** + **l**)

Up (**alt** + **u**)

Go To Table Cell

You can use the **Go** button to navigate to a cell specified in the **Column** and **Row** fields.

Go (**alt** + **g**)

You can go directly to a table cell by tabbing to the Column field and entering the column number, then tabing to the **Row** field and entering the row number.

Tab to the **Go** button to jump to the designated Row and Column.

Form Commands

If a form has commands associated with it, such as Add, Edit, Remove (and others) those buttons are available under the Commands heading.

High Contrast Mode

The Portfolio Management application is available in high contrast mode by default. However, for graphs you can select desired colors for individual graphs using the color templates for high contrast mode .

High contrast mode can be set using either the **View** menu or the user wizard. The user wizard provides the option of setting high contrast mode in advance, for a user who may need it to use the application.

If you want to use Windows and PPM high contrast modes together (for graphs only), activate high contrast mode in PPM first.

Setting High Contrast Mode Using the View Menu

To set High Contrast Mode for graphs using the View menu:

1) Click the **View** menu.
2) Choose **High Contrast Mode**.

Setting the High Contrast mode in the User Wizard

To set High Contrast Mode for graphs using the User wizard:

1) Choose **Preferences...** from the **User** menu.
2) Select the **Accessibility** step.
3) In the **Color Scheme** field, select **High Contrast Mode**.
4) Click **Finish**.

Working with Dependencies

Dependencies determine the relationship between an item (or portfolio) and other items (or portfolios) independent of their grouping. Managing and analyzing dependencies is always done through the relevant Dependencies List.

The Dependencies List shows a list of dependency relationships among items (and/or portfolios). Every row in the Dependencies List represents a dependency item.

You can drill down to the Dependencies List in the Workbook from the Scorecard and Investor Map or from a dependency item in another Dependencies List.

See the following topics:

- **Dependencies in Workbook:** The Dependencies tab in Workbook displays information about the Dependencies list. For more information, refer to ***Working with Dependencies*** (on page 288) in Working with Management Workbooks
- **Adding a Dependencies List to a Tab:** You may add a dependencies widget to a tab in a form. For more information, refer to ***Customizing the Dependencies List-Tab Component*** (on page 374).
- **Using Dependencies in a Form:** You may enter data into a dependencies list in a form. For more information, refer to ***Working with a Dependencies List*** (on page 308).
- Customizing the Dependencies List (Admin): This section describes how to customize the various components of a dependencies list in workbook.
- Customizing the Dependencies List-Tab Component: This section describes how to customize the Dependencies List widget from within a tab.

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Customizing the Dependencies List (Admin)

In order to use the dependencies list effectively, you may customize it to suit your needs. This is done on the **Defaults** tab of the **Admin** screen.

To access the Defaults tab:

1) Click the **Defaults** tab in the Admin screen. The Defaults tab is displayed.

   The Dependencies area of the Admin Defaults tab includes:

   - General Dependency Options- the dependencies columns labels, associated value lists, drill-down from Investor and Scorecard targets, and cost precision.
   - Workbook Dependencies List - lets you define the workbook dependencies elements to be displayed, and to choose a form to navigate to upon drill down from a dependency item in the Workbook Dependencies List.

General Dependency Options

In the General Dependency Options dialog box the dependencies table columns labels, associated value lists, drill-down target, and cost precision are displayed. This section describes how to edit the Workbook Dependencies Options dialog box.

1) Click **Edit** to open the General Dependency Options dialog box.

2) The text entered in the Labels area is the Dependency List's column headers. By default, the Dependency List's column headers are Type, Weight, and Cost (the text that appears in the Name column). By default the label and the name of the column are the same. This is signified by the entry <Name> in the Label column (i.e. Label = Name).

   To change the column names, double-click on a cell in the Label column and enter the desired text. The new labels are seen in the Workbook Dependencies tab, and all dependencies lists in all forms.

3) In the Value Lists area, you define the Dependency Types and Dependency Weights value lists to be associated with the dependency.

To edit the Dependency Types or Dependency Weights value list, click the relevant **Edit**. The wizard for the value list you selected opens in the Values step. For more information on the Values step, refer to ***Entering Values to a Value List*** (on page 146) in Configuring the System Components.

4) In the Drill-down from Investor and Scorecard area, you define the destination of the Dependencies entry in the right-click menu in the Investor and Scorecard modules.

   There are two choices:

   - **Workbook**-if you select this option, clicking on Dependencies from the right-click menu will open the Workbook module for the selected item.
   - **Form**-- if you select this option, clicking on Dependencies from the right-click menu will open the form and tab you specify here.

5) **Cost Precision-**- define the data type used for Cost Precision.

   There are two choices:

   - **Integer**-specifies that Cost units must be a whole number.
   - **Float**-- specifies that Cost units must be float numbers. You need to specify the degree of precision by selecting the maximal number of decimal places from the drop-down list.

Workbook Dependencies List

The Dependency List has two areas: Dependency Properties and Item Properties.

The related topic describes how to edit the Workbook Dependencies Options dialog box.

Editing the Workbook Dependencies Options

To edit the Workbook Dependencies Options:

1) Click **Edit** to open the Workbook Dependencies Options dialog box.
2) You may select which elements will be displayed in the Dependencies List. Check or uncheck the Type, Weight, Cost, Annotation column, Annotation box and Add, Edit and Remove buttons checkboxes to view or hide these elements on the list.

> **Note:** If the default dependency column names were changed by inserting labels in the **General Dependency Options** dialog box, the **label** names will appear instead of Type, Weight and Cost. :

3) In the Item Properties area, select the scorecard that will be used for the Item Properties columns in the Dependencies List from the drop-down list.

   When selecting the scorecard consider the following:

   - There is a default scorecard called "Workbook Item Properties" specifically defined for this purpose.
   - If you select the **None** option, the Item Properties area of the Dependencies list will disappear and the Dependency Properties area will expand accordingly.

- You may select an existing scorecard or create a new one. Click **Edit** to change the properties of the selected scorecard. The wizard for the scorecard you selected opens in the Categories step. You may edit the categories (that serve as the Item Properties columns) by clicking **Edit**. For more information on the Categories step, refer to ***Defining Scorecard Categories*** (on page 55) in Working with Scorecards.

4) In the Drill-down area, define the label and link of the workbook dependencies drill down.
   - **Label:** enter the text that will appear in the right-click menu of the Workbook module. The default text is "Dependencies".
   - **Links to:** there are two options for the drill-down:

     Workbook: if selected, the Workbook module will be the default location to view dependencies.

     Form: if selected, Forms will be the default module in which to view dependencies. Select the **Form** and **Tab** from the corresponding drop-down lists. This option adds flexibility as you can add data fields around the dependencies list, or provide the ability to add descriptions.

Note: You would customize the default dependencies drill down because:

- Some users are accustomed to working with Forms.
- Not all users use the Workbook. In fact, some users can't even access the Workbook!
- Users may want to display additional information near the dependencies using the special capabilities of a form.

Customizing the Dependencies List-Tab Component

The Dependencies List can be a customized tab component on a form. When customizing the component, **only that instance of the Dependencies List** is affected. You may customize as many Dependencies List tab components as you wish.

To edit the Dependencies List tab component:

1) Choose **Edit Tab** from the **Form** menu. The **Components** step of the Tab Wizard appears.
2) Focus on the line of the dependencies list click **Edit**. The **Dependencies List di**alog box opens.
3) In the Direction field, define the direction of the dependency from the drop-down list.:
   - **Depends on:** the item that is focused in the form depends on the listed items/ portfolios.
   - **Supports**: the item that is focused in the form supports the listed items/ portfolios.

   The direction defines the background color of Dependency Properties columns - blue for "Depends on", green for "Supports".
4) The value selected in the **Type** field filters the dependencies shown; e.g., software/hardware/ firmware; or, mandatory/ optional. Select the desired dependency type from the drop-down list.

> **Note:** Type is a user-definable value list. For more information about customizing the value list refer to ***Entering Values to a Value List*** (on page 146) in Configuring the System Components.

5) In the **Displayed Elements** area select which columns will be displayed in the Dependencies List. Check or uncheck the **Type, Weight, Cost, Annotation** columns, **Annotation box** and **Buttons** checkboxes to view or hide these columns on the specific list.

> **Note:** If the default Dependency column names were changed by inserting labels in the General Dependency Options dialog box, the **label** names will appear instead of Type, Weight and Cost.

6) In the **Portfolio** drop-list, select the portfolio or super portfolio that should display in the **Add** button of the filtered dependency list of the form.
7) In the **Item Properties** area, select the scorecard that will be used for the Item Properties columns in the Dependencies List from the drop-down list.

   When selecting the scorecard consider the following:

   - There is a default scorecard called "Workbook Item Properties" specifically defined for this purpose.
   - If you select the **None** option, the Item Properties area of the Dependencies list will disappear and the Dependency Properties area will expand accordingly.
   - You may select an existing scorecard or create a new one. Click **Edit** to change the properties of the selected scorecard. The wizard for the scorecard you selected opens in the Categories step. You may edit the categories (that serve as the Item Properties columns) by clicking **Edit**. For more information on the Categories step, refer to ***Defining Scorecard Categories*** (on page 55) in Working with Scorecards.

8) **Drill-down**-- define the label and target of the drill-down link.
   - **Label**: enter the text that will be the right-click menu entry when focusing on the defined dependencies list. The default text is "Dependencies".
   - **Links to:** there are two options for the drill-down:

     Workbook-- if selected, the Workbook module will open when the user clicks on the drill-down menu entry.

     Form-if selected, the Forms module will open when the user clicks on the drill-down menu entry. Select the **Form** and **Tab** from the corresponding drop-down lists. This option adds flexibility as you can add data fields around the dependencies table, or provide the ability to add descriptions.

> **Note:** Customize the default dependencies drill down because:
>
> - Some users are accustomed to working with forms.
> - Not all users use the workbook. In fact, some users can't even access workbooks.
> - Users may want to display additional information near the dependencies using the special capabilities of a form.

9) Click **OK**.

Working with Dynamic Lists

Dynamic lists are a method for defining entities related to a specific item. These entities, called sub-items, are relevant only to this **particular** item or portfolio. For example, a sub-item can be different milestones of a project.

The characteristics of sub-items are:

- Any portfolio of portfolios, portfolio, or item can have sub-items.
- Sub-items are organized in groups by type, such as Milestones or Funding Sources. Sub-items of a particular type appear as a list in a form. Sub-items of different types have no connection with each other.
- The order in which sub-items are created determines their order in the list. The order can be modified by the user. (The order can be meaningful when the data is calculated based on the sub-item order.)

See the following topics:

- **Adding a Dynamic List:** You may add a dynamic list to a tab in a form, just as you would add any other widget. For more information, refer below to ***Customizing Dynamic List Components*** (on page 377).
- **Adding a Transfer Tool to a Tab:** You may add a transfer tool to a tab in a form, just as you would add any other widget. For more information, refer to below to ***Customizing Transfer Tool Components*** (on page 379).
- **Using a Dynamic List in a Form:** You may enter data into a dynamic list in a form. For more information, refer to ***Entering Data in a Dynamic List*** (on page 301).
- **Using a Transfer Tool in a Form:** You may transfer data between different dynamic lists. For more information, refer to ***Transferring data between Dynamic Lists*** (on page 303).
- **Displaying Cell Trend from Sub-items:** You may display cell trend from sub-items. For more information, refer to ***Displaying Cell Trend from Sub-Items*** (on page 380).
- **Updating Dynamic List Category Entries**: You can update the sub-item entries of each dynamic list category. For more information, refer to ***Creating Entries of Dynamic List Categories*** (on page 301).

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Customizing Dynamic List Components

When customizing a dynamic list component, **only that instance of the dynamic list** is affected.

To edit a dynamic list component:

1) Navigate to the **Forms** module and choose a form, or navigate to the **Dashboards** module and choose a dashboard.
2) On the form or dashboard, click a tab containing a known dynamic list component.
3) Select **Edit Tab** from the **Form** or **Dashboard** menu. The **Components** step of the Tab Wizard appears.
4) Select a dynamic list in the **Tab Components** table and then click **Edit**. The **Dynamic List** dialog box appears.
5) In the **Sub-items** group, select the dynamic list **Type** from the drop-down list.

   Each dynamic list type contains an independent list of sub-items.

   > **Note:** Type field values are based on a user-defined value list. For more information about customizing the value list refer to ***Entering Values to a Value List*** (on page 146) in Configuring the System Components.

6) Select the dynamic list's **Sub-item as of** date from the **Select a Version** pop-up window.
7) The last two versions selected appear at the top. At the bottom, click the **Search** tab to search for a particular version or the **All** tab to browse through a list of all versions. Other options presented include:

   Select a date... to choose a date from a pop-up calendar.

   <New Version> to open the New Version Wizard to define a new version.

   <User-selected> to allow users to select a version.
8) The **Include name column** check box is checked by default. This means that the default first column of the dynamic list will be **Name**. When a **Name** column is included in the dynamic list, a name must be entered for each sub-item. By default, the column's name is the same as the list's type. You may enter a name for the **Name** column by entering it in the **Name Column Label** field.
9) In the Categories group, **Scorecard** field, select a scorecard that will be used for the dynamic list's columns from the drop-down list. You may select an existing scorecard or create a new one. The selected scorecard's categories are automatically loaded into the **Required** table.
10) Click **Edit** to change the properties of the selected scorecard. The wizard for the scorecard you selected opens in the Categories step. You may edit the categories (that serve as the dynamic list's columns) by clicking **Edit**. For more information on the Categories step, refer to ***Defining Scorecard Categories*** (on page 55) in Working with Scorecards.

> **Note:** When you choose a **Data as of** version or date, dynamic lists will reflect their past or future value. For example, they will automatically show the categories, sub-items, naming, and order specified for a target past or future version. The **Sub-item as of** field controls the values of the sub-item, name, and order, and the category **Data as of** fields in the scorecard control the category values. For more information about category data versioning refer to Data as of in Working with Scorecards.

11) In the Required table double-click in the * column to display a check box. Each check box you check defines that category column as a required column. (If at least one category in this table is required, then this dynamic list will be checked in the * Required column in the Tab components table.) The user will receive a warning or will not be able to submit the form without filling-in that cell in the dynamic list.

> **Note:** The required columns enforcement is determined by the level of enforcement in the Form settings. For more information refer to ***Forms Module Overview*** (on page 294).

12) Check **Show editing buttons** to allow the user to add or remove sub-items and change their properties in the dynamic list. When **Show editing buttons** is not checked, the dynamic list can be viewed, but not edited by the user (the **New**, **Move**, and **Remove** buttons do not appear).

> **Note:** Unchecking this box will disable users from adding or deleting records. To differentiate between users who are allowed to add and delete sub-items and those who are not, create two separate forms, one with this box checked and one without, and configure security settings for roles or users of the forms.

13) Click **OK** to save your changes and close the **Dynamic List** dialog box.

14) Click **Finish** to close the Tab Wizard and then view the dynamic list in a form or dashboard.

Customizing Transfer Tool Components

When customizing a transfer tool component, **only that instance of the transfer tool** is affected.

To edit a transfer tool component:

1) Navigate to the **Forms** module and choose a form, or navigate to the **Dashboards** module and choose a dashboard.
2) On the form or dashboard, click a tab containing a known transfer tool component.
3) Select **Edit Tab** from the Form or Dashboard menu. The **Components** step of the Tab Wizard appears.
4) Select a transfer tool in the **Tab Components** table and then click **Edit**. The **Transfer Dynamic** List dialog box appears.
5) Select either **Replace** or **Initialize** as the transfer mode.

When the **Replace** radio button is selected, the source list completely replaces the entire target list.

When the **Initialize** radio button is selected, the source list will not override existing data in the target list.

6) Select the source list type from the **Source** list type drop-down list.
7) Select a **Source as of** version from the Select a Version pop-up window.

> **Note:** The **Select a Version** pop-up window for the **Source as of** field does not permit the <*User-Selected*> setting.

8) Select the target list type from the **Target** list type drop-down list.
9) Select a **Target as of** version from the Select a Version pop-up window.

> **Note:** The **Select a Version** pop-up window for the **Target as of** field does not permit the <User-Selected> setting.

10) Select the source category by double-clicking on the active line in the **Source Category** list. Clicking on the drop-down list arrow opens the **Select a Category** pop-up window.
11) The default Target Category is defined as <Same as source category>. This means that the Source category is mapped to the same category name in the Target list. If you want to map the Source category to a *different* category in the Target list, double-click on the active line in the Target Category list. Clicking on the drop-down list arrow opens the **Select a Category** pop-up list. The list is filtered to include only those categories that are of the same value type (e.g. integer, float, text, etc.) as the Source category.
12) To remove a category line, select any row or category cell and then click **Remove**.
13) Click **OK** to save your changes.
14) On the **Tab** Wizard, **Components** step, in the **Prompt** field, enter a text prompt that will later appear next to the **Transfer Tool** check box on the form or dashboard.
15) Click **Finish** to view the transfer tool in the form or dashboard.

Displaying Cell Trend from Sub-Items

You can display cell trend from sub-items as follows:

1) Within a dynamic list, right-click on a sub-item cell and select **Trend**.
2) The TREND tab is shown (as part of the Cell Properties dialog box).
   - The sub item name is shown on top of the dialog box. For dynamic lists that do not have a name column, the row number is shown (such as Business processes #1).
   - The category name appears on top of the dialog box, and as the title of the trend graph.

> **Note:** The **Add** button and the other cell properties tabs are disabled when viewing trend of a dynamic list cell.

Copying and Pasting Data

PPM tables, scorecards, and dynamic lists support the copying and pasting of any cell data (including values and indicators) and any sub-items.

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About Copy & Paste

Standard *Copy & Paste* functionality enables you to copy and paste data between PPM modules and other applications, such as Microsoft Word, Excel, OpenOffice, etc. For example, copy scorecard and form data and paste this data into a spreadsheet application, such as Microsoft Excel.

When pasting, a preview screen displays the new information, automatic corrections, and possible mismatches. The source and target scorecard or form table components must have the same value types (e.g., integer, float, date, text, value list, and user).

You can copy and paste the same scorecard, table, or dynamic list data into different items, pasting the values over and over again, as needed.

Copy & Paste in Scorecards

Copy & Paste lets you streamline your work with Microsoft Excel. It is best to use a copy of your PPM scorecard as the basis for your Microsoft Excel spreadsheet. You can then update the spreadsheet information back into PPM.

Selection

There are several ways to select parts of the scorecard to copy.

Selecting the Whole Scorecard

To select the whole scorecard:

1) From the **Clipboard** menu in the Scorecard module, choose **Select Entire Scorecard**.
   OR
   Right-click in a scorecard and choose **Select Entire Scorecard** from the pop-up menu.

The whole scorecard is selected . The total number of rows and columns is noted on the status line.

Selecting All Cells in the Scorecard

To select all cells in the scorecard:

1) From the Clipboard menu on the Menu Bar, click **Select All Cells**.

   OR

   Place the cursor in the scorecard and from the right-click menu, click **Select All Cells**.

   All the cells in the scorecard (without the column headers and row titles) are selected. The number of rows x columns is noted on the status line.

Selecting a Scorecard Column

To select a scorecard column:

1) Click on the header of a column to select the entire column.

   The scorecard column (including the header) is selected . The name and number of the category column plus the total number of columns is noted on the status line.

> **Note:** When selecting a column the whole column is selected, including areas beyond the current display.

Selecting a Scorecard Row

To select a scorecard row:

1) Click on the title of a row to select the entire row.

   The scorecard row (including the item name) is selected . The name and number of the row plus the total number of rows is noted on the status line.

> **Note:** When selecting a row, the whole row is selected, including areas beyond the current display.

Selecting Cells Using the Drag Option

To select cells using the drag option:

1) Interactively select the desired cells by dragging across contiguous columns and/or rows. You may start anywhere on the scorecard.

   The selected cells are framed and Focused. The number of rows x columns is noted on the status line.

> **Note:** When interactively selecting column headers or row titles, the whole column/row is selected, including areas beyond the current

display.

Copy

Once the selected cells are highlighted, you need to copy them.

To copy the selected cells:

1) From the Clipboard menu on the Menu Bar, click **Copy**.

   OR

   From the right-click menu click **Copy**.

   OR

   Use the **Ctrl +C** keyboard shortcut.

   The selected cells are placed in the clipboard and can be pasted either within the scorecard, or externally in Microsoft Excel.

Paste

To paste data from the clipboard into a scorecard, place the cursor in the top-left cell for the paste and do one of the following:

1) From the Clipboard menu on the Menu Bar, click **Paste**.

   OR

   From the right-click menu click **Paste.**

   OR

   Use the **Ctrl +V** keyboard shortcut.

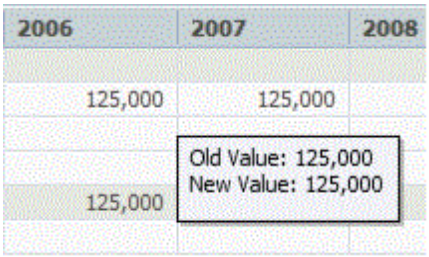
   The selected cells are pasted into the scorecard and the Verify Paste dialog box appears.

> **Note:** Read-only, Calculated, or Imported cells cannot be used as the anchor point (top left) for a paste operation.

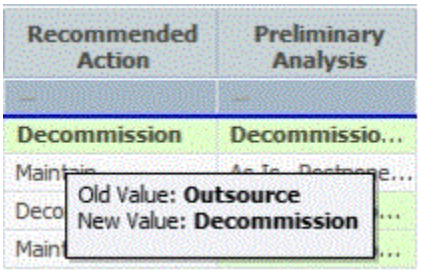
Paste Preview

The data pasted into the scorecard is analyzed. The results of the analysis can be seen in the scorecard preview:

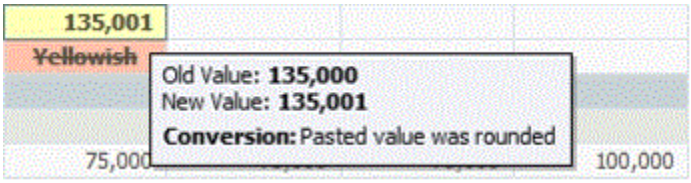
- **White background**: the data in the cell is unchanged. Hovering above the cell lets you see the old and new values in a tooltip (in this case, they are the same).



- **Green background**: the data in the cell was successfully pasted. Hovering above the cell lets you see the old and new values in a tooltip.

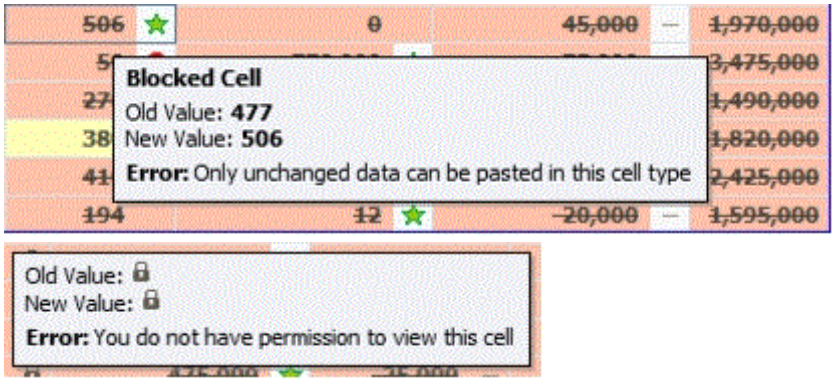


- **Yellow background**: in order to paste the data, PPM performed an automatic adjustment. For example: a float number was pasted into a cell that was defined for integer input. The new value is automatically rounded so it can be pasted into the cell. Hovering above the cell lets you see the old and new values as well as the performed conversion in a tooltip.



- **Red background**: the new value cannot be pasted and is seen crossed-out in the cell. Hovering above the cell lets you see the old and new values, as well as the reason the value couldn't be pasted in a tooltip.

Note: If the cell holds a Calculated or Imported category value, the tooltip will look like the example of the left; if the cell is Denied View, the tool tip will look like the example on the right.



Verify Paste

The Verify Paste dialog box is a useful tool for double-checking the paste operation. The dialog box always stays "on top" of the display so you can use the scrollbars to see how all parts of the scorecard were effected before accepting the paste.

Below is a list of the various components that can be found in the Verify Paste dialog box:

- **Size**: the size of the paste area as measured by columns and rows.
- **Red "X"**: the number of cells that cannot be pasted. This information is only visible if there are cells that cannot be pasted.
- **White check mark**: the number of cells that remained unchanged.
- **Green check mark**: the number of cells that were pasted successfully with no adjustment.
- **Yellow check mark**: the number of cells that were pasted successfully with automatic adjustment.
- **Enable paste without red cells**: checking this checkbox enables the **Accept** button. All the green and yellow cells will accept the new values; the red cells will revert to the old values.

There are three action buttons:

- **Report**: generates a full report that can be filtered to view the paste results. For more details about the report, refer to ***Paste Preview Report*** (on page 386).
- **Accept** (disabled): The Accept button is disabled until the Enable paste without red cells checkbox is checked. When you decide to Accept the paste, the information in the green and yellow cells replaces the original cell contents. The red cells keep the original (pre-paste) contents as, by definition, the new data cannot be pasted.
- **Reject** (the default): The Reject button is useful if there is some mistake in the location or content of the paste. All the cells will revert to the old values. You can correct the location and/or content as necessary and paste again.

Note: The Verify Paste dialog box stays "on top" of the display. Once you verify the paste anchoring point ("top left") was correct and that the pasted information matches the cell definitions, click Accept. All the

green and yellow cells will accept the new values; the red cells will revert to the old values.

Paste Preview Report

The Paste Preview report that is accessible from the **Report** button on the Verify Paste dialog box. The reports are based on existing system reports and use the standard browser capabilities.

The Paste Preview Report includes the following areas:

- **Title**: name of the scorecard and the portfolio into which the paste was done.
- **Info Line**: notes this is a Scorecard Paste report, the name of the logged-in user and the date.
- **Pasted Cells Line**: allows you to filter the Displayed Cells. There are four checkboxes: White, Green, Yellow and Red. By default, all checkboxes are checked. Unchecking a checkbox filters that group of cells **out** of the report.
- **Item Name**: shows the item names.
- **Categories**: shows the scorecard's column names (categories) in order. This order repeats itself down the column for each item.
- **Current Value**: shows the current value for the cell.
- **New Value**: shows the new value/indicator for the cell. The status of the paste colors the background. "Red" cells show their value crossed out.
- **Result**: White cells show a dash; Green cells show **OK**; Yellow cells show **Conversion** (what was done); Red cells show **Error** and the reason for the error.

Copy & Paste in Forms

Copy & Paste lets you streamline your work with Microsoft Excel. For example, you can use a copy of a table or dynamic list in the Forms module as the basis for a Microsoft Excel spreadsheet and then update spreadsheet information back into PPM.

Selection

There are several ways to select which part of a table or dynamic list you want to copy.

Selecting an Entire Table or Dynamic List

To select an entire table or dynamic list:

1) From the **Clipboard** menu, choose **Select Entire Table/List**.

   OR

   Right-click anywhere inside the table or dynamic list component and choose **Select Entire Table** or **Select Entire List**.

   The whole table or dynamic list is selected.

Selecting an Entire column

To select an entire column:

1) Click on the header of a column to select the entire table or list column.
   The column (including the header) is selected.

> **Note:** When selecting a column, the whole column is selected, including areas that may appear beyond the current view.

Selecting an Entire Row

To select an entire row:

1) Click on the first cell of a table or list row to select the entire row.
   The table or list row (including any title) is selected.

> **Note:** When selecting a row, the whole row is selected, including areas that may appear beyond the current view.

Selecting Cells Using the Drag Option

To select cells using the drag option:

1) Click and drag across any contiguous cells spanning one or more columns and one or more rows.
   The selected cells are framed and Focused.

> **Note:** When interactively selecting column headers or row titles, the whole column/row is selected, including areas that may appear beyond the current view.

Copy

Once the selected cells are highlighted, you need to copy them.

To copy the selected cells:

1) From the **Clipboard** menu, choose **Copy Selected Cells**.
   OR
   From the right-click menu, choose **Copy Selected Cells**.
   OR
   Press the **Ctrl +C** keys on your keyboard.
   The selected cells are placed in the clipboard and can be pasted either within the forms table, or externally in Microsoft Excel.

Paste

To paste data from the clipboard into a target table or list, place the cursor in the top-left cell of the target and do one of the following:

1) From the **Clipboard** menu, choose **Paste**.

   OR

   Right-click and choose **Paste**.

   OR

   Press **Ctrl +V** on your keyboard.

   The selected cells are pasted into the table or list and the **Verify Paste** confirmation box appears with an actual Paste Preview of the operation.

> **Note:** Read-only, Calculated and Imported cells cannot be used as the anchor point (top left) for a paste operation.

Paste Preview

Data pasted into the table or list is analyzed. The results of the analysis can be seen in the Paste Preview with specific cell errors shown in tooltips:

- **Paste Area Frame**: the total paste area is distinguished by a two-pixel frame, or border. If the paste area extends beyond the display, the frame appears open in that direction.
- **White cells**: the data in the cell is unchanged. Hovering above the cell lets you see the old and new values (in this case, they are the same) in a tooltip. Standard typeface is used for cell values.
- **Green cells**: the data in the cell is new and has been successfully pasted, replacing any empty or old values. Cell values are bold. Hovering above the cell lets you see the old and new values in a tooltip.

  For dynamic lists that allow sub-items, new sub-item cells are also shaded in green with bold cell values.
- **Yellow background**: in order to paste the data, PPM performed an automatic adjustment. For example: a float number was pasted into a cell that was defined for integer input. The new value is automatically rounded so it can be pasted into the cell. Hovering above the cell lets you see a tooltip showing the old and new values as well as the conversion that was performed.

  For dynamic lists, any sub-item rows that were replaced and renamed are shaded in yellow with bold cell values.
- **Red background**: the new table or list value cannot be pasted and appears crossed-out in the cell. Hovering over a red cell presents a tooltip showing its old value and invalid new value, as well as the reason the new value cannot be pasted.

> **Note:**
>
> - If the cell holds a Calculated or Imported category value, the tooltip will show old and new values. If the cell is Denied View, the tooltip

will not show values.

- You can only copy and paste entire rows or columns if their titles are identical.

Verify Paste

The **Verify Paste** confirmation box is a useful tool for double-checking the paste operation before deciding to accept or reject it. It remains fixed in your display while you scroll through your table or list examining the results of the paste operation.

The confirmation box will indicate whether the proposed paste operation is going to be successful or unsuccessful.

Below is a list of the various components that can be found in the **Verify Paste** confirmation box:

- **Total paste area**: the size of the paste area as measured in columns and rows.
- **Red X**: shows the number of cells that cannot be pasted.
- **White check mark**: the number of cells that remain unchanged.
- **Green check mark**: the number of cells in which new values were pasted.
- **Yellow check mark**: the number of cells that were successfully pasted with automatic adjustment.
- **Enable paste without red cells**: check this box to enable the **Accept** button on potentially unsuccessful paste operations by discarding any red cells from the paste operation.

There are three buttons:

- **Report**: generates a full report that can be filtered to view the paste results. For further details about the report, refer to ***Paste Preview Report*** (on page 389).
- **Accept**: Proceeds with the paste operation. The information in green and yellow cells replaces the original cell values. If you checked **Enable paste without red cells**, the red cells keep their original (pre-paste) contents.
- **Reject**: The **Reject** button is useful if there is some mistake in the location or content of the paste. All the cells will revert to their old values. You can correct the location and/or content as necessary and then perform the copy and paste operation again.

Paste Preview Report

The Paste Preview Report is accessible from the **Report** button on the **Verify Paste** confirmation box that pops up when you perform a copy and paste operation.

The Paste Preview Report includes the following areas:

- **Title**: name of the table or list and the item into which the paste was done.
- **Info Line 1**: shows the name of the form and the tab.
- **Info Line 2**: shows the type of report (table or list), the name of the logged-in user, and the date.
- **Pasted Cells Header Row**: allows you to filter the **Displayed Cells** with four checkboxes: White, Green, Yellow and Red. By default all are checked. Unchecking a box filters that group of cells out of the report.

- **#Row**: the number and label of the table or list row. Dynamic lists display the serial numbers of their sub-item rows.
- **Sub-item**: the name of the sub-item for a dynamic list.
- **Column/Category**: the names (or labels) of the categories in the table or list.
- **Current Value**: shows the current value for the cell.
- **New Value**: shows the new value/indicator for the cell. The status of the paste determines the color of the cells. Red cells show their values crossed out (strikethrough).
- **Result**: White cells show a dash (-); green cells show **OK**; yellow cells show what was adjusted to correct the mismatched values (e.g., **name changed**); and red cells show **Error** and the reason for the error.

Security Modules

Only authorized users may paste multiple cells into scorecards, dynamic lists, and tables.

In order to manage who can perform multiple-cell paste, the Paste Multiple Cells into Scorecard/Table/Dynamic list security module setting has been added.

Best Practices

- It is best to base the Microsoft Excel sheet on a paste from PPM. This way updates copied from Microsoft Excel and pasted back into PPM are sure to fit in smoothly.
- The Paste Preview should be reviewed with care since pasted data is automatically checked for data type correlation, not content.
- In Scorecards, once the user accepts the paste, the new data replaces the old.

> **CAUTION:** The only way to retrieve the old data is from a backup.

- In forms and dashboards the new data replaces the old data in the table or dynamic list. However, as there is a need to submit the form, it is possible to rescind the paste after accepting it.

Special Characters Appendix

This is a technical appendix outlining the logic used to decipher the data being transferred.

When pasting the contents of a Microsoft Excel cell to a PPM category in a scorecard or table cell, the following rules are observed:

The contents of the Excel cell will be defined as an integer if it contains all of the following:

- A string of one or more digits (required).
- Any **one** of the special unit characters (optional).
- Either of the two negative number indicators (optional).
- Any number of blank spaces anywhere in the cell (except if inserted within the string of digits).

The contents of the Excel cell will be defined as a float if, in addition to the above, the aforementioned string of digits contains the **correct** digit grouping symbol (comma or period) as defined in the Regional Options.

Special Unit Characters

There are four valid special unit characters:

- $ (but not `dollar', `USD', etc.)
- o (but not `pound sterling', `GBP', etc.)
- € (but not `euro', `EU', etc.)
- % (but not `percentage', etc.).

Any other unit will be treated as regular text.

Special Unit Rules

The following are special unit rules:

- An integer or float may contain only a **single** appearance of **one** of these unit characters.
- The unit character may appear either before or after the string of digits.
- There may be any number of blank spaces between the string of digits and the special unit character.

Excel cells with one of the four recognized units can be pasted into scorecard or table cells whose category unit matches. The following scenarios are supported:

- No Excel unit into scorecard or table cell whose category has any unit - White (accept the number - no message)
- Known Excel unit, into scorecard or table cell whose category has same unit - White (accept the number without the unit - no message)
- Known Excel unit (only) into scorecard or table cell whose category has no unit (integer/float) - Yellow (accept the number without the unit - Message: "The value was pasted without the <($)/(o)/(€)/(%)> unit.")
- Known Excel unit into scorecard or table cell whose category has a different unit - Red (message): "You may not paste <($)/(o)/(€)/(%)> cells into (<category_unit>) cells."
- Unknown unit (which is the same as a mixed text-numeric) into float/integer field w/wo unit - Red (message): "Pasted data is not a valid numeric value." (This message will be used any time text is pasted into a float/integer field).

Negative Number Indicator Rules

The following are negative number indicator rules

There are two valid negative number indicators: - (minus sign) and ( ) (parentheses).

- The minus sign must appear before the string of digits (and its unit character, if any)
- The parentheses must enclose the string of digits (and its unit character, if any)
- There may be any number of blank spaces between the minus sign and the string of digits (and special unit character if any) and between either of the parentheses and the string of digits (and special unit character if any).

Collaborating with Others

PPM has several options that let you share your work with others.

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Sending Pages by E-mail

Sending pages by e-mail enables better collaboration among PPM users, by allowing users to send e-mails that draw other users into the system.

While in the system, users are able to send e-mails that include the URL of the current view in the message text. This encourages other users to look at a specific page in the system.

When viewing/reading an e-mail message, the recipient can click the PPM-supplied URL link, and the specific page opens after the recipient logs into PPM.

To send a page:

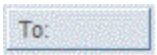
1) From the **Collaborate** menu, choose **Send Page**.

   OR

   From the toolbar, click **Send Page**.
   The Send Mail dialog box opens.

2) In the To field, type the required e-mail address.

   OR

   Click 

   . The **Add User** dialog box opens. For information on selecting users or user groups from the **Add User** dialog box, refer to ***Adding a User*** (on page 394).

   The name of the current view objects automatically appears in the subject field. You may overwrite the subject. The body message contains the URL to the page. You can add/edit the content of the body message as needed.

3) Click

   .

Adding a User

Through the Add User dialog box, you can add the e-mail addresses of users or groups of users to your e-mail send list. Adding a group will add all the group's members' e-mail addresses to your e-mail send list.

To add a user:

1) Click

or

. The Add User dialog box appears.
2) Select the users or groups of users you want to add to your e-mail send list. You can select multiple users or groups by pressing the **Ctrl** or **Shift** keys

> **Note**: You can search for users or groups in the Search field. The list of users and groups displayed automatically filters as you type.

3) Click **OK**.

Obtaining a Page Address

The page address you obtain can be copied and pasted as a link in another document or e-mail message.

To Obtain a Link to Any Page:

1) From the **Collaborate** menu, choose **Obtain Page Address**. The **Page Address** dialog box appears.
2) The **Include** check boxes for **Item**, **Scorecard**, and **Version** are checked by default. This indicates that the page address references the current item using the current module view (scorecard, map, or form) and version.
3) You can also create a general address, by checking only **Include Item** or only **Include <view>**.

> **Notes:**
>
> - If you do not select **Include Item** or **Include <view>**, then the item or view details will be based on the default selections in the user's preferences.
> - In the dashboard module, these options are not available.

4) Click **Copy** to obtain the page address. You can now paste the URL into any application.

Creating a New Alert

To create a new alert:

1) Select **New Alert** to access the New Alert wizard. Alerts created here are automatically saved in the personal alerts folder of the logged in user.

   For more information about creating a new alert, refer to ***Creating a New Alert*** (on page 189), in Configuring Alerts and Notifications.

Accessing the Alerts List

To access the alerts list:

1) Select **Alerts** to access the Alerts List.

   For more information refer to ***Creating a New Alert*** (on page 189), in Configuring Alerts and Notifications

Adding a Link to Processes

You can create a shortcut to a selected link and add the shortcut to **Processes** for easy access at any time.

To add a link to processes:

1) Go to the specific page and view you want to share.
2) From the **Collaborate** menu, choose **Add Process Link**. The **Link** dialog box opens.
3) Define the **Name** of the link.
4) (Optional) Enter a **Description**.
5) Click **Browse** to select the destination **Folder**.
6) If you used the **Obtain Page Address** option, you can click **Paste Link** to insert the predefined link.
7) Check the **Include Item in Link** checkbox to include the selected item/portfolio in the link. Leaving the box unchecked, will display the last item/portfolio.
8) Click **OK**.

Sending a Link to all Users in a Scorecard Context

You can send mail to all users who appear in a certain category in the scorecard (for example, all project managers, all accountants, etc.) The mail contains a link to the current view of the scorecard.

To Send Mail to All Users in a Scorecard Category:

1) Right-click the **User** category. The **Category** menu opens.

   Note: The Send to Users option only appears for User type categories

2) From the **Category** menu, choose **Send to Users**. The **Send Mail** dialog box opens with the mail addresses of all the users who appear in that category of the scorecard. A link of the current view of the scorecard is sent to these users.

Starting a Workflow

Workflows are automated business processes that route specific information between participants according to a defined set of steps and tasks designed to coordinate specific business goals.

For instructions on starting a Workflow, refer to ***Starting a Workflow*** (on page 180), in Working with Workflows.

Working with Workflows

You can stop, archive, delete, and report on workflows using the Workflow Instances dialog box.

For instructions on using the Workflow Instances dialog box, refer to ***Review, Stop, Archive, Delete, and Report Workflow Instances*** (on page 181) in Working with Workflows.

Working with Documents

PPM makes it possible for you to work with and share documents. You can upload documents related to an item or portfolio to the PPM server, and then securely share the documents throughout your organization.

On the server, all documents that are related to an item or a portfolio are stored in a central location. Each item or portfolio has its own storage area for documents. You can upload Microsoft Word files, Excel spreadsheets, reports, illustrations, or any other document types you want to use in conjunction with the item or portfolio you are managing.

Documents uploaded to the server are protected by PPM security. The documents can be opened by any user who has appropriate security permissions.

Once a document has been uploaded to the server, it can be accessed using a URL (web link). You can use a document's link any place that supports links within the system (text fields, annotations, link lists, deliverables, etc.). This capability allows organizations to overcome existing network/firewall limitations that prevent dispersed users and departments from sharing documents.

PPM provides a Links list in the Forms module which can be added anywhere in a form to allow users to link to:

- Uploaded documents in the item's documents central location. In Links and document lists, the document names are preceded by .
- Documents on the network. In a Links list, the document names are preceded by .
- Web sites. In a Links list, the document names are preceded by .

In the Workbook, you can link to documents from the Deliverables or Links tab. For more information about links, refer to ***Working with Deliverables*** (on page 286) and ***Working with Links*** (on page 291) in Working with Management Workbooks, and Inserting a Links List in Working with Tabs.

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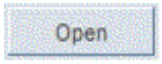
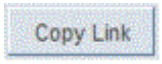
Working with the Documents Dialog box

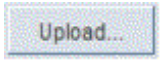
The Documents dialog box contains a list of all documents in the selected item's or portfolio's central location.

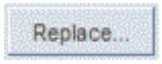
The Documents dialog box displays the following:

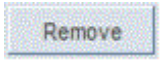
- **Documents of**: The selected item or portfolio.
- **Uploaded Document List**: A list of all documents uploaded for the selected item or portfolio.
- **Description**: Description of selected uploaded document.

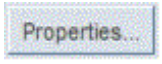
- 

: Click to open a document.
- 

: Click to copy a document's link.
- 

: Click to upload and set security for documents.
- 

: Click to replace an uploaded document.
- 

: Click to remove a document from the server.
- 

: Click to edit a document's properties.

Accessing the Documents Dialog Box

To access the Documents dialog box:

1) Click **Item** or **Portfolio** in the Menu Bar and select **Documents**. The Documents dialog box appears.

Uploading Documents

You can upload a document from:

- The Item/Portfolio menu in all main modules.
- The Documents dialog box.
- The Forms Links List and Links List dialog boxes.
- The Workbook Link tab and Link dialog boxes.
- Deliverables dialog boxes.

By default, the maximum size of a document you can upload is 4 MB. This value is configurable through your IIS settings. To change this value, contact Oracle Support for information.

To upload documents:

1) From the Documents dialog box, click **Upload**.

   OR

2) From the PPM main dialog box, click **Item** or **Portfolio** in the Menu Bar and select **Upload Documents**. The Upload Document dialog box appears.
3) In the **Location** field, enter the location of the document you want to upload.

   OR

4) Click **Browse** to locate the document in the network.

Notes:

- It is recommended that you do not enter the location of your local computer, since your computer may not be available to other users at all times.
- You can also paste a link in the Location field.

5) Click the checkbox next to **Place a link in the item's links list** to include this document's link in this item's links list. For more information about Links lists, refer to ***Working with Links*** (on page 291) in Working with Management Workbooks.
6) From the **Owner** drop-down list, select the owner of the document.
7) In the **Description** field, enter a description of the document.
8) Click the **Security** tab to view, add, or edit security permissions for this document. If you have sensitive documents, you can set the security before it is uploaded to the PPM server. For more information about setting security, refer to ***Setting Permissions*** (on page 450) in Security.
9) Click **OK**. The item or portfolio's Documents dialog box is displayed. The uploaded document appears (highlighted) in the item's/portfolio's list of documents.

Opening a Document

You can open a document to view its contents.

To open a document:

1) From the Documents dialog box, select a document and click **Open**.
   Or
   Double-click a document.
2) For some documents, the File Download dialog box is displayed.
3) Select one of the following:
   - **Open this file from its current location** - Open the document from its current location.
   - **Save this file to disk** - Download the document to your computer's hard disk.
4) Click **OK**.

Editing a Document

When you open an uploaded document from the server, a local copy of the document is made on your computer. If you make any changes to the document and then save it, only the local copy is saved on your computer. The uploaded document, which is located on the server, is **not** updated. To update the uploaded document, you must locate the document saved on your local computer and replace the existing document with it. For information on replacing a document, refer to ***Replacing a Document*** (on page 400).

Copying a Link

You can copy a URL for an uploaded document and paste it anywhere links are supported within the system (text fields, annotations, link lists, deliverables, etc.).

> **Note:** To access a document through its link, you must be a defined PPM user.

To copy a link:

1) From the Documents dialog box, select a document and click **Copy Link**.
   The link is copied to the clipboard.

Replacing a Document

When you replace a document, you are replacing the uploaded document which is located on the server. When you replace a document, there is no change to its properties, including its link or security settings.

> **Note:** All the links to the document will remain intact.

To replace a document:

1) From the Documents dialog box, select a document and click **Replace**. The Replace Document dialog box appears.
2) In the **Location** field, enter the location of the document you want to replace the selected document.
   Or
   Click **Browse** to locate the new document on the network.

   > **Note:** It is recommended that you do not enter the location of your local computer, since your computer may not be available to other users at all times.
3) Click **OK**. The new document replaces the old document with no changes to the document's properties.

Removing a Document

You can remove a document from the system only through the Documents dialog box. Using the **Remove** button in a form, workbook Links list, or deliverable, only removes the **link** to the document.

To remove a document:

1) From the Documents dialog box, select a document and click **Remove**. A warning is displayed.
2) Click **OK**.

Editing Document Properties

You can view and edit a document's properties.

To view a document:

1) From the Documents dialog box, select a document and click **Properties**. The Document Properties dialog box appears.

> **Note:** You can copy the URL of the document to use any place else in the system that supports links.

2) To replace the document, click **Replace**. For more information, refer to ***Replacing a Document*** (on page 400).
3) To change the document's owner, select a new owner from the **Owner** drop-down list.
4) To change the description, edit the text in the **Description** field.
5) Click the **Security** tab to view, add, or edit security permission for this document. For more information about security, refer to ***Security*** (on page 443).
6) Click **OK**.

Administration

PPM administrators can perform various tasks from the **Admin** dialog box, accessible from the **Admin** link on the main page. Additional administrative functionality is available from the Microsoft Windows **Start** menu on the server.

This section is composed of the following main topics:

- The Admin Dialog Box describes how to view and edit system settings using the **Status**, **Properties**, **Defaults**, **Reports**, and **Access / Privacy** tabs on the **Admin** dialog box.
- Licensing describes the PPM licensing functionality.
- The Start Menu and Server Utilities describes how administrators can export and import packages, use the Primavera Portfolio Management Console, update licenses, and schedule maintenance tasks. In addition, administrators can start or stop the PPM server and/or the Internet Information Server (IIS) for all PPM users in their organization.

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The Admin Dialog Box

The **Admin** dialog box is accessible to users defined as administrators. For more information about adding users and defining access, refer to the ***Users*** (on page 156) section in this document.

The **Admin** dialog box is designed to provide up-to-the-minute information about the PPM server so that administrators can perform the following functions:

- View PPM server and function engine status.
- Log errors.
- Verify function integrity (no compilation errors or circular references).
- Import data.
- View important server and database properties, including packages installed on the server.
- View and edit PPM default settings.
- View and print system reports.
- Define and configure access settings.

The **Admin** dialog box has five tabs:

- **The Status Tab** - Includes service and calculation statuses, Server task scheduling, and maintenance. The Status tab also enables you to access the functions error logs and import data.
- **The Properties Tab** - Includes information about the server version and installed packages.

- **The Defaults Tab** - Displays your organization's quarter start day, lets you set system-wide functionality such as the User Name format, Reports Header, Maximum Search Results and whether null values in Horizontal Functions should be treated as zero, and enables you to define the investor map's default Gap Indication and whether to display its portfolios as folders or bubbles. In addition, you can choose to customize the active set of Indicators, the Dependency options, the PPM and Propose Branding Strips and each of the Regional Locale Options.
- **The Reports Tab** - Enables you to view and print reports for various modules and components, including:
  - Investor Maps
  - Categories
  - Scorecards
  - Value Lists
  - Indicator Functions
  - Users & User Groups
  - Data Entry Log
- **The Access / Privacy Tab** - Enables you to configure user access, password rules, set up events for which audit logs need to be generated, view and export audit logs in .csv format or word document format, configure consent notices for users and administrators, and enable and configure the Web SSO login URL details. Consent notices are configured from this tab.

Accessing the Admin Dialog Box

To access the Admin dialog box:

1) At the top of the main page in any module, click the **Admin** link.
   The **Status** tab of the **Admin** dialog box appears.

The Status Tab

The **Status** tab of the **Admin** dialog box enables you to view status information about services, calculations, primary and maintenance task scheduling, and functions error logs. Also use this tab to import data into the PPM database.

Status Tab Components:

- **Primavera Portfolio Management Service**: Displays the status of the PPM service. Possible statuses are **Running** or **Not Running**. A checkmark beside **Primavera Portfolio Management Service** indicates that the service is running. An X indicates that the service is not running.
- **Scheduled Tasks**: Displays the following list of predefined server tasks:
  - **Import Data**: Imports data from PSRAW staging tables to the PPM database (cells and phases).
  - **Frequent Periodic Update (Portfolios)**: Updates the contents of query based portfolios according to the frequent schedule.
  - **Standard Periodic Update (Portfolios)**: Updates the contents of query based portfolios according to the standard schedule.

The Scheduled Tasks table displays the date, start, and end times of the last task run, and the time the next task is scheduled to run. A checkmark beside the task name indicates that the last task ran successfully. An X indicates that the last task failed.

- **Custom Periodic Update (Portfolios)**: Updates the contents of query based portfolios according to a custom schedule.

> **Note:** PPM includes six predefined server tasks. Most tasks run once a day at the specified time. The PPM Professional Service team can define tasks to run at different intervals. The tasks that are of regular concern to the PPM user appear in the **Scheduled Tasks** table in the Status tab. The tasks that are generally transparent to the user are accessible from the **Maintenance Details** button in the Status tab.

- **Primavera Portfolio Management Maintenance**: A checkmark beside Primavera Portfolio Management Maintenance indicates that the last maintenance tasks ran successfully. An X indicates that at least one of the last tasks failed.
  - **Maintenance Details**: Click this button to display the Server Maintenance Details dialog box. Refer to ***Server Maintenance Details Dialog Box*** (on page 406) for more information about it.
- **Action and Function Queues**: In this display, two terms are referenced: Actions and Functions. An action is any user operation that causes a single, or multiple function-triggering to occur. For example, updating a cell can affect another single cell, or trigger hundreds of calculations.
  - A checkmark beside Action and Function Queues indicates that the function engine is running, but no calculations are currently being performed. A checkmark with a blinking circle next to it indicates that the function engine is running and calculations are currently being performed An X indicates that the function engine is not running.
  - The Action and Function Queues displays the following:
  - **Completed**: All actions prior to this date are completed. If the queue is empty, the current date and time are shown.
  - **In Queue**: The number of actions that are currently in the queue, waiting for processing.
  - **In Progress**: The number of actions that are being processed. The number of functions comprising the actions appears in parentheses. In addition, the current percentage and number of completed functions is displayed, as well as the mount of time elapsed since processing began.
- **Last error on**: Displays the date and time of the last error.
- **Functions error log**: The functions error log can contain two types of messages: Errors and Warnings. When used in a **production** environment, the function log should be set to include **Errors Only**. During **development** use, the functions log may be set to include **Errors and Warnings**, as the warnings help to debug functions.
- **Open Log**: Click **Open Log** to display the Functions Log Report. For more information about this report, refer to ***Functions Log Report*** (on page 407).
- **Functions Integrity**: Click **Functions Integrity** to test the integrity of all the functions. For more information about this report, refer to ***Functions Integrity Report*** (on page 408).

- **Import data now**: Enables you to import data at a time other than during the predefined Import Data task. This involves activating the data transforms that are defined for selected categories and cells. Data is extracted to the PPM database and then updated according to the scheduling information for the relevant categories and cells. You can use the Import Data feature to import the data transforms' output into their target categories. Note that you still need to manually run the data transforms to generate the extracted data.
- **Category**: In the **Category** field, via the Select a Category pop-up list, select the category to update.
- **All**: Select **All** to import the selected category data for all the items and portfolios.
- **Item**: In the **Item** field, via the Select an **Item** or Portfolio pop-up list, select the specific Item or Portfolio for which to import the data of the selected category.
- **Import**: Click **Import** to import the data to the PPM database.

> **Note:** The actual import process is performed by the server in the background, and may take a few minutes. You can disable this option via the Import Data module, accessible through the Setup module. Refer to ***Setting Module Security*** (on page 459) in Security.

- **Close**: Closes the Admin dialog box.

Custom Periodic Task Details Dialog Box

Display the Custom Periodic Task dialog box by clicking Custom Periodic Task Details on the Status Tab. This dialog box lists all the custom tasks created by administrator.

The Custom Periodic Task Details dialog box displays the date, start, and end times of the last task run, and the time the next task is scheduled to run. A checkmark beside the task name indicates that the last task ran successfully. An X indicates that the last task failed. Click Close to close the Custom Periodic Task Details dialog box.

Server Maintenance Details Dialog Box

Display the Server Maintenance dialog box by clicking Maintenance Details on the Status Tab.

This dialog box lists the following predefined, transparent maintenance processes:

Audit Log Cleanup: Cleans up the audit log by removing outdated entries.

Calculations Using "Today": Updates all the calculations that use the variable "Today".

Cell History Maintenance: Removes data of categories or portfolios that no longer exist.

Database Maintenance Daily: Removes deleted objects from the database.

Log Files Maintenance: Creates, maintains, and limits the size of log files to ensure optimal system performance.

Recalculate big table statistics: Recalculates database table statistics.

Recalculate DB statistics: Updates statistical information used for database optimization.

Recalculated Temp Statistics: Recalculates database statistics for temporary tables.

Resolve Version Dates: Recalculates absolute dates of relative data versions

Switch Temp Tables: Very technical process which must be performed regularly to ensure smooth PPM operation.

The Server Maintenance Details dialog box displays the date, start, and end times of the last task run, and the time the next task is scheduled to run. A checkmark beside the task name indicates that the last task ran successfully. An X indicates that the last task failed. Click **Close** to close the Server Maintenance Details dialog box.

Functions Log Report

Display the Functions Log Report by clicking Open Log on the Status Tab.

The different calculation warnings are:

- Cell from category <CategoryName> has no value
- This warning appears when an advanced function is being calculated and some of its input parameters are missing or null.
- Unable to calculate indicator (One of the function parameters has a null value)
  This warning appears when a non-advanced indicator function is being calculated and some of its input parameters are missing or null. For example, imagine a function in the CPIC Fast Track that calculates an indicator from a budget-related category and the Status category. For a FISMA item, the budget-related category is null, but the Status category has a value. Therefore, some of the function's parameters are null, resulting in this warning.
- Unable to calculate indicator! (Division by zero)
- This warning appears when a non-advanced indicator function is being calculated and the divisor is null or zero.
- Range values must have different values
- This warning appears when an indicator function based on a value list assigns the same boundary values to several boundaries.
- Unable to calculate! (Circular calculation path. Some of the function's Sources are based on the value of the function.)
- This warning appears when there is a problem calculating because the function directly or indirectly relies on itself (circular reference).
- Unable to calculate Value/Indicator (All of the function parameters have null values). This warning appears when all the parameters of a summary (vertical or over-time) function are missing, or null. For example, when calculating a vertical summary function on an empty portfolio this warning will be shown.
- All parameters are missing
- This warning appears when testing a function on an item or portfolio that does not contain values for any of the parameters of the function.
- Unable to calculate Value/Indicator (Insufficient function security permissions). The function was denied access by some of its sources
- This warning appears when a function is denied running or access to its parameters because of security permissions.
- In advanced functions it is possible to create user-definable warnings. These can alert the user to possible problems. This capability is very useful during debugging since it allows the developer to trace the execution of a function.
- A new log file is created each day for that day's entries. Its size is limited to 20,000 Kb.

Notes:

- Your viewing choice in this field takes effect from the moment of choice onward. Previously logged events are still available for viewing.
- Errors are indicated by an icon and pink highlight in the Output column.
- Function log files are located in the log directory (by default under program files\Primavera Portfolio Management\Portfolios\log, within the Primavera Portfolio Management install directory).

Functions Integrity Report

Display the Functions Integrity Report by clicking Functions Integrity on the Status Tab.

The Functions Integrity Report finds problems that prevent functions from running due to the following major reasons:

- Functions' Include File compilation errors.
- Functions that do not compile.
- Functions that might create circular reference.
- Library functions compilation errors.
- Circular dependencies that might cause circular function references.
- The report provides possible solutions for the problems reported.
- It is recommended to run the Integrity test periodically, as well as in the following scenarios:
- After building a PPM system.
- After upgrading the database.
- After major setup changes (e.g., package import).

The Properties Tab

The **Properties** tab is for viewing purposes only. It provides information about the current server version and packages that are installed.

The **Properties** tab includes the following information:

- Product Information:
  - **Version**: The server version in use.
  - **Licenses**: The available license types and the number of users allotted by your current Oracle Primavera license agreement.
- Database Information:
  - **Name**: The name of the database in use.
  - **DB Version**: The database version in use.
  - **Server**: The name of the server on which the database is running.

  - **Provider**: The name of the provider of the database in use. For example, SQL Server 2005.
  - **User**: The name of the database user.
- Package Information:
  - **Name**: The package name.
  - **Creating Org**: The organization that created the package.
  - **Org ID**: The ID of the package-creating organization.
  - **Install Date**: The package installation date.
  - **Description**: Clicking on an entry in the Packages table displays the description of the package in the Description area.
- **Close**: Closes the Admin dialog box.

Accessing the Properties Tab

To access the Properties tab:

1) Click the **Properties** tab in the Admin dialog box. The **Properties** tab appears.

The Defaults Tab

The **Defaults** tab lets you set a variety of system defaults that apply to all items, objects, and users in the system.

Accessing the Defaults Tab

To access the Defaults tab:

1) Click the **Defaults** tab on the Admin dialog box. The **Defaults** tab appears.

Viewing First Quarter Start Day

The **First Quarter Starts** field displays the start day of the first quarter of the year in your organization. The First Quarter Start Day is set when creating a PPM database for the first time. Once set, it can no longer be altered.

Defining the User Name Format

The **User Name Format** field enables you to define the default format used to display user names (for example, John Smith or Smith, John).

Editing the Reports Header

The **Reports Header** field displays the current header (if there is one) for printed reports.

To change the text for the header printed at the top of all printed reports:

1) Click **Edit** to open the Printed Reports Header dialog box.
2) Enter the desired text and click **OK**.

Setting the Maximum Search Results

The Maximum Search Results field displays the maximum number of results displayed after a search.

To change the maximum number of results:

1) Click **Edit** to open the Limit Search Results dialog box.
2) Enter the new maximum number for search results and click **OK**.

Setting Investor Map Defaults

The **Bucket Indication Threshold** settings display the gap indication threshold parameters for goal information for strategic buckets in the Investor module.

> **Note:** For more information on strategic buckets and goals in the Investor module, refer to ***Investor Module Overview*** (on page 223).

To edit the default Investor Module Bucket Indication Threshold:

1) Click **Edit** to open the **Gap Indication** dialog box.
2) Click the **Sum** or **Balance** tab, depending on which default threshold you wish to edit.
3) Check **No Default** to cancel the default settings and use portfolio-specific settings only.
4) Enter the desired threshold for each indicator as a positive or negative numeric value.

> **Note:** Indicators display the current status of a category for each item using color-coded shapes. For example, interpret status information for the default set of indicators as follows:
>
> performance criteria are being met;
>
> a performance problem may be arising;
>
> performance criteria are not being met.

5) Click **OK** to save the settings and close the **Gap Indication** dialog box.
6) To display portfolios as bubbles on investor maps, check the **Show portfolios as bubbles** checkbox.

   If the box is unchecked, portfolios appear as folders .

> **Note:** For more information on the portfolio view mode, refer to ***Accessing the Portfolios View Mode*** (on page 242) in Working with Investor Maps.

Enabling Auto Renaming for Duplicate Names

No two Setup objects of the same type can have the same name. For example, no two graphs can have the same name.

When a user tries to save a new Setup object with a name that already exists, the system will do one of two things, depending on whether the **Enable Auto Renaming** option on the Default tab is selected:

- **When Auto Renaming is enabled**: The system automatically appends the duplicate name with "~1" to differentiate it from the existing name and then saves the new object. If there is already a duplicate that ends with "~1," the new entity name is appended with "~2," and so on.
- **When Auto Renaming is disabled**: The new entity is not saved, and the user is prompted to choose another name.

Configuring Indicators

The default indicators you define apply throughout the application. You can make your selections from a total of sixteen (16) available indicator colors and seven (7) available shapes; however, the system only supports a maximum of seven (7) enabled indicators at a time. You are required to define and enable at least two (2).

To edit the indicators:

1) In the Indicators group on the Defaults tab, click **Edit**. The Indicators dialog box appears.
2) Select an indicator in the table.
3) Click the **Enable** button to activate the indicator for use in the application. (Click the **Disable** button to stop using the indicator in future modules.)
4) Enter a name for the indicator in the **Name** field. For example, instead of Orange type Underperforming.
5) Select one of the sixteen supported colors for the indicator from the **Color** drop-down list.
6) Select one of the seven supported shapes for the indicator from the **Shape** drop-down list.
7) Repeat step 2 to 5 to define at least two (2) and no more than seven (7) enabled indicators.
8) (Optional) Click **Report**... to generate and view a report detailing the impact of your selections. For example, the default red circle indicator will likely be used in numerous categories. If you have it set to be disabled, the Indicator Functions with Indicators about to be Disabled/Re-enabled report will show you the categories that displayed it and will also show you how the system will interpret future results using other indicators while it is disabled.
9) Click **OK** when finished. One or more message boxes may appear to notify you if any indicator function results have changed.

Defining Dependency Defaults

The Dependencies area provides access to the General Dependency Options and the Workbook Dependency List dialog boxes in which you can define various dependency defaults, as follows:

- **General Options**: Define general Dependency List properties including: column labels, associated value lists, and cost precision as well as the default drill-down for the Investor and Scorecard modules. For more information on the Dependencies General Options, refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

- **Workbook Dependencies List**: Define the Workbook Dependencies List as well as the default Dependencies List component for Forms. For more information on the Workbook Dependencies List, refer to ***Workbook Dependencies List*** (on page 373) in Working with Dependencies.

Customizing the Branding Strip

The Branding Strip area enables you to define the branding strip appearance for:

- The PPM application
- The Propose application

Editing the PPM Branding Strip

To edit the PPM branding strip:

1) Click **Edit**. The Branding Strip-PPM dialog box appears.
2) Select the branding Strip Type:
   - **Default**-- uses system defaults for the branding strip.
   - **Custom**-select this option to access the following Custom Settings:

     Branding Image URL-enter the URL for the location of the branding image GIF.

     Hover Text-enter the text you would like to have appear when hovering over the strip.

     Hyperlinked Web Site-enter the URL of the web site that will open when the user clicks on the strip.

     Background Color-the color can be either Solid or Gradient. If the gradient option is selected, you can enter the values for the two colors that will form the gradient.
3) Click **OK** to save your parameters.

Editing the Proposed Branding Strip

To edit the Propose branding strip:

1) Click **Edit**. The Branding Strip- Propose dialog box appears.
2) Select the branding Strip Type:
   - **Default**: uses system defaults for the strip
   - **Same as PPM**: Uses the definitions created for the PPM branding strip.
   - **Custom**: Select this option to access the following Custom Settings:

     Branding Image URL - enter the URL for the location of the branding image GIF.

     Hover Text - enter the text you would like to have appear when hovering over the strip.

     Hyperlinked Web Site - enter the URL of the web site that will open when the user clicks on the strip.

     Background Color - the color can be either Solid or Gradient. If the gradient option is selected, you can enter the values for the two colors that will form the gradient.
3) Click **OK** to save your parameters.

Defining How Horizontal Value Functions Treat Null Values

If checked, horizontal value functions are calculated using zero (0) for parameters with no value/null value whenever possible. Checking this checkbox has no effect on indicator functions.

If the box is not checked, horizontal functions operating on cells containing a null value cannot be calculated. This generates an error message that is written in the function log.

> **Note:** This option does not apply to Advanced Functions as it is possible to correctly treat null values in the advanced code. For more information on advanced functions see ***Advanced Function*** (on page 124), in Working with Categories.

Defining How to Treat Blank Scorecard Values

The **Do not replace blank value with "-"** setting determines whether the application replaces blank values with dashes in exported scorecards. When selected, empty values are left blank in exported scorecards.

Editing the Regional Options

The **Regional Options** area displays all the regional settings currently supported by PPM. When a user logs into the application, it checks the default regional settings of the user's operating system. If the computer's default locale is supported, the PPM user interface automatically uses the regional settings (date and figure formats) for that locale. If the computer's locale is not yet supported, PPM automatically uses English (United States) regional settings.

To edit the Regional Options Settings:

1) Select your locale from the **Supported Locales** table.
2) Click **Edit** to open the **Regional Options** dialog box for the selected locale.
3) Set the following regional options:
   - **Decimal symbol**: select the separator used in your company.
   - **Digit grouping symbol**: select the digit grouping symbol used in your company.
   - **Long date format**: select the format used in your company for displaying long dates.
   - **Short date format**: select the format used in your company for displaying short dates.
   - **Date separator**: select the separator used to separate figures in the short date format
4) Click **Restore Defaults** to restore the default regional settings or click **OK** to save the edited regional settings and close the **Regional Options** dialog box.

The Reports Tab

The **Reports** tab enables you to view and print reports for various PPM components.

Reports Tab Settings:

- **Report**: Select the module or component for which a report is to be viewed and printed, from the drop-down list.
- **Print**: Click **Print** to access the selected report. The report is displayed together with the Windows Print dialog box, enabling you to print the report directly.
- **Description**: Displays a description of the report selected in the **Report** field.
- **Close**: Closes the Admin dialog box.

Accessing the Reports Tab

To access the Reports tab:

1) Click the **Reports** tab in the Admin dialog box. The **Reports** tab appears.

Report Types

This section describes the various reports available through the **Admin** dialog box and the information contained in each type of report.

Click **Print** to create and print the selected report.

> **Note:** The Database Upgrade Report is available from the Primavera Portfolio Management Console (provided you have permission to access it).

Investor Maps

Select Investor Maps from the **Reports** drop-down list and click **Print** to preview the report and open the **Print** dialog box.

Each Investor Map Report provides a list of all the maps and includes the following information for each one: Name, Map as of, Owner, Home Folder, Description, X Axis, Y Axis, Size by, and Color by.

Click **Print** in the Print dialog box to print the report.

Categories

When you select **Categories** from the Reports drop-down list, you have an option to either **Print** or **Export** the report. Whenever you have more than 1 000 categories it is recommended to use the **Export** option to transfer the category data to an external application, such as Microsoft Excel.

Each Categories Report provides a list of all categories. It includes the following information for each category: Name, Identifier, Owner, Home Folder, Description, Data Type, Value Type, and an icon representing manual entry or calculated entry for Values, Indicator, Summary Values and Summary Indicators.

Click **Print** to preview the report and open the **Print** dialog box.

Or

Select **Export** to export all of the categories.

1) In the **Export Settings** dialog box, select any of the following export formats:
   - Select **Export in .csv format** to view them in an Excel spreadsheet.
   - Select **Export as HTML format** to view them in a browser.
2) Click **OK** to export the data.

Scorecards

Select Scorecards from the **Reports** drop-down list and click **Print** to preview the report and open the **Print** dialog box.

Each Scorecards Report provides a list of all the scorecards and includes the following information for each one: Name, Owner, Home Folder, Description, Categories, As of Date, Category Description, and Category Type.

Click **Print** in the **Print** dialog box to print the report.

Value Lists

Select Value Lists from the **Reports** drop-down list and click **Print** to preview the report and open the **Print** dialog box.

Each Value Lists Report provides a list of all the value lists and includes the following information for each one: List Name, Owner, Home Folder, Description, Weight and Values.

Click **Print** in the **Print** dialog box to print the report.

Indicator Functions

Select Indicator Functions from the **Reports** drop-down list and then select an indicator from the **Indicator** field drop-down list. This report provides a list of all the indicator functions in PPM that include the selected indicator, whether the indicator is enabled or disabled. For each matching indicator function the following information is provided: **Object**, **Name**, **Function Description**, **Indicator/Summary Indicator**, **Function Type**, and **Interpreted as** (when disabled).

Click **Print** to preview the report and open the **Print** dialog box.

User Groups

When you select **User Groups** from the Reports drop-down list, you can select to generate either a **Groups** or **Users** report:

- **Groups**: The Groups Report provides a list of all the user groups and includes the Name, Owner, Description, and Users for each one.
- **Users**: The Users Report provides a list of all the users and includes the Name, Owner, Description, License Type and User Group for each one.

Click **Print** to preview the selected report (either Groups or Users) and open the Print dialog box.

Data Entry Log

When you select Data Entry Log from the **Reports** drop-down list, the following fields appear, enabling you to select various report options:

- **Item**: Select an item or a portfolio from the pop-up window.
- **Dates**: Select start and end dates for the data in the report.

- **Updated By**: Select Any user, or select a specific user from the User drop-down list.

Click **Print** to create and display the Data Entry Log report based on the options selected in the above fields. Select **Print** from the Print dialog box to send the report to the printer.

The Access / Privacy Tab

The **Access** tab of the **Admin** dialog box enables you to configure password and user lockout policies, create a login message that appears after users log in, and configure audit log content.

The **Access** tab is comprised of the following components:

- **Password Policy**: Define the password policy to control password related security demands.
- **User Lockout Policy**: Define the user lockout policy to prevent possible security breaches.
- **Display Message After Login**: Create the login message (usually an authorization message) that appears immediately after login.
- **Activate Audit Log**: Select the information reported in the audit log. The audit log is used to monitor user accounts and activities.
- **Enable Privacy Policy**: Select this check box to enable privacy policy and consent notices in the application.
- **New User Consent Settings**: Select this check box to view, edit, and set up consent notices for new users.
- **Existing User Consent Settings**: Select this check box to view, edit, and set up consent notices for existing users.

After configuring the settings for the access component, you can activate or deactivate the settings at any given time by selecting or deselecting the checkbox next to the component.

Accessing the Access Tab

To access the Access tab:

1) Click the **Access** tab in the Admin dialog box.
   The **Access** tab appears.

Password Policy

The password policy controls password related security demands by defining the rules for password use.

> **Note:** If you attempt to login with an expired password, a warning message appears.

Accessing the Password Policy Options

To access the password policy options:

1) In the Password Policy section of the **Access** tab, click **Edit**. The **Password Policy** dialog box appears.

2) Select from the following password policy options:
   - **Old password may be reused after**: Enter the number of times a password must be changed before reusing an old password.
   - **Maximum password age**: Enter the maximum number of days a password can be used until the user has to change it.
   - Options requiring SSL installation on the server:

     Note: SSL (Secure Sockets Layer) is the leading Internet security protocol. It enables encrypted online communication. If you are not using SSL, these options are not available.

     - **Minimum password length**: Enter the minimum number of characters a password must contain.
     - **Password complexity**: Define the combination of characters to force the user to create a password that is complex enough to comply with the organization's security policy. To define the rules for creating passwords, click **Edit**. The Password Complexity dialog box appears.

   The password complexity options are as follows:

   Password may not contain user's first name, last name, or user name.

   Select **Allowed**, **Not Allowed**, or **Required** for the following character types:

   Lower case (i.e., a, b, c, etc.) Upper case (i.e., A, B, C, etc.) Numbers (i.e., 1, 2, 3 etc.) Non letter or number (i.e., symbols such as #, @, $, etc.) Non keyboard generated (i.e., pressing ALT and a letter key simultaneously).

Creating a New Password

To create a new password:

1) Click **OK** in the **Unable to Login!** message box. The **Change Password** dialog box appears.
2) In the **Login Name** field, enter your login name.
3) In the **Old Password** field, enter your expired password.
4) In the **Password** field, enter your new password.
5) In the **Confirm Password** field, enter your new password again.
6) Click **OK**.

User Lockout Policy

The User Lockout Policy defines the rules that prohibit users, who may be trying to misuse the system, from entering the system.

To access the user lockout policy options:

1) In the **User Lockout Policy** section of the **Access** tab, click **Edit**. The **User Lockout Policy** dialog box appears.
2) The following are the account lockout policy options:
   - **Lockout if account inactive more than**: Enter the maximum number of days the account can be inactive before it is disabled.

- **Lockout if login failures exceed**: Enter the number of invalid login attempts permitted before the account is disabled.
- **Reset login failure count after**: If the Lockout if login failures exceed option is selected, and the user does not exceed the number of attempts in the **attempts** field, the system will restart the lockout count if the user waits the amount of time specified here (in minutes) from the last failed login attempt until he tries to login again. For example, if the lockout **attempts** option is set to 3, and the reset option is set to 5 **minutes**, then after the second failed attempt, if the user wants to avoid lockout, the user should wait 5 minutes before attempting to log in again. After waiting, the user will have 3 new attempts to log in.

Login Message

A login message can be used:

- To communicate usage rules and regulations to the user before they can access the system.
- For branding.
- For communicating with users about system status, maintenance, or other events.

Viewing the Login Message

To view the login message:

1) In the Display Message After Login section of the Access tab, click **Preview**.
   The message appears in a new dialog box.

Editing the Display Message

To edit the display message:

1) In the **Display Message After Login** section of the **Access** tab, click **Edit**. The **Login Message Settings** dialog box appears.
2) Select one of the following message types:
   - **Image**: Enter the address of an image that is accessible to all users. For example, you can design an image that contains a logo and the text you want to display, save it as a GIF or JPG, and link it.
   - **Text**: Enter and format the message in the text area as it should appear. You can paste designed text here.
3) Click **Preview** to preview the message as it will appear. The amount of space available for the display message is as shown in the dialog box. If the message takes up more space than available, scroll bars appear.
4) Click **OK**.

Activate Audit Log

Track specified user actions by logging them in an audit report. This enables administrators to follow and acknowledge potentially harmful behavior by unauthorized users.

Note: Data is tracked separately. Refer to ***Data Entry Log*** (on page 415).

Accessing the Audit Log Options

To access the Audit Log options:

1) In the **Activate Audit Log** section of the **Access** tab, click **Edit**. The **Audit Log Settings** dialog box appears.
2) Audit log settings include:
   - **Number of days for which events are logged**: Enter the number of days for which events will appear in the audit log, after which they are removed.
   - **Email specified events to**: Enter the email address of the person to whom notification of the selected event should be sent immediately after the event occurs.
   - **Audit Log Events**: Check the **Log** checkbox of the events that should be recorded in the audit log. Check the **Email** checkbox if notification of the event should be emailed to the address specified in the Email specified events to field.
     - **User created** - record in the log / send email if a new user is created.
     - **User properties changed** - record in the log / send email if a user`s properties are changed.
     - **User disabled** - record in the log / send email if a user is disabled (via the Setup module).
     - **User enabled** - record in the log / send email if a user is enabled (via the Setup module).
     - **User password changed** - record in the log / send email if a user's password is changed.
     - **Valid login** - record in the log / send email when a user logs in.
     - **Invalid login** - record in the log / send email if a login attempt is unsuccessful.
     - **User lockout due to repeated failed login attempts** - record in the log / send email if a user is locked out because of exceeding the maximum number of login attempts.
     - **Invalid transaction attempt** - record in the log / send email if a user attempted a transaction for which he did not have security permission.
     - **Creation, modification or deletion of setup objects** -record in the log / sends email if a user created, modified or changed any setup object.
     - **Actions requiring `Admin' permissions or special `Module' permissions** -record in the log / sends an email if a user performed an action that requires Admin or special module permission.
     - **Alerts not triggered**- record in the log / sends an email each email, workflow or web service alert that was not triggered whether because of security settings or other reasons.

- **Email alerts blocked from some recipients due to security settings**-record in the log / sends an each email alert that due to security settings, was not dispatched to all of its recipients.
- **Alerts that have been triggered**-record in the log / sends an email, each alert that has successfully dispatched an email, started a workflow or activated a web service (including the programmatic alerts generated via the open API).
- **Workflow instantiation and management of workflow instances** - records in the log / sends an email any workflow instance started, stopped, archived, or removed.
- **Signed off tasks** -records in the log / sends an email the manual signing off of each workflow task, whether by Performer or Manager.
- **Privacy Audit Log** - records in the log / sends an email for when users or administrators update their consent status in the application.

Note: Data is tracked separately. Refer to ***Data Entry Log*** (on page 415).

Viewing and Printing the Audit Log

To view, print, or export the Audit Log:

1) Click **View** in the **Activate Audit Log** section of the **Access / Privacy** tab**.**
2) In the Audit Log report, select any of the following buttons:
   - Select **Print** to send the report to the printer.
   - Select **Export** to export the audit log in a .csv format or a word document.

Audit Log Events

Select **All** to generate an audit log for all events by default.

To generate audit logs for specific events, select any of the following events:

- **User created** - record in the log / send email if a new user is created.
- **User properties changed** - record in the log / send email if a user`s properties are changed.
- **User disabled** - record in the log / send email if a user is disabled (via the Setup module).
- **User enabled** - record in the log / send email if a user is enabled (via the Setup module).
- **User password changed** - record in the log / send email if a user's password is changed.
- **Valid login** - record in the log / send email when a user logs in.
- **Invalid login** - record in the log / send email if a login attempt is unsuccessful.
- **User lockout due to repeated failed login attempts** - record in the log / send email if a user is locked out because of exceeding the maximum number of login attempts.
- **Invalid transaction attempt** - record in the log / send email if a user attempted a transaction for which he did not have security permission.
- **Creation, modification or deletion of setup objects** -record in the log / sends email if a user created, modified or changed any setup object.
- **Actions requiring `Admin' permissions or special `Module' permissions** -record in the log / sends an email if a user performed an action that requires Admin or special module permission.

- **Alerts not triggered**- record in the log / sends an email each email, workflow or web service alert that was not triggered whether because of security settings or other reasons.
- **Email alerts blocked from some recipients due to security settings**-record in the log / sends an each email alert that due to security settings, was not dispatched to all of its recipients.
- **Alerts that have been triggered**-record in the log / sends an email, each alert that has successfully dispatched an email, started a workflow or activated a web service (including the programmatic alerts generated via the open API).
- **Workflow instantiation and management of workflow instances** - record in the log / sends an email any workflow instance started, stopped, archived, or removed.
- **Signed off tasks** -record in the log / sends an email the manual signing off of each workflow task, whether by Performer or Manager.
- **Privacy Audit Log** - record in the log / sends an email for when users or administrators update their consent status in the application.

Export Settings for Audit Log

Select the file format for exporting audit log files to your local machine as follows:

1) In the **Export Settings** dialog box, select any of the following export formats:
   - **Export in .csv format**: Exports the log as a comma-separated value (CSV) file that can be viewed in an Excel spreadsheet.
   - **Export as word document**: Exports the log as a Microsoft word document.
   - **Export as HTML format**: Exports the log as a HTML document.
2) Click **OK** to save your selection.

Audit Log

The Audit Log page initially displays an unfiltered list of all audit events captured by the system.

To set up an audit log for specific events:

1) Use any of the following search criteria to search and filter audit logs as follows:
   a. From the **Events** list, select the audit events for which you want an audit log captured. By default, **All** events are selected.
   b. In the **Date** fields, enter the range of dates for a specific time interval or select any of the following for an open-ended date range:
      - Select **Earlier than** to select audit logs generated on or before a specific date.
      - Select **Later than** to select audit logs generated on or after a specific date.
      - Select **Equal to** to select audit logs generated on a specific date.
   c. From the **User** drop-down list, select a user to filter audit logs associated with a specific user.
2) Perform any of the following actions:
   - Click **Search** to initiate and review the search results in the Audit Log window.
   - Click **Export** to export the search results in a .csv format or a word document.
   - Click **Print** to print the generated audit log report.
   - Click **Reset** to clear existing search criteria and begin a new search.

Configuring Web Login for Server Utilities

Authentication via Web SSO allows authentication of user logins without the usual login dialog box or screen for the utility.

To access the Server Utilities Settings dialog box:

1) Type the URL of the Primavera Portfolio Management landing page and click OK.

   For example: `http://MyServer:1234/ProSight`

   If you are using a third party SSO service provider, use the URL of the Web SSO resource configured for Primavera Portfolio Management.
2) Click **OK** to close the Server Utilities Settings dialog box.
3) Click **Close** to close the Admin dialog box.

Managing Personally Identifiable Information in PPM

About Consent Notices

Consent notices enable you to convey to your users how personally identifiable information (PII) is collected, processed, stored, and transmitted, along with details related to applicable regulations and policies. Consent notices also alert users that the action they are taking may risk exposing PII. Primavera Portfolio Management helps you to ensure that you have requested the appropriate consent to collect, process, store, and transmit the PII your organization holds as part of Primavera Portfolio Management data.

Consent notices should:

- be written in clear language which is easy to understand.
- provide the right level of detail.
- identify the purpose and legal basis for your collection, processing, storage, and transmission of PII.
- identify whether data will be transferred to named third parties.
- identify PII categories and list the data which will be collected, processed, stored, and transmitted.

About Personally Identifiable Information

Personally identifiable information (PII) is any piece of data which can be used on its own or with other information to identify, contact, or locate an individual or identify an individual in context. This information is not limited to a person's name, address, and contact details. For example a person's IP address, phone IMEI number, gender, and location at a particular time could all be personally identifiable information. Depending on local data protection laws organizations are responsible for ensuring the privacy of PII wherever it is stored, including in backups, locally stored downloads, and data stored in development environments.

Cookies Usage in PPM

When using PPM, the server may generate the following cookies and send them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Oracle might use cookies for authentication, session management, remembering application behavior preferences and performance characteristics, and to provide documentation support.

Also, Oracle might use cookies to remember your log-in details, collect statistics to optimize site functionality, and deliver marketing based on your interests.

Your Responsibilities

Information security and privacy laws can carry heavy penalties and fines for organizations which do not adequately protect PII they gather and store. If these laws apply to your organization, it is your responsibility to configure consent notices before they are required. You should work with your data security and legal teams to determine the wording of the consent notices you will configure in Primavera Portfolio Management.

If a consent notice is declined, it is your responsibility to take any necessary action. For example, you may be required to ensure that the data is not stored or shared.

> **Note**: There is no provision to delete *all* information associated with an user when they leave the application.

PII Data in Primavera Portfolio Management

PII may be visible in multiple areas of Primavera Portfolio Management, including but not limited to user administration, resource and role administration, portfolios, assignments, reports, user defined fields, and codes.

PII may be at risk of exposure in multiple areas of Primavera Portfolio Management, including but not limited to portfolio, export, reports, documents, web services, and API.

Configuring Privacy and Cookie Policies

To configure privacy and cookie policies:

1) In the **Administration** menu, click **Admin**.
2) Click the **Access / Privacy** tab.
3) Click **Enable Privacy Policy.**
4) Click **Edit...**.for **Privacy Policy / Cookie Policy Settings**.
5) To configure the privacy policy, click **Use External Privacy Policy Web Page** or **Configure Privacy Policy Page**.
   a. If you chose **Use External Privacy Policy Web Page**:
      1. In the **Web Page URL** field, enter the URL of the privacy policy.
      2. Click **Test** to ensure the link is active.
   b. If you chose **Configure Privacy Policy Page**:

1. In the text area, enter the privacy policy finalized by your organization.
2. Click **Preview** to test the configured privacy policy.

c. Click **Save**.

6) To configure the cookies policy, click **Use External Cookie Policy Web Page** or **Configure Cookie Policy Page**.

a. If you chose **Use External Cookie Policy Web Page**:

1. In the **Web Page URL** field, enter the URL of the cookie policy that is to be displayed.
2. Click **Test** to ensure the link is active.

b. If you chose **Configure Cookie Policy Page**:

1. In the text area, enter the cookie policy finalized by your organization.
2. Click **Preview** to test the configured cookie policy.

c. Click **Save**.

Configuring Consent Notices for New Users and Administrators

To configure consent notices for new users and administrators:

1) In the **Administration** menu, click **Admin**.
2) Click the **Access / Privacy** tab.
3) Click **Enable Privacy Notice**.
4) Click **New User Consent Settings** and then click **Edit...**.
5) Click **Use External Web Page** or **Configure Consent Page.**

a. If you chose **Use External Web Page:**

1. In the **Web Page URL** field, enter the *URL* of the consent page.
2. Click **Test** to ensure the link is active.

b. If you chose **Configure Consent Page:**

1. Enter the consent notice finalized by your organization in the **Configure Consent** area.
2. Click **Preview** for the consent notice.

Click **Save.**

Configuring Consent Notices for Existing Users

To configure consent notices for existing Primavera Portfolio Management users:

1) In the **Administration** menu, click **Admin**.
2) Click the **Access / Privacy** tab.
3) Click **Enable Privacy Policy**.
4) Click **Existing User Consent Settings** and then click **Edit...**.
5) Click **Use External Web Page** or **Configure Consent Page**.

a. If you chose **Use External Web Page**:

1. In the **Web Page URL** field, enter the URL of the consent notice.
2. Click **Test** to ensure the link is active.

b. If you chose **Configure Consent Page**:
   1. Enter the consent notice in the **Configure Consent** area.
   2. Click **Preview** to test the configured privacy policy.

6) Click **Save**.
7) To give consent on behalf of existing users:
   a. Click **Admin Consent** and then click **Edit...**.
   b. Select all users on behalf of whom you are giving consent.

> **Note**: You can search for users or groups in the Search field. The list of users and groups displayed automatically filters as you type.

   c. Select **I agree and provide consent on behalf of selected users**.
   d. Click **OK**.

   Users will have a *Consent Provided* status when they next sign in to the application.

> **Note**: If an administrator provides consent on behalf of other users, it is the administrator's responsibility to ensure the consent has been provided by the users through other means.

8) To request consent from users individually:
   a. Click **Individual User Consent**.
   b. Click **Save**.

   Users will have a *Consent Pending* status when they next sign in to the application.

Auditing Consent Notices for Primavera Portfolio Management

To audit and review the consent status of all users:

1) In the **Administration** menu, click **Admin**.
2) Click the **Access / Privacy** tab.
3) Click **Activate Audit Log** and then click **Edit...**.
4) In the **Audit** column, click the checkbox for the **Privacy Audit Log** event**.**
5) Click **OK**.

Licensing

PPM software is used by a variety of users representing different needs of the system. In order to accommodate the various use levels, different licenses are available.

User License Types

Each user defined in PPM will have an assigned license type. The following user license types are supported: View-only and Forms-only license types.

View-only License Type

For view-only, users can view, but not edit, all main end-user modules including Investor, Scorecard, Workbook, Forms, Dashboards, To-Do and Processes and Workflows in the Guide pane. The following view-only limits apply:

Users cannot submit forms, update scorecards, create or modify objects through wizards, update workbooks, etc.

Users are subject to regular security settings, and thus may be further restricted from reading specific objects, modules, etc.

Users will always behave as if they are denied permissions for the following three workflow security modules:

1. Start Workflow Instance

- Users cannot manually start workflows using the Start Workflow dialog box.
- If users are the alert owners of alerts whose outcome is Start workflow, then the alert triggering will fail. The error message written to the log for an alert owner that actually has deny for Start Workflow will also covers this case.
- If users are defined as the Workflow System Execution Permissions users for an Embedded workflow, then it is as if there is no Workflow System Execution Permissions user and the Embedded Workflow will not be able to start.

2. Manage Workflow Instances

- The only workflow instances that these users can see in the Workflow Instances dialog box are instances for which they are defined as Manager.

3. Permit Workflow to Access all Entities & Data

- If these users are defined as the Workflow System Execution Permissions user of a workflow instance (which is either manually started by some other user or triggered by an Alert of which this user is not the owner), then they require specific permission for each entity or data that workflow system execution must access or update. They are viewed as if they have been denied blanket permission to access and update all entities & data granted by this security module.

Forms-only License Type

For Forms-only, users can view and update forms. All other main modules are disabled (not shown). Processes and Workflows in the Guide pane are accessible, but links to other modules do not work.

Users cannot update scorecards, create or modify objects through wizards, update workbooks, etc. Users will only be able to work in the **Forms** module. Menu entries that navigate to other modules will not be available. Users are subject to regular security settings, and thus may be further restricted from reading, modifying, or administering specific objects, folders, etc.

Users will always behave as if they are denied permissions for the following three workflow security modules:

1. Start Workflow Instance

- Users cannot manually start workflows using the Start Workflow dialog box.
- If users are the alert owners of alerts whose outcome is Start workflow, then the alert triggering will fail. The error message written to the log for an alert owner that actually has deny for Start Workflow will also covers this case.
- If users are defined as the Workflow System Execution Permissions users for an Embedded workflow, then it is as if there is no Workflow System Execution Permissions user and the Embedded Workflow will not be able to start.

2. Manage Workflow Instances

- The only workflow instances that these users can see in the Workflow Instances dialog box are instances for which they are defined as Manager.

3. Permit Workflow to Access all Entities & Data

- If these users are defined as the Workflow System Execution Permissions user of a workflow instance (which is either manually started by some other user or triggered by an Alert of which this user is not the owner), then they require specific permission for each entity or data that workflow system execution must access or update. They are viewed as if they have been denied blanket permission to access and update all entities & data granted by this security module.
  - **Full-use**: Depending on the security level, the user can view and edit all end-user modules; Investor, Scorecard, Workbook, Forms, Dashboards, To-Do, Setup, Admin and Processes and Workflows in the Guide panel. Users assigned a full-use license are limited only by the regular security settings.

Notes:

- There is no special user type for Propose as it runs with an anonymous user.
- When there is a conflict between license rights and security settings, the more restrictive of the two takes precedence.

Changing the License Type

The User Wizard allows setting the user's license type.

Defining the User License Type

To define the User license type:

1) Click **Setup**. The **Setup** dialog box appears.
2) From the **Setup** drop-down list, select Users.
3) Select a user in the list and click the **Edit** tool button. The User Wizard appears.
4) In the **General** step, select the user's license from the **License Type** drop-down list.
5) Click **Finish** to save the change and close the User Wizard.

> **Note:** If the new license exceeds the permitted number of licenses, an appropriate message will appear when you click **Finish**.

The Setup module provides an additional way of changing the user's license type.

Changing the User License Type

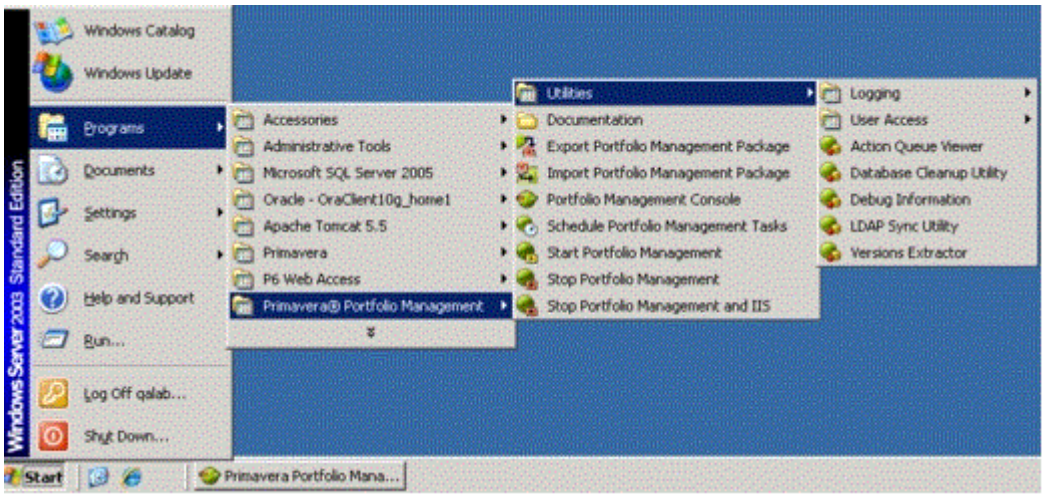
To change the User license type:

1) Click **Setup**. The **Setup** dialog box appears.
2) From the **Setup** drop-down list, select Users.
3) Select the user name(s) for which you want to change the license type.
4) Choose **License Type** from the **User** menu.
5) The **License Type** dialog box appears, listing the selected users and their existing license types. The total number of selected users appears on the bottom left.
6) From the **New License Type** drop-down list select the new license type for all the users in the list.
7) Click **OK**.

> **Note:** The **Setup User Groups** dialog box allows changing the license type for all users in a group at once.

The Start Menu and Server Utilities

PPM can be installed on a single computer (server), or in a scale-out configuration. In a scale-out configuration, different components run on different servers. For detailed information about scale-out configurations, including the definition of front-end and back-end servers, refer to the Primavera Portfolio Management Install and Upgrade Guide.



Some of the operations described below apply only to front-end, only to back-end, or to all servers. Also, some of these operations need to be performed on all the servers that participate in a scale-out environment. This is specified in a note for each operation.

PPM administrators will perform common tasks, such as using the PPM console, scheduling tasks, and so on.

Using the PPM Console

Primavera Portfolio Management Console (PPMC) is a server utility that incorporates many of the server functions within a single interface.

Accessing the Primavera Portfolio Management Console

To access the Primavera Portfolio Management Console:

1) In Windows, choose **Start > Programs > Primavera Portfolio Management > Primavera Portfolio Management Console**.

   The Primavera Portfolio Management Console appears.

Viewing PPM Version and Status

The top left of the console dialog box displays the current PPM version and build.

The top right of the console dialog box displays the status of PPM processes. The LED indicator above each process indicates its status:

- (green) - the process is running.
- (red) - the process is not running.
- (grey) - the process is not installed on this computer. This is relevant in scale-out configurations.

The processes include:

- **PPM**: a status of Not Running indicates that PPM is not running. Check the Internet Information Server (IIS) services.

  Note: In scaled-out configurations, exists only on Front-End servers.

- **Functions**: a status of Not Running indicates that functions are not running. Check and run the PPM Functions service.

  Note: In scaled-out configurations, exists only on Back-End servers.

- **SMTP**: a status of Not Running indicates that mail cannot be sent from PPM. Check the Simple Mail Transfer Protocol (SMTP) service.

  Note: In scaled-out configurations, exists only on Front-End servers.

- **Watchdog**: a status of Not Running indicates that the PPM recovery mechanism (watchdog) is not running. Check the PPM Watchdog service.

> **Note:** Exists on all servers.

- **Service**: a status of Not Running indicates that the PPM periodical tasks are not performed. Check and run the PPM Service.

> **Note:** In scaled-out configurations, exists only on Back-End servers.

Stopping and Starting PPM on the server

From the console you can:

- Stop PPM
- Start PPM
- Restart PPM

Stopping PPM

The Stop button at the top right of the console dialog box shuts down PPM for all users in your organization. The button is available only when the application is running on the server.

After you confirm your choice, users can no longer access PPM.

> **Note:** In scaled-out configurations, the **Stop** button stops components only on the server it is used on. To completely shut down PPM, you need to perform this operation on all (front-end and back-end) servers.

Starting PPM

The **Start** button at the top right of the console dialog box enables all users in your organization who have PPM installed on their computer to access it. The button is available only when PPM is shut down on the server.

> **Note:** In scaled-out configurations, the Start button starts components only on the server it is used on. To completely start PPM, you need to perform this operation on **all** (front-end and back-end) servers.

Restarting PPM

The **Restart** button at the top right of the console dialog box shuts down PPM and immediately starts it up again. The button is available only when PPM is running on the server.

After you confirm your choice, all PPM services are shut down and then restarted.

> **Note:** In scaled-out configurations, the **Restart** button restarts components only on the server it is used on. To fully restart PPM, perform this operation on all (front-end and back-end) servers.

Managing Databases

The Databases tab of the console allows you to manage PPM databases.

The **Current Database** table displays information about the current PPM database. PPM works with only one database at a time.

The **Other Databases** table lists all the databases that were added to PPM. To add a database to the table, refer to ***Adding a Database*** (on page 432).

When a database is selected, its connectivity description appears in the **Description** field. Using this field, you can determine if this database can be accessed by PPM and, if PPM cannot connect to this database, the description field will specify the reason.

You can perform the following operations on the selected database:

- **Cleanup**: opens the **Data Cleanup** utility. This utility removes old data from your current database, including any number of designated old categories and sub-items. Specify a date in the **Data older than** field to remove unwanted data before that date while preserving any newer data after that date. The utility also includes options for removing sub-items by type. In the **Data Cleanup** utility, click the **Run Cleanup** button to activate the process. For guidance on using the Data Cleanup utility, refer to ***Cleaning Up Databases*** (on page 439)
- **Remove**: removes the selected database from the databases list. Note that this action does not remove the database itself from the server machine.
- **Upgrade**: upgrades the selected database to the latest version. You are strongly advised to backup the database before proceeding with this option.

  > **Note:** In scaled-out configurations, upgrade should be performed only on one server. Make sure all the other servers are stopped before performing the upgrade.

- **Report**: displays the upgrade log for the selected database.
- **Make Current Database**: replaces the database in the Current Database table, making the selected database the new current database. When you select this choice, you are requested to confirm stopping and restarting of PPM. If the selected database is an old version, it will be upgraded to the current version; however you are strongly advised to backup the database before proceeding.

  > **Notes:**
  >
  > - In scaled-out configurations, perform this on all servers, as follows:
  >   - Stop all servers, starting with the back-end server.
  >   - Perform **Make Current Database**.
  >   - Proceed with the front-end servers, performing **Make Current Database** on each, making sure to select the same database on all

servers.

- Since only one Primary Back-End server may use a given database at a time, you may receive a warning message when making a database Current. It explains that the database was previously used by a different Primary Back-End server. If you really wanted to switch the Primary Back-End server that uses this database, proceed by clicking **OK**. Otherwise, click **Cancel**.

Adding a Database

The **Add** button in the Databases tab of the console allows you to add a new or existing SQL or Oracle database to the list of PPM databases.

When you click **Add**, the Add Database dialog box appears. You can add two types of databases, SQL and Oracle.

Note: In scaled-out configurations, make sure you add the database of your choice on **all** servers. This operation must be completed on all servers before any user can access PPM. In scaled-out configurations, it is advisable **not** to check **Make this database the current PPM database**. Instead, add the database to the list of PPM databases on all servers, and then follow the procedure for **Make Current Database** above.

Adding a SQL Database

The Add Database dialog box allows adding an existing SQL database, or a new SQL database that will be created based on the information you enter.

To add a SQL database:

1) Click **Add** in the Databases tab of the console. The Add Database dialog box appears.
2) Check the **Make this database the current PPM** database box if you wish to make this database the current one.
3) In the Type field, select **SQL Server**.
4) In the Name field, enter the name of an existing database or specify a name for a new database.
5) In the Server field, enter the name of the machine on which the Database Server is running. If the Database Server is running on the current machine, type: **(local)**.
6) In the User field, enter the user name of an existing database or specify a user name for a new database.
7) In the Password field, enter the password of an existing database or specify a password for a new database. The password is limited to 14 characters.
8) Click **OK**.

Adding an Oracle Database

The Add Database dialog box allows adding an existing Oracle database. However, to add a new Oracle database you must first create a new user in Oracle, as specified below.

To add an Oracle database:

1) Click **Add** in the Databases tab of the PPC. The Add Database dialog box appears.
2) Check the **Make this database the current PPM database** box if you wish to make this database the current one.
3) In the **Type** field, select **Oracle**.
4) If you are creating a new database, click Create User. The Create User button launches the Oracle Configuration Utility that guides you through the process of creating a new Oracle user (refer to the Oracle Primavera Portfolio Management Install and Upgrade Guide).
5) Select the connection method (TNS or easy connect).
6) If you select TNS, the 'Service' field is shown.

   In the 'Service' field, enter the service connection string that you use to connect to your Oracle server.
7) If you select EZ Connect, the 'Instance' and 'Server' fields are shown.

   In the 'Instance' field, enter the instance name.

   In the 'Server' field, enter the server name.
8) In the **User** field, enter the user name of an existing database.
9) In the **Password** field, enter the password of an existing database. If you created a new database using the Oracle Configuration Utility enter the password you specified there.
10) Click **OK**.

Working with Packages

The Packages tab of the console allows you to work with PPM packages.

The dialog box lists the imported packages for the current PPM database.

> **Note:** It is not possible to modify the list of packages, or act on a package in the list.

You can perform the following operations:

- **Import** - launches the Import Package wizard. For more information refer to ***Importing a Package*** (on page 475) in Packages. Make sure all other servers are stopped while this operation is performed.
- **Export** - launches the Export Package wizard. For more information refer to ***Creating and Exporting a Package*** (on page 470) in Packages.

Scheduling Tasks

PPM has maintenance type tasks that you can run on a periodic schedule. By default, these tasks are scheduled to run according to a pre-assigned schedule. However, you can reschedule these tasks to run at times that better suit your organization's needs.

For each task, you can schedule:

- How often the task should run.
- The date and time when the next run should occur.

The Schedule Tasks dialog box lists the tasks. When you select a task, the schedule for that task, including when the task will next be run, appears to the right of the task list.

You can select multiple tasks to assign a common schedule to those selected tasks. If you select multiple tasks, the only schedule information that appears, is that which is common to all the selected tasks.

When the Schedule Tasks application starts, the schedule is checked to determine which tasks need to run.

The following table lists the default schedule for the various PPM tasks.

Task	Default schedule
Import Data	Daily at 12:02 AM
Standard Periodic Update (Portfolios)	Daily at 12:04 AM
Frequent Periodic Update (Portfolios)	Receives new default task definition from PPM
Custom Periodic Update (Portfolios)	Receives new custom task definition from PPM
Recalculate Big Table Statistics	Daily at 12:11 AM
Resolve Version Dates	Daily at 12:08 AM
Database Maintenance Daily	Daily at 12:09 AM
Active Directory Sync	Every half hour (30 minutes)
Cell History Maintenance	Daily at 12:10 AM

Log Files Maintenance	Daily at 12:05 AM
Calculations using "Today"	Daily at 12:03 AM
Audit Log Cleanup	Daily at 12:07 AM
Switch Temp Tables	Every half hour (30 minutes)
Recalculate Temp Table Statistics	Every half hour (30 minutes)
Recalculate DB statistics	Daily at 12:06 AM

Note: To access the Task Scheduler you must have read security permission on the Scheduled Tasks module. For more information, refer to ***Security*** (on page 443).

Planning the Schedule

Consider the following information when scheduling tasks:

- Maintenance tasks create a significant load on the database and server. Therefore, schedule the tasks at a time when there is not much user activity.
- Avoid scheduling these tasks during other heavy load tasks, such as database backup.
- Calculations using Today should be scheduled after midnight so that the new date is in effect. Between midnight and the time the task is scheduled, cells with functions using Today will show yesterday's value. Therefore, schedule tasks before users start accessing the system each day. These tasks should run only once every 24 hours.
- Resolve Version Dates should be scheduled after midnight.
- To bind the start of one task to the completion of another task [for example, Schedule Periodic Update (Portfolios) after Import Data], schedule them to start 1 minute apart. The PPM Service performs only one such task at a time, and will wait for the completion of Import Data before starting Periodic Update (Portfolios).
- Schedule Import Data after the psraw_ tables are populated. However, you cannot bind a task to an external batch process. If you know the time the external batch process will complete, you can schedule a task to run after that time, or you can add the command-line **psTriggerImport.exe** (with the appropriate parameter) to your external batch file.
- Schedule both Frequent and Periodic Update (Portfolios) after Import Data and calculations using Today so that the new data is used when the Dynamic portfolios are refreshed.
- Recalculating database statistics (in Oracle) is time consuming, so do not run this task too often. It is recommended to run this task once every 24 hours.

- Although there are no constraints on scheduling Log Files Maintenance and Audit Log Cleanup, it is recommended to set this task to a different schedule than the other tasks.
- It is not recommended to run Recalculate Temp Statistics more frequently than every 30 minutes.

Scheduling a Task

To schedule a task:

1) In Windows, choose **Start > Programs > Primavera Portfolio Management> Schedule PPM Tasks**.

   The **Schedule Task Login** dialog box appears.

   > **Note:** In scaled-out configurations, you can schedule a task only on the back-end server.

2) Enter your user name and password.

   The **Schedule Tasks** dialog box appears.

3) Select a task to schedule in the **Task** list.
4) Configure the task schedule using the following fields:

   Next Run: The date the task is scheduled to run.

   First run starts at: The time the task is scheduled to run.

   Frequency: Enter a number and then select the time interval from the drop down list. Options are minute(s), hour(s), day(s), and week(s). For example, if you enter 1 and select Day(s), the selected task will run once a day.

   Time out after: Select the duration of the task. Options are: 1, 5, 15 or 30 minutes; 1, 3, 6 or 12 hours; or Unlimited if the task will never time out.

   Status: Enter the text to appear when the task is done.
5) (Optional) Click **Run Task Now** to immediately run the task.
6) Click **OK**.

Scheduling a Custom Periodic Update Task

To schedule a custom periodic update task for portfolios:

1) In Windows, choose **Start > Programs > Primavera Portfolio Management> Schedule PPM Tasks**.

   The **Schedule Task Login** dialog box appears.

   > **Note:** In scaled-out configurations, you can schedule a task only on the back-end server.

2) Enter your user name and password.

   The **Schedule Tasks** dialog box appears.

3) Select **Custom Periodic Update (Portfolios)** in the **Task** list and select **Add / Edit**.

   The **Custom Periodic Update** dialog box appears.

4) Select **Add** and select tasks to update in the **Task** field.

A maximum of 10 tasks can be scheduled for an update. Once created, a custom periodic update can never be deleted. It can only be edited.

5) Select when the next update is scheduled to run in the **Next Run** field.
6) Select how often each task needs to be updated in the **Frequency** field.
7) Select **Close**.

Cleaning Up Databases

The Database Cleanup Utility can be used to remove unwanted or redundant data from a Primavera Portfolio Management database. Your user must be assigned the *Cleanup database* security module to use the Database Cleanup Utility.

> **Warning**: This utility deletes data permanently from your database. Once data has been cleaned up, it cannot be recovered.

Depending on the size of the database and the amount of data selected for deletion, the cleanup process can take several hours. Oracle recommends scheduling this operation to happen during non-business hours to minimize disruption for users.

Good Practice

Oracle recommends that before using the Database Cleanup Utility, you:

- Create a backup of your database.
- Create a test environment to run the Database Cleanup Utility against a copy of your database to ensure the process runs smoothly.
- Enable the Error entry in the Registry. This registry entry will help you to track the progress of the task and troubleshoot any problems that occur by referring to the log file. The default location of the log file is C:\Program Files\Oracle\Primavera Portfolio Management\Portfolios\log.

To add the Registry entry:

1) Open the registry editor.
2) Navigate to the following location:
   `Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Oracle\Primavera Portfolio Management\Portfolios\Debug\Switches`
3) Right click in the folder, select New, and select DWORD (32 bit) Value.
4) For the name of the new DWORD value, type `Error`.
5) Double-click the Error item and in the DWORD (32 bit) Value dialog box, in the Value data field, type 1.

Cleaning Up Database Data

Before you launch the utility, you must stop all the PPMPrimavera Portfolio Management services.

> **Warning**: Data cleanup cannot be undone. Once the data has been cleaned up, it is deleted from the database and cannot be retrieved.

To clean up the database:

1) From the **Start** menu, select **Programs**, then **Primavera Portfolio Management**, then **Database Cleanup Utility**.
2) Log into the utility.

You must log in as a user assigned the *Cleanup database* security module.

3) Click **Define Cleanup...**.
4) In the Data Cleanup dialog box, on the Mode list, select:
   - **Categories** to delete the category data you specify.
   - **Sub-item types** to delete the sub-item type data you specify.
   - **Duplicate values** to resolve all duplicates of data in portfolios, items, and sub-items.
5) If you selected Categories:
   a. Optionally click ... next to the Categories list to exclude categories from the clean-up process.
   b. Optionally click ... next to the Items list to exclude items and portfolios from the clean-up process.
   c. Optionally select a date if you want to delete only categories data older than that date.
6) If you selected Sub-item types:
   a. Optionally click ... next to the Sub-item types list to exclude data types from the clean-up process.
   b. Optionally click ... next to the Items list to exclude items and portfolios from the clean-up process.
   c. Optionally select a date if you want to delete only sub-item type data older than that date.
7) Refer to the Details field to check what data will be cleaned up and how much space will become available as a result of the cleanup.
8) Click **Run Cleanup**.

> **Note**: you can click the Stop button on the progress bar to stop the process at any point. Database integrity will be maintained, however any data that has already been deleted cannot be retrieved.

9) When the Database Cleanup Utility completes, it will report the result of the process, as either Success or Failure.

   If the process fails, the data that has already been deleted will be irretrievable and the database integrity might be compromised. You can restore your database from a backup to try again.

Starting PPM

Start the application on the server to enable all users in your organization that have PPM installed on their computer to access PPM.

To start the application on the server:

1) Choose **Start > Programs > Primavera Portfolio Management > Start Portfolio Management**.

   After you confirm your choice, PPM Services will be activated.

Note: In scaled-out configurations, this starts components only on the server it is used on. To completely start PPM, you need to perform this operation on **all** (front-end and back-end) servers. Start with the back-end server and then proceed with the front-end server(s).

Stopping PPM

To shut down PPM for all users in your organization:

1) Choose **Start > Programs > Primavera Portfolio Management > Stop Portfolio Management**.

   After you confirm your choice, users cannot access the application.

Note: In scaled-out configurations, this stops components only on the server it is used on. To completely start PPM, perform this operation on **all** (front-end and back-end) servers. Start with the front-end server(s) and then proceed with the back-end server.

Stopping PPM and IIS

To shut down the Internet Information Server (IIS) and PPM Service for all users in your organization:

1) Choose **Start > Programs > Primavera Portfolio Management > Stop IIS and Portfolio Management**.

   After you confirm your choice, users cannot access the application or any other service that runs using the IIS on the same server.

Note: In scaled-out configurations, this stops components only on the server it is used on. To completely stop PPM, you need to perform this operation on **all** (front-end and back-end) servers. Start with the front-end server(s) and then proceed with the back-end server.

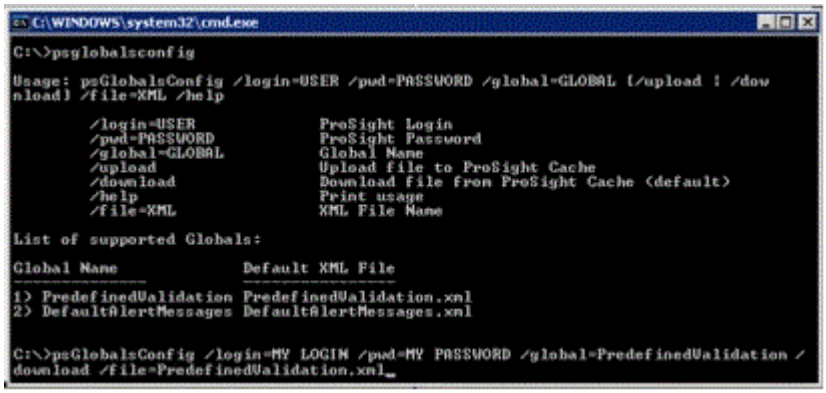
Changing Global Configurations

It is possible to change global configurations by exchanging the XML file used by PPM to set these defaults.

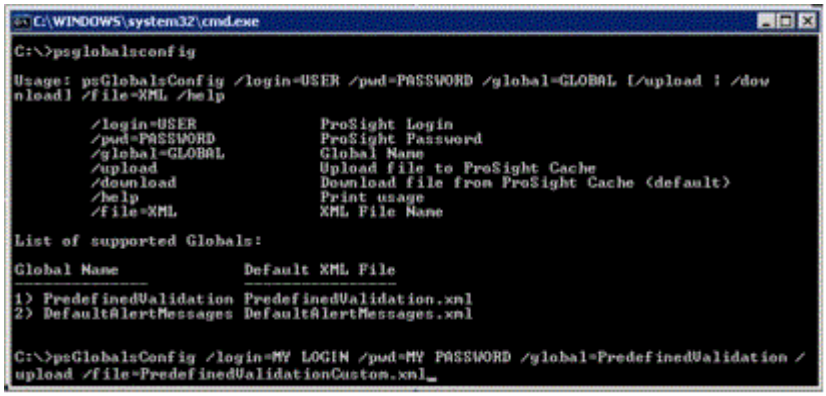
To change global configurations

1) Open a command line by choosing **Run...** from the **Start** menu in Microsoft Windows.
2) Type cmd in the **Open** field and click **OK**.

3) In the command window type psGlobalsConfig to open the psGlobalsConfig utility.



4) There are two global XML files-one for defining the default validation parameters and the other for defining the default alert message. To modify either of these files, you first need to download them. Follow the help text to see the correct syntax for downloading. For example, if you want to change the predefined validation file, enter PredefinedValidation as the file you want to download.
5) After you download the file you can edit it using standard DOS tools.
6) To upload the file, follow the same syntax as before, but now use the word upload and the new file name as shown in the following example:



Security

PPM has a complete set of capabilities to support security, access, and visibility.

Security makes sense for both the organization and the end-user. For the organization, having security means protecting data (not everyone should see the financial numbers) and objects (not everyone should be able to manipulate the value-lists). For the individual user, having security is a means to filter the vast amounts of information that is irrelevant to you. Instead, you have access only to what pertains to you and your work. The data is organized in hierarchies in a logical way that clearly presents the tasks you need to perform, and the objects you need for that task.

Access and visibility settings not only secure the PPM application, they make it easier to use the entire system. Access and visibility can be controlled for any module, application, or object in the system, including those on the server. Based on your permissions, you view a filtered set of modules and trees for a selected object.

Hierarchies support the process of applying and managing system security. The hierarchical storage of objects enables you to assign permissions to several high level objects, and then propagate those settings to any object down the hierarchy. This process saves time, while providing a systemized and logical approach for dealing with security issues in a complex enterprise environment.

Objects may appear in multiple containers (folders or portfolios). This allows information to be shared by different processes. However, each object has a single home folder. All other instances of that object are referenced objects. A red dot next to an object's icon ( ) indicates that the active folder is the object's home folder.

By default, all created objects inherit their security settings from their home folder. Security settings are propagated down to lower objects in the hierarchy.

There are two rules for determining security settings:

- **Distance** - An object may have BOTH inherited permissions AND permissions defined explicitly on the object at the same time. Permissions defined on the object override permissions defined further away. The distance rule states that permissions closer to the object override those further removed from the object.
- **Weight** - Security permissions can be assigned by groups. The weight rule says that all members of a group - All (which is a special group), Roles, Users, and User Groups have the same weight.

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What Can Be Secured?

The following PPM components can be secured:

- **Data**: All data (cells) get their security from items and portfolios or from categories. Data security can also be defined at the cell level.
- **Objects**: all properties of objects can be secured. You can set security in the security tab in the object's wizard, and security may be inherited from the object's home folder/portfolio.
- **Components**: components get their security settings from other objects. Some components can have their own additional security properties settings (for example, deliverables), while others only inherit their security from other objects (for example, versions). The following components can be secured:
  - Workbooks:

    Dependencies, item **life-cycles**, and item **phases** inherit their security from the item's properties permissions.

    Links and **contacts** inherit from items' workbook permissions, but do not have their own security tab.

    Sub-items, deliverables, **action items**, and **documents** inherit the item's workbook permissions, and have their own security tab. Security for a sub-item is determined by the security settings of the manager of the item or portfolio in which the sub-item is found and not by the manager of the sub-item itself.
  - Portfolios:

    Versions, **goals**, and **snapshots** inherit their security from portfolio properties permissions.
  - Forms and Dashboards:

    Transfer tools inherit their security from the form or dashboard tab in which it is defined.
  - **Functions**: users get access to Functions from the category.

Operations that access data in the system, such as running functions, running queries, or importing packages, are also secured. To run such operations, you need appropriate security permissions. By default, such operations access data in the system with the same security permissions as the user who runs them. If you are running an operation and your permissions are not appropriate for the task, you will want to limit or expand the operation's access to data. To do so, you can use the login name and password of a user that has the desired permissions.

Some operations can be set and then run automatically when a system or scheduled event triggers them. Such operations also run with the permissions of the user who sets them, or the permissions of someone who the user specified.

System configuration data is listed in the Admin dialog box. You can secure system configuration data by restricting who can access the Admin dialog box.

How is the System Secured?

The basic assumption of the PPM security model is to view/modify an object, you need explicit permission.

You can define permissions as follows:

- Allow
- Deny
- Do Nothing

Security Setting Rules

By default, everything in the system is denied. Therefore, if no permission is granted, you do not have access to anything. To view or modify an object, you must be granted permission.

An object inherits its security from its home folder. By default all created objects inherit their security settings. Portfolios and folders, propagate two sets of security properties.

These permissions propagate as follows:

- Sub-containers (portfolios or folders) inherit both the containers and objects set of permissions.
- Objects inherit only the object security.

Permissions

Any object may have both inherited permissions and explicitly defined permissions. Permissions gain strength the closer they are to the object; explicitly defined permissions override inherited permissions.

Permissions are defined for a single user, a group of users, or a role.

Permissions Priority

The Allow permission overrides the Do Nothing (when neither Allow nor Deny is checked) permission. The Deny permission overrides the Allow permission. For example, according to the following figure:

For example, say you allow the Read & View permission on an object, deny the Admin permission on that same object, and leave the Edit, Remove, and Create permissions unspecified. With this configuration—

- You have Read & View permission on this object. You can view and read this object unless it is denied higher up in the hierarchy.
- You do not have Edit permission on this object. You cannot edit this object unless you are given the Edit permission elsewhere.
- You do not have Remove permission on this object. You cannot remove this object unless you are given the Remove permission elsewhere.
- You do not have Create permission on this object. You cannot create objects here unless you are given the Create permission elsewhere.
- You do not have Admin permission on this object. You cannot perform as Admin on the object even if you are given Admin permission is allowed higher up in the hierarchy.

General Permissions

In the **Security Settings** dialog box, define the following general permissions:

- **Read &View**: the right to view the existence of the object and read its properties, including Security Properties.
  - There are three types of objects in the system:
  - **Folders, Items, Portfolios and Modules**: On these objects it is possible to **Deny** Read & View and the object will then be hidden from a specific user's categories.
  - **Categories**: It is possible to use **Deny** Read & View on a category, but this will not hide it. Instead it will deny access to some sensitive category properties such as the function definition. Note that even if you place a category in a folder which is itself hidden, users with access to, for example, a scorecard which includes that category will be able to view the category.
  - **All other objects**: On all other objects it is not possible to **Deny** the Read & View right. Instead, these objects can be hidden by placing them in a folder which is itself hidden from the user.
- **Edit** - the right to edit the properties of the Object (excluding Security Properties).
- **Remove** - the right to delete the Object.
- **Create** - the right to create new Objects in a given Container.
- **Admin**: the right to read and edit Security Properties (and not any other properties or data) of the object.

Data Permissions

In the **Security Settings** dialog box, define the following data permissions associated with the object (if applicable; relevant for portfolios, items, and categories):

- **Read Data**: the right to read data associated with the object.
- **Edit Past Data**: the right to edit **past** data associated with the object.
- **Edit Current Data**: the right to edit **current** data associated with the object.
- **Edit Future Data**: the right to edit **future** data associated with the object.

- **Admin Data**: the right to read and edit security properties of data associated with the object, but not the data itself.

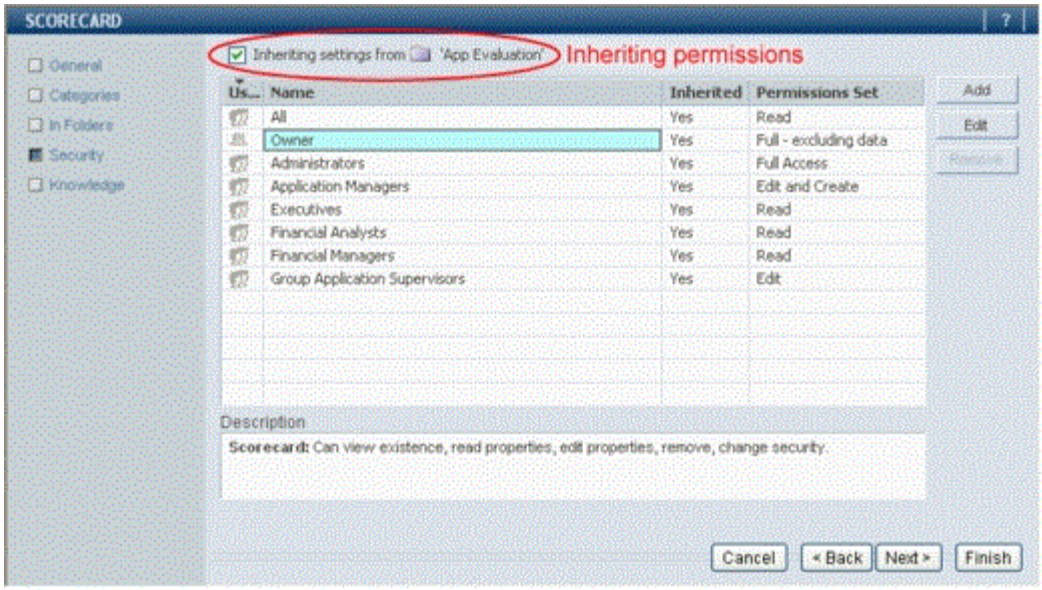
Sub-Item, Deliverable, Action Item, Link, Contact, and Document Permissions

In the **Security Settings** dialog box, define the following sub-item, deliverable, action item, link, contact, and document permissions (if applicable):

- **View**: the right to view the existence of workbook items associated with the object.
- **Read**: the right to read workbook items associated with the object.
- **Create**: the right to create new workbook items associated with the object.
- **Edit**: the right to edit workbook items associated with the object.
- **Remove**: the right to delete workbook items associated with the object.
- **Admin**: the right to read and edit security properties of workbook items associated with the object.

Hierarchies and Inheritance

Objects are organized in hierarchies and, by default, are set to inherit their security from their home folder. As shown in the figure below, in the Security tab of the wizard, the **Inheriting settings from** option is selected by default.



Setting security on a root folder propagates the security settings for all objects in the hierarchy. The security of all items, portfolios, their workbook objects, and data can be set in the root folder of the items and portfolios hierarchy.

Although an object may reside in multiple folders/portfolios, each object has only one set of permissions, (refer to ***Hierarchies Overview*** (on page 211)). This set of permissions is either defined specifically for the object and/or is inherited from its home folder/portfolio. By default, all new objects inherit their security setting from their home folder/portfolio.

Defining a Security Policy

All setup root folders inherit their security settings from the system security policy. Therefore, you can define a security policy for the entire system which will propagate to all objects and modules.

To define a security policy for the system:

1) From any module, click the **Setup** link.
   The **Setup** module appears.
2) From the **Setup** menu, choose **System Security Policy**.
   The **System Security Policy** dialog box appears.
3) Define the security for all inheriting objects in the system. For more information about setting permissions, refer to ***Adding a Security Row*** (on page 450) and ***Editing a Security Row*** (on page 451).

After defining a security policy for the entire PPM system you can modify it for a specific hierarchy by editing its root.

Defining a Security Policy on a Root Folder

1) From the Menu Bar in any of the modules, click **Setup**. The Setup module appears.
2) From the Setup menu in the Setup module, select the root folder's **Security Policy**. For example, for the Maps root folder, select Maps Security Policy.
   The root folder's Security Policy dialog box is displayed.
3) Define the security for all inheriting objects in the root folder. For more information about setting permissions, refer to ***Adding a Security Row*** (on page 450) and ***Editing a Security Row*** (on page 451).

Inheriting from the Home Folder/Portfolio

Objects always inherit their security settings from their home folder/portfolio. Objects **do not** inherit security settings from other folders/portfolios to which they are added.

If an object's inheritance option is unselected, the object is still connected to its home portfolio even though it does not inherit the security setting from the home folder/portfolio. When the object's inheritance option is reselected, the object inherits the security settings from the home folder once again. New objects are set to inherit their security settings from their home folder. This setting may be changed during the creation process or at any other time.

> **Note:** When creating new objects in places other than the setup module, the home folder is selected automatically by the system. To view or change the automatically-selected home folder, go to the In Folders step of the object's wizard.

To change an object's home folder/portfolio, you must have Admin permission for the object since you are changing the object's security permissions. Refer to ***Changing an Object's Home Folder*** (on page 218) in Organizing Hierarchies.

Security Settings on Objects

Security settings for every object can be viewed and configured in the security step of that object's wizard.

An object's security is defined in security rows. Each security row defines security for a single user, user group, or role. Inherited security rows cannot be edited in the object. Their icon appears grayed out, but you can view the permissions that are defined.

The security step in each object's wizard lets you define if the object will inherit its security settings, and allows setting permissions for the object's security rows.

Regardless of the inheriting status, you can always add new (local) security rows. You can even define local rows for the users, groups, or roles for which the object already inherits security rows. Local security rows appear with a regular icon and they can be edited.

You can also set security rows for deliverables, action items, and documents.

Links have owners and behave according to the permissions defined, but you cannot add or change security rows for links.

Stopping Inheritance

> **Note:** This is an advanced option and should be used with caution!

You can add security rows on objects without stopping the inheritance. For example, map1 inherits a security row with Edit permission for the R&D group. In map1 properties, you add a new security row that grants R&D with Admin permission. Now R&D has combined permissions of both Edit and Admin.

However, it may be desirable to start a new inheritance string. For example, R&D admin wants to have full control of all security settings for R&D portfolios and items. The topmost portfolio in the R&D tree is portfolio R&D. In this case, you should stop inheritance for portfolio R&D, and define the security entirely on the portfolio.

In the scenario described above, all other portfolios, items, deliverables, documents, and data of R&D still continue to inherit their security settings from R&D (directly or indirectly), but changes made on the items and portfolios root folder have no effect on them.

To stop security inheritance:

1) In the Security tab of the Wizard, uncheck the **Inheriting settings from** checkbox.
   A dialog box appears.
2) To copy all security rows that were previously inherited, click **Copy**. To remove all inherited permissions, click **Remove**.

Resetting Permissions

> **Note:** This is an advanced option. Exercise extreme care when resetting permissions.

Sometimes a security implementation needs to be reset. You can reset the security on all containers, or on both containers and objects. When you reset permissions, you undo all permissions you may have previously set in child items or portfolios.

To enable these options, you must have the following permissions:

- Admin permission on the folder/portfolio.
- Permission in the security module to reset permissions on all child objects.

To reset security permissions:

1) In the Security tab of the objects wizard, check one of the following reset options:
   - Reset and enable propagating of permissions to child portfolios/folders.
   - Reset and enable propagating of permissions to child items/objects.
2) Click **Finish**.

Who Receives Permissions?

Permissions to any part of the system are granted in multiple layers as follows:

- **Users**: any user can explicitly get permissions on objects.
- **User groups**: any defined user group can explicitly get permissions on objects. This permission propagates to all users included in this group.
- **Roles**: permissions can be granted for object's owners. Each object has an owner, who is its creator. Items and Portfolios have a manager instead of an owner. Owners can be changed. Changing the owner requires Admin permission, because it changes the security settings for the object by giving the permissions derived from the owner role to a different user. Owners can get permissions as a role, providing control for objects' creators without giving them additional and unwanted power.
- **ALL**: a virtual group called "All" automatically includes all users. Use it to set permissions that apply to all users, including users that will be added to the system and do not yet exist.

> **Note:** It is recommended to assign security settings for the All group with care.

Setting Permissions

Setting permissions involves adding, editing, or removing a security row.

Adding a Security Row

To add a security row:

1) In the Security tab of the wizard, click **Add**. The Add User dialog box appears.

2) In the Add User dialog box, select users, user groups, and roles. To select multiple continuous items, press the **Shift** key as you select the items. To select multiple non-continuous items, press the **Ctrl** key as you select the items.
3) From the Permission drop-down list, select one of the predefined permission sets.
4) Click **Edit** to edit the permissions in the selected predefined permission set for the selected user. The Security Settings dialog box is displayed. Refer to ***Defining Security Permissions in the Security Settings Dialog Box*** (on page 451).
5) Edit the security settings and click **OK**.

Editing a Security Row

You can edit permissions for a security row in two ways:

- In the Security Settings dialog box.
- Using permission sets.

Defining Security Permissions in the Security Settings Dialog Box

1) In the Security tab of the wizard, select a security row.

> **Note:** The security of an inherited security row can only be viewed, not edited.

2) Click **Edit**. The Security Settings dialog box appears.

> **Note:** The amount of permission options available will vary depending on what you are setting permission for (an object, portfolio, category, etc.).

3) In the Security Settings dialog box, edit the security permissions.
4) Click **OK**.

Defining Security Permissions using Permission Sets

Permission sets are predefined sets that define the status of all permission checkboxes in a single object. The permission set description describes the status of the permissions in this set.

You can define security using permission sets in the wizard; refer to the procedure below. You can also define security settings in the Add User dialog box; refer to ***Adding a Security Row*** (on page 450).

To define security using permissions sets:

1) In the Security step of the wizard, double-click the Permissions Set cell of the desired security row. A drop-down list appears with the list of permissions set options.
2) In order to assign a predefined permission set to the selected security row, select the desired permission set from the drop-down list.
3) You can click **Add** to add additional security row (users/user groups) and assign a permissions set to it.
4) Click **Edit** to edit the permissions set of the selected security row (users/user groups).

If you change the default permissions set, its name will appear in the list as "Custom".

5) Click **Finish**.

Removing Security Rows

To remove a security row:

1) In the Security tab of the wizard, select a security row.
2) Click **Remove**. The security row is removed from the wizard.

Viewing User Permissions

You can view permissions for a specific user in relation to a selected object or container. The permissions you view are the user's permissions set on the selected object or container.

1) From the Menu bar in any of the modules, click **Setup**. The Setup screen appears.
2) From the **Setup** drop-down list, select the system component (Scorecards, Value Lists, Alerts, etc.) for which you want to view the user permissions. Every system component has a corresponding menu of the same name on the menu bar. For example, if you picked Scorecards, the **Setup** dialog box will display the scorecards folder hierarchy and a menu called **Scorecard**.
3) From the menu named for the system component you selected, choose **User Permissions**. The **User Permissions** dialog box appears.

Setting Data Security

Data has a set of permissions that can be different from the object's permission properties. An administrator may have full access to objects, but not have Read permissions on the data.

When defining security permissions for users in the items and portfolios hierarchy, data security should be defined as well. Data security is defined either when selecting a permission set or when defining security in the Security Settings dialog box. For example, when selecting the Read permission set, you get Read permission on the item, its workbook objects, and its data.

There are two ways to define data security settings. Items and Portfolios can define the data security (for the category).

However, you can set categories to define data permissions. When you define security permissions for users in a category, you define if the category or its items define the data security.

By default, items and portfolios define data security.

In categories that define the data security, data security is defined either when selecting a permission set, or in the **Security Settings** dialog box. For example, if you select the Read permissions set, you get Read permission on both the category and data.

Defining Data Security Using Items and Portfolios

By setting the data security through items and portfolios, you have read permission on an item's data, and you can read all the data of the item in all categories that were set as Items and portfolios define the data security.

To set items and portfolios to define data security:

1) In the **Security** step of the Category wizard, click the arrow next to Category defines the data security (for all items and Portfolios).
2) From the drop-down list, click **Items and Portfolios define the data security** (for this category).

Defining Data Security Using Categories

By setting the data security through categories, you have Read permission on the data in a category, and you can read all the data in the category regardless of the item, provided you have Read & View permission on the item.

1) In the **Security** step of the Category Wizard, click the arrow next to Items and Portfolios define the data security (for this category).
2) From the drop-down list, click **Category defines the data security** (for all Items and Portfolios).

Sub-item Security

The sub-item entity inherits its security settings from the workbook data section of each portfolio or item in which it exists.

- If the category under which data is collected is set to Items/Portfolios define data security then the data in sub-items is secured by the set of data security rights on the associated portfolio or item.
- If the category under which data is collected is set to Category defines data security then the data in sub-items is secured by the set of data security rights for the category.

Resolving Security on a Cell

For any cell, the PPM application resolves security conflicts as follows:

- Check if the category or item defines the data security.
- Check if the cell inherits, and set the category or item security.

Overriding Security on a Cell

Just as with objects, cells also have a **Security** step in the Cell wizard. In the **Security** step you can:

- Add additional security rows without stopping inheritance.
- Stop inheritance and select to copy security or not.

Note: You must have Admin permission on the cell.

Locking Data

Data cells cannot be hidden by removing them as you remove objects (refer to ***Removing Objects and Folders*** (on page 216) in Organizing Hierarchies). Data cells are visible and their existence is obvious. If you do not have permission to view the data, a lock icon appears instead of the values.

Default Security Settings

The following set of rules is used to define the default security settings for a new database:

- Default settings are restricted. If you want to define a more open system, you must add more permissions.
- Avoid using "Deny".
- Avoid stopping inheritance. This removes security control from the administrators.
- Avoid using "ALL: Allow". This causes the use of either `stop inheriting' or `deny' down the hierarchy.
- Only one administrator's group is initially assumed.
- Managers do not get any permissions in a categories policy.
- Inheritance is stopped in modules/server tools and add-ons for better control.

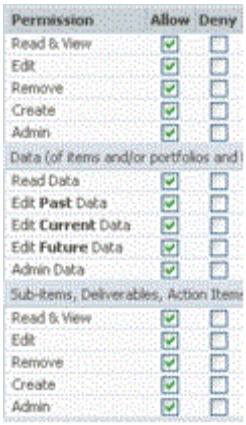
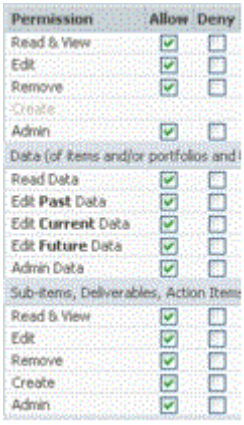
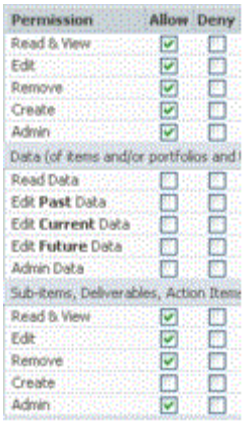
Basic Security Settings

In the default security settings, permissions are granted to the following:

- **Administrators**: a user group that gets administrative permissions. This group is created automatically in every installation.
- **Managers**: a role. Each item and portfolio has a single manager. Managers are also relevant in the categories hierarchy.
- **Owners**: a role. Any object has an owner except for items and portfolios. Owners are also relevant in the items hierarchy because it grants permissions to the workbook objects' owners.

Each of these set names has a default permission set that applies in most of the default security settings. The following table provides a detailed description of those permission sets.

Set Name	Permission Set Name	Folders and Portfolios Tab	Objects and Items Tab

Administrators	Administrative access		
Managers	Full Access		
Owners	Full - excluding data		

Default Security Settings for a New Database

The following table lists the default security settings for an empty database installation. This includes the Security Policy and other hierarchy policies.

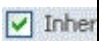
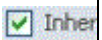
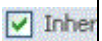
Object	Inheritance status	Inherited security rows	Security rows defined on object:	Security on object (summary)

		Group/role: permission set	Group/role: permission set	Group/role: permission set
System security policy	-	-	**Administrators** - Administrative access **Owners** - Full - excluding data	**Administrators** - Administrative access **Owners** - Full - excluding data
Security Policies				
All objects' security policy except the ones specifically defined here		**Administrators** - Administrative access **Owners** - Full - excluding data		**Administrators** - Administrative access **Owners** - Full - excluding data
Items & Portfolios security policy		**Administrators** - Administrative access **Owners** - Full - excluding data	**Managers** - Full Access	**Administrators** - Administrative access **Owners** - Full - excluding data **Managers** - Full Access
Users security policy			**Administrators** - Administrative access **Owners**: Edit	**Administrators** - Administrative access **Owners**: Edit
User groups security policy			**Administrators** - Administrative access **Owners** - Full - excluding data	**Administrators** - Administrative access **Owners** - Full - excluding data
Modules security policy			**Administrators** - Custom (Admin permission only)	**Administrators** - Custom (Admin permission only)

The option, Stop inheritance, is used primarily to protect the modules, users, and user groups from someone using the ALL option in the security policy.

Folders

The following table lists the folders hierarchy security requirements.

Object	Inheritance status	Inherited security rows Group/role: permission set	Security rows defined on object: Group/role: permission set	Security on object (summary) Group/role: permission set
Client modules folder		**Administrators** - Custom (Admin permission only)	**Administrators** - Read	**Administrators** - Custom (Admin) **Administrators** - Read Total: Read + Admin
Security modules folder		**Administrators** - Custom (Admin permission only)		**Administrators** - Custom (Admin permission only)
Sever tools folder		**Administrators** - Custom (Admin permission only)	**Administrators** - Read	**Administrators** - Custom (Admin) **Administrators** - Read Total: Read + Admin
Add-on Folder		**Administrators** - Custom (Admin permission only)		**Administrators** - Custom (Admin permission only)

Modules

The following table lists the modules hierarchy security requirements.

Object	Inheritance status	Inherited security rows Group/role: permission set	Security rows defined on object: Group/role: permission set	Security on object (summary) Group/role: permission set
Client Modules				
Investor, Scorecard, Workbook, Form, To-Do, Forum, Setup		**Administrators** - Full access	**All** - Read	**Administrators** - Full access All - Read

Admin, Knowledge Portal	Inhe	**Administrators** - Full access		**Administrators** - Full access
Security Modules				
Always have admin permission on all objects	Inhe	**Administrators** - Custom (Admin permission only)		**Administrators** - Custom (Admin)
Create Import Categories	Inhe	**Administrators** - Custom (Admin permission only)	**Administrators** - Read	**Administrators** - Custom (Admin) **Administrators** - Read
Create Public Snapshots	Inhe	**Administrators** - Custom (Admin permission only)		**Administrators** - Custom (Admin)
Permit Functions to access all data	Inhe	**Administrators** - Custom (Admin permission only)	**All** - Read	**Administrators** - Custom (Admin) All - Read
Reset Permissions on all child objects	Inhe	**Administrators** - Custom (Admin permission only)	**Administrators** - Read	**Administrators** - Custom (Admin) **Administrators** - Read
Server Tools				
All tools	Inhe	**Administrators** - Full access		**Administrators** - Full access
Add-on modules				
Optimize	Inhe	**Administrators** - Custom (Admin permission only)		**Administrators** - Custom (Admin)

Setting Module Security

This section describes how to set security permissions for modules, tasks, and tools. The security permissions define which users have access to use and/or change security permissions in modules, tasks, and tools. When a user does not have security permission for a particular module, that module will not appear in the user interface for that user. For example, if a user does not have security permission for Forms, there will not be a Forms icon in the Menu bar, and there will not be a Forms option in the Show menu of the Setup module.

Displaying the Module Security Dialog box

The first step in working with module security permissions is to display the **Modules** Dialog box.

1) From any module, click the **Setup** link to open the **Setup** dialog box.
2) From the **Setup** drop-down list, select Modules. The **Modules** dialog box appears.
3) Select a module folder to display its modules in a list by **Name** and **Description**.
4) Select the name of the module for which you want to set security permissions and click **Edit**. The **Module** dialog box appears.

Each row in the **Module** dialog box represents either a user or a user group. By default, most module security permissions are Full Access for Administrators and Read for All users. Read permission in modules gives the user full permission to use the module, but not to change security permissions in the module. Full Access permission in modules gives the user permission to use the module and to change security permissions in the module.

Adding User Rows

You can modify a particular user's security permissions by adding a row for that user. For example, if the user group All has access to the module, but you want to deny access to a particular user, you can add a row for that user and give the user a No Access setting.

1) In the **Module** dialog box, click **Add**. The **Add User** dialog box appears.
2) In the **Name** list, select the name of the user or user group you want to add.

> **Note**: You can search for users or groups in the Search field. The list of users and groups displayed automatically filters as you type.

3) In the **Permission** field drop-down list, select the permission you want to assign to the user. In the context of module security, there are only three types of permissions: permission to use the module, permission to use the module and change security permissions in the module, and no permission to use the module or change security permissions in the module. The following permissions are available:
   - **Read**: Permission to use the module.
   - **Edit**: Permission to use the module.
   - **Edit and Create**: Permission to use the module.
   - **Edit, Remove, Create**: Permission to use the module.

- **Full Access**: Permission to use the module and change security permissions.
- **Full - excluding data**: Permission to use the module and change security permissions.
- **Administrative Access**: Permission to use the module and change security permissions.
- **No Access**: No permission to use the module or change security permissions.

> **Note:** Even when **No Access** permission is selected, the user will still be able to view the module, except for the following module types: item, portfolio, folder, category, or module.

4) To customize the user's permissions, select a permission and click **Edit**. The Security Settings dialog box appears.
5) Check or clear the appropriate boxes in the **Allow** and **Deny** columns. Read & View lets the user use the module. Admin lets the user change security permissions in the module. Click **OK** to save the settings.
6) Click **OK**. The new user is added to the **Module** dialog box.

> **Note:** The new user's security permissions override whatever permissions the new user might have had as part of a group listed in the **Module** dialog box.

Editing User Rows

You can edit the security permissions, including default settings, of a user or group listed in the **Module** dialog box.

If the security permissions of a user or user group are inherited, you cannot edit these settings in the module. If you want to change inherited settings, you must either change the settings in the parent folder or you must clear the **Inheriting settings from** check box in the **Module** dialog box.

1) In the **Module** dialog box, select a user or user group and click **Edit**. The **Security Settings** dialog box appears.
2) Select or clear the appropriate boxes in the **Allow** and **Deny** columns. Read & View lets the user use the module. Admin lets the user change permissions in the module.
3) Click **OK** to save changes and close the **Security Settings** dialog box.
4) Click **OK** to save changes and close the **Module** dialog box.

Module Descriptions

This section describes the modules for which you can set security permissions.

Add-Ons

Third parties can create add-on modules that can be integrated into PPM. The Add-Ons folder contains any add-on modules that have already been integrated. Select a module and click **Edit** to define its security permissions.

Client Modules

Client modules include the basic modules. By default, administrators have Full Access to all client modules and all other users have Read access to all client modules except Admin.

You can change the security permissions for the following client modules:

- **Investor** - The Investor module lets you create and work with investor maps - multi-dimensional graph views that enable you to visually portray your technology investment strategy and draw attention to areas of risk. For more information, refer to ***Investor Module Overview*** (on page 223).
- **Scorecard** - Scorecards are tables that enable you to track and manage the performance of items and portfolios according to predefined lists of categories. For more information, refer to ***Scorecard Module Overview*** (on page 248).
- **Workbook** - Management workbooks provide you with a detailed view of business operations at the item or portfolio level. For more information, refer to ***Workbook Module Overview*** (on page 278).
- **Forms** - Forms let you enter or report the data of one specific item or portfolio at a time. This data is then integrated into "big picture" formats that provide you with an overall view of your portfolio, such as Investor maps and Scorecards. For more information, refer to ***Forms Module Overview*** (on page 294).
- **Dashboards** - Dashboards are collections of graphs that are composed and customized in order to track and assess the status of items or portfolios. For more information, refer to refer to ***Dashboards Module Overview*** (on page 317).
- **To-Do** - The To-Do module provides you with a summary of all the management actions that you are responsible for or have requested. For more information, refer to ***To-Do Module Overview*** (on page 329).
- **Setup** - The Setup module lets you build and view hierarchies. Use the Setup wizards to create components and configure them for use in other modules. For more information, refer to ***Hierarchies Overview*** (on page 211).
- **Admin** - The Admin module provides system administrators with access to server status and properties, system default settings, and system configuration reports. For more information, refer to ***Administration*** (on page 403).

Security Modules

Security modules include the following special tasks and features:

- **Alert Scope may include the entire system**: This option allows the creation of alerts for all items and/or all portfolios in the entire system. Designated for configurators and/or special users who need to create such alerts. When this security module is enabled, the [Entire System] option appears in the **Scope** field of the alert.
- **Allow/deny users to create Items through Menus:** This option determines the users who can create items through menus.
- **Allow/deny users to override cells**: This option determines the users who can override cells in a scorecard. Users who are denied overriding cells, have read-only permissions.

> **Note**: To override cells, users must also have the *Edit data* permission at the category security level and the module security level.

- **Always have admin permission on all objects**: This feature allows users to change the security settings for all elements in the system. Its purpose is to allow you to reset security permissions in the event that access is accidentally denied. By default, a user with Admin permission can provide View & Read permission to a user which will allow them access to this feature. Enabling this feature puts the user in a special mode which allows the user to change the security settings of all elements in the system without being able to access data.

  This module is very different from other modules. Other modules give you additional permissions, for example, you can now access the investor module. With this module you have access to ALL objects in PPM, but ONLY with View & read and Admin permissions. Also, this module causes you to enter a special mode. All your permissions change. You now have a completely new set of permissions. You get view & read permissions for all objects, but you cannot edit even your own items.

  This module was created to allow administrators to fix security lockout situations in which a user has denied access to objects in the system. It should be used only when a rescue operation is required. For example, if someone mistakenly blocked access to all items and portfolios by denying access to All in the items & portfolios security policy, then the admin can temporarily grant a user (or themselves) the Always have admin permission on all objects permission module.

  Since the user then has Admin permission on the items & portfolios security policy, the user (or the admin) is then able to change the properties of the items & portfolios security policy by removing the permission on the All security row. Since, in this mode, the user (or admin) has no edit rights to any objects, the user (or the admin) is forced to remove himself from the Always have admin permission on all objects module, reverting security permissions to the regular set of permissions.
- **Create Alerts**: Determines who is allowed to create alerts.
- **Create Import Categories**: This feature allows users to create categories for imported data. By default, administrators have Full Access permission to use this feature. No other user or group has a default permission to use this feature.
- **Create Public Snapshots**: Snapshots is a feature of the Investor module that allows you to take static snapshots of Investor maps at a particular point in time. A snapshot is an image of an investor map and can be saved in the **Investor** module history for future reference. Snapshots also contain data relating to the items or portfolios that are displayed in the image. Snapshots can be either public or private. A public snapshot can be viewed by all users. A private snapshot can only be viewed by the user that created the snapshot and the administrator. Only users with permission in the Create Public Snapshots module can create public snapshots. By default, administrators have Full Access permission to create public snapshots. No other user or group has a default permission to create public snapshots. For more information on snapshots, refer to refer to ***Working with Snapshots*** (on page 245) in Working with Investor Maps.
- **Paste Multiple Cells into Scorecard/Table/Dynamic List**: This feature of the Copy and Paste functionality, allows the user to paste multiple cells into a scorecard, or a table and Dynamic List, in Forms.

- **Permit Alerts to access all data**: Allows users to create category alerts even when the user does not have access to the data related to in the alert. This security module is designated for use by the configurator who creates many alerts for which she will have permission for all objects related to in the Alert (Item, Portfolio, Category, etc.) but not necessarily to the data. The Read & View permission for the item must = Allow both during definition of the alert and when the alert is fired.

  Note: Data refers only to cell data, including `Roles' which are also category cell data. It does not refer to deliverable, action item and phase field data.

- **Permit Functions to access all data**: PPM uses functions to calculate data in order to determine cell values. In order to work, the function must have access to the data. The Permit Functions to Access All Data module allows users for whom this permission is granted to create functions that can access data even if the user that creates the function cannot access this data. Without this permission, a user can only give the function security permission to access data that the user can access. By default, administrators have Full Access permission to use this feature. All other users have Read permission to use this feature. For more information on functions, refer to ***Advanced Function*** (on page 124), in Working with Categories.
- **Reset Permissions on all child objects**: Users for whom this permission is granted can reset security permissions for all child objects and items in folders and portfolios for which the user has Admin permission. For example, if someone clears the **Inheriting settings from** field for an object, an administrator with Admin permission to the object's home folder can reset the object so that it inherits its security settings from the home folder. By default, administrators have Full Access permission to use this feature. No other user or group has a default permission to use this feature.
- **Send Email or Alert messages**: Controls the ability to use **Send Page** and **Send Manager** in addition to the dispatch of alert messages whose events have been fired. If the alert owner doesn't have read permission for Send Email or Alert Messages when the event is dispatched, the alert message will not be sent out to its recipients.
- **Upload Documents**: Users for whom this permission is granted can upload documents onto the server.
- **Use Data as of control**: Users for whom this permission is granted are able to use the Data as of control to select a date or a version of the data to be displayed.
- **View Usage Reports**: Users for whom this permission is granted can open and view the Usage Report for the selected category or table.

Server Tools

The following tasks are performed through the server. By default, administrators have Full Access permission to perform these tasks. No other user has permission to perform these tasks.

- Cleanup Database
- Configure Global parameters
- Export a package
- Import a package
- Import Data

- Run periodic update
- Schedule tasks
- View Upgrade Report

Packages

A Primavera Portfolio Management (PPM) package is a collection of predefined system objects that can be added to a PPM database. Packages provide the means to place these objects in your application. These objects are configuration elements that are set up within the database for use with the system, and include categories, items, scorecards, value lists, life cycles, security permissions, etc. Each package helps you set up the various components of your PPM system. For more information on objects, refer to the relevant sections of this online help system or user guide. For more information about the package contents, refer to ***Package Content*** (on page 490).

Packages are exported from an existing PPM database. A package is always self-contained, which means that it includes all the objects that are referenced by other objects. For example, the package may include a category such as *Return on Investment (ROI)*, which is derived from other categories, such as *Expense*.

Packages are created and exported using the Export PPM Package application. Packages are imported and stored using the Import PPM Package application. Both of these Windows applications use identical dialog boxes and must be run on the PPM Backend server. They can be run from the PPM Console Packages tab (refer to ***Working with Packages*** (on page 433) in Administration), or from the Windows Start menu (refer to ***Creating and Exporting a Package*** (on page 470) and ***Importing a Package*** (on page 475)). The packages are exported from a PPM database as XML files which can then be imported into another PPM database.

To run the Export PPM Package application, you must have read permission for the `export a package' module. By default, the Admin user has export permission.

To run the Import PPM Package application, you must have Read permission for the `import a package' module. By default, the Admin user has import permission.

You can view a list of previously imported packages on the PPM Console Packages tab (refer to ***Working with Packages*** (on page 433) in Administration), or on the Admin screen of the PPM application user interface (refer to ***The Properties Tab*** (on page 408) in Administration).

The Export PPM Package and Import PPM Package applications support hierarchies and storage. In the Export PPM Package application, Portfolio objects appear in their hierarchical structure. In general, the selection of the home portfolio/folder defines the hierarchy under it, which can be imported as is.

This section describes PPM packages, and how packages are exported and imported.

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Managing Selected and Derived Objects

When you import a scorecard for example, it will not work properly in its new destination unless all of its categories are also present in the destination database. To ensure that all import operations will be successful, the Packager exports all the scorecard's categories when the scorecard is selected in the export process. Those categories are called *derived objects*. They derive from the selection of the scorecard.

The above description is only an example of many PPM objects that cannot work properly unless other objects exist. Therefore, in almost any export process, many objects that you do not *select* are *derived* and exported in the package. These derived objects maintain the integrity of the database to which it is imported.

Selected objects maintain their hierarchy when an entire branch is selected. Derived objects are exported with no hierarchy. Folders or portfolios cannot be exported as derived objects. Because derived objects are not exported with hierarchies, you cannot define their container's import method (no derived containers) and they cannot define storage.

After you select all the desired objects to export, the packager selects the necessary derived objects (for example, categories that appear within selected scorecards or forms).

You define if the selected objects are placed in the root. Derived objects are always placed in import folders.

The default replacement method for selected objects is to report conflicts for all potential replacements. The default replacement method for derived objects is not to replace anything and not to report conflicts, except value lists, where new values are appended if referenced by imported objects (for example - category functions).

Supporting Hierarchies and Storage

Hierarchies are selected in the Export process. It is possible to select an entire hierarchy, a branch in the hierarchy, or even a single object.

The packager defines the storage (home folder/home portfolio) of new objects installed by the packager (objects that do not exist in the target installation). If the home parent of the new object is imported, it remains the home parent in the target. If the packager does not include any storage for an object but does include references, it randomly defines one of its referencing parents as the object's home parent. Therefore, it is recommended that you export an entire hierarchy when it is important to maintain the object's storage, relationships, and security.

For objects that are replaced by the packager in the import process, you configure if the storage remains the same, or if it changes according to the package definition.

To better control the import process, you select the placement and replacement methods of the packager. These settings may be defined in the export process, and can be changed in the import process.

Placement Options

You define where selected objects are placed in the database to which the package is imported. Selected objects can be imported so that their parent is the hierarchy's root folder, or that their parent is a folder created during the import process. The import folder is found in the root folder.

For example, if *2.3-Planned Cost* is imported using the Root folders option, it will be placed in the root folder.

If *2.3-Planned Cost* is imported using the Import folder option, it will be placed in a folder called *Import Folder (imported)*.

Only the explicitly selected objects are placed in the root folder or in the Import Folder. The objects that are implicitly selected, remain in their original folder and are not located directly in the root or import folder. New, derived objects are always placed in the Import Folder.

For example, when you select the folder *2.3-Planned Cost* to export, the packager exports the selected folder plus the scorecards inside the folder. The folder *2.3-Planned Cost* is explicitly selected by the user. The scorecards are implicitly selected by the user.

Replacement Options

You can define replacement rules for selected objects that already exist in the database to which the package is imported. Using the packager, you define rules for the replacement of single objects and containers, and object storage options.

For more information about replacement rules, refer to ***Creating and Exporting a Package*** (on page 470).

> **Note:** Regardless of the selected replacement policy and reported conflicts, value lists are always replaced, and therefore never appear in the conflict report.

To create a package, refer to ***Creating and Exporting a Package*** (on page 470).

Replacing Single Objects

The packager issues a warning in the conflict report for any object that already exists in the target, unless you specify that no warning should be issued.

Replacing Containers

Containers are objects, and follow the same rules as described in as described in *Replacing Single Objects* (on page 467). If a container already exists in the target database, should the container's content in the packager replace the existing container's content? There are two options available. The replace option replaces the folder and its content. The append option replaces the folder and appends the content in the packager to the existing content in the folder.

Note: The packager does not remove objects from the system during the import process. Therefore, an item that should be removed in `replace' mode, is moved to the Removed folder/portfolio in the root folder.

Storing Objects

The packager stores objects as follows:

- **New selected objects** - new objects installed by the packager, which do not exist in the target installation, are stored by the packager in the root or import folder according to the user's selection.
- **New objects with home parents** - New objects, whose home parent was imported, will remain with the home parent in the target.
- **Derived objects** - new objects are stored by the packager in import folders.

Notes:

- If you wish to maintain the same storage structure in the target as in the destination, import the storage parents with their objects.
- If you wish to maintain the hierarchy's structure, you must select it, not import it as derived objects.

For objects replaced by the packager in the import process, it is possible to select if the storage will remain the same, or will change according to the package definition.

Supporting Security and Security Policies

There are several options available for exporting security and security policies.

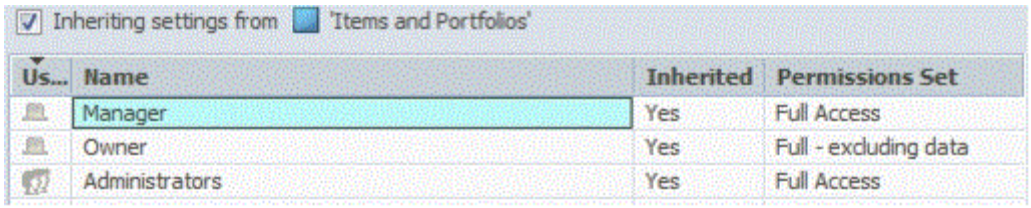
The system Security Policy defines security for the system and for all Root Folders. If you export the System Security Policy and then import the package, the security defined in the destination is replaced with the security contained in the package.

If you export the security properties of the exported objects and then import the package, you import the objects' inheritance setting and the security rows of groups and roles defined on the objects. Inherited security rows are not exported.

Usually you will want to avoid the transfer of irrelevant users from one database to another. If you need to transfer users, you have to explicitly request that security rows of single users be exported. This option controls three security properties that all avoid the transfer of users:

- **User permissions** - user security rows are exported and users are derived. (only if either of the first two checkboxes are set)
- **Owners** - the owners of all objects are maintained and all relevant users are derived.
- **Group users** - all users in User Groups are included and users are derived.

In the following example, exporting this object's security exports only its inheriting setting. Since all of its security rows are inherited, they are not exported.

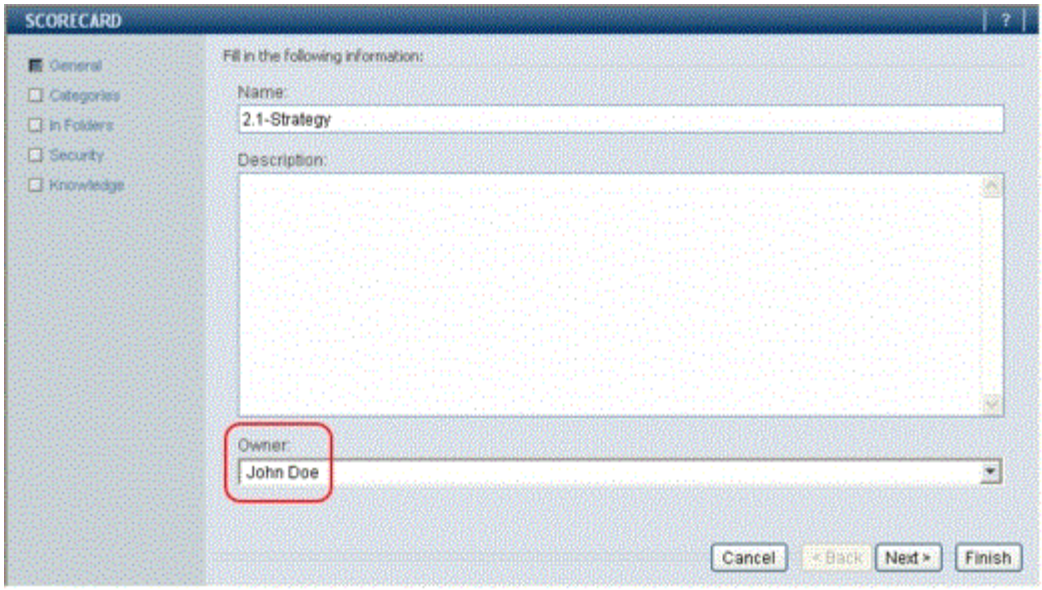


In the following example, the object's inheriting setting, and the security rows defined on the object itself, the 2 last rows, are exported.

- If you do not want to export the security rows of single users and object users, then only the Application Managers row is exported.
- If you do export the security rows of single users and object users, the John Doe row is exported and the John Doe user is derived.

In the following example, if you export the security rows of single users and objects, John Doe remains the scorecard owner, and the user "Susan Free" is derived.

If you do not export the security rows of single users and objects, Susan Free does NOT remain the scorecard owner. The user that logs in when importing the package becomes the owner of this scorecard.



Security and hierarchy maintain a very strong relationship. If you want to transfer security settings for objects, you must export the hierarchy.

> **Note:** Security settings do not include the parent or any other object besides those selected.

Creating and Exporting a Package

In order to create a package, objects must exist in the PPM database you are currently using with your PPM server. For information about creating various objects, refer to the relevant sections of this online help or user guide.

Objects are collected into a package for export using the Export PPM Package application that is automatically installed together with PPM. To use the Export PPM Package application you must have permission to export packages.

The export and import wizards are similar. Most of the options that you define during the export process can be redefined during the import process.

> **Notes:**
>
> - Permission to export permits you to see all the objects in the package via the packager only.
> - Data cannot be exported.

Verifying that You Have Export Permissions

To verify that you have export permission:

1) From any module, click the **Setup** link.
2) From the **Setup** drop-down list, choose Modules.
3) In the **Modules** navigation pane, click Server tools.
4) In the **Name** column in the workspace, select Export a package. Verify that the description is *Can export a Primavera Portfolio Management Package*.
5) If you do not have export permission, select **Export a package row**.
6) Click **Edit**. The **Module** dialog box appears.
7) Select the desired user, or user group, and click **Edit**. The Security Settings dialog box appears.
8) Click the **Allow** checkbox for Read & View.
9) Click **OK** twice to close the open dialog boxes.
10) Close the Setup dialog box.

After you verify that you have export permission, create and export the package.

Creating and Exporting a Package

To create and export a package:

1) From the Primavera Portfolio Management Console **Packages** tab, click **Export** (refer to ***Working with Packages*** (on page 433) in Administration).

   Or

   From the Windows **Start** menu, choose **Programs > Primavera Portfolio Management > Export PPM Package**. The **Login** dialog box appears.

   > **Note:** No other users should be logged on while the Export PPM Package application is running.

2) Enter your login name and password and click **OK**. The **General** tab of the Export Package wizard appears.
3) In the **Name** field, enter the name for the XML file which will contain the exported package you create.

   > **Note:** This name can be changed at the end of the procedure. Refer to the last step in this procedure.

4) (Optional) In the **Description** field, enter a description of the package.
5) Click the **Define Package as "Solution Module"** checkbox if you want the package to be a solution module. The client information fields are displayed.
   - In the **Creator** field, enter the name of the creator (optional).
   - In the **Organization** field, enter the name of the organization (optional).

- The **ID** field contains an 8-digit license number (This number should be changed to better control package versioning by making each solution module have a unique key (refer to ***Replacement Options*** (on page 467)).
- In the **Knowledge URL** field, enter the URL for the creator (optional).

6) Click **Next**. The **Content** tab of the Export Package wizard appears.
7) In this step, select the objects to include in the export package:
   - Click **Select All** to include all PPM objects in the exported package. A checkmark appears next to each of the displayed hierarchies.
   - Click **Unselect All** to remove all checkmarks next to the displayed hierarchies.
   - Check the checkbox next to the hierarchies you want to include in the export package.
8) To manually select or unselect objects in a hierarchy, select the hierarchy (not the checkbox), and click **Edit**.

   OR

   Double-click the hierarchy. The **Select Objects** dialog box appears. All the objects in the hierarchy appear. Manually check or uncheck the objects as required.

   Notes:

   - The **Edit** button is disabled for non-hierarchical entries such as Function INCLUDE File or Indicators.
   - Check the **Check to export parent objects only** checkbox if you want to export only parent objects, excluding the items and candidates. When you mark this checkbox, the selected portfolio and all its child portfolios will be selected for export, but the items and candidates will not be selected. If you clear this checkbox you can manually select the items to be included in the export package.
   - If you select a folder (or a Portfolio), you select all of its contents. To unselect part of a folder, you must first unselect the parent node.
   - When you select a Query Based Portfolio, only the Query that determines which Items belong to the Portfolio appears (the items or portfolios it contains are not imported).
   - In the **Select Objects** dialog box, you cannot select the root container.

   Click the **Search** tab to locate specific objects.
9) Click **Close** to return to the **Content** step of the Export Package wizard. If you select only some of the objects in a hierarchy, the checkbox next to the hierarchy is checked and grayed.
10) Check the **Security Policy** checkbox to export the security defined for the system security policy and for all the root folders. This option will replace the security defined in the destination with the security included in the package. Since hierarchies support the process of applying and managing system security, the security policy will propagate to all objects and modules in the hierarchy.
11) Check the **Security properties of exported objects** to export specific security properties defined on objects. The security properties consist of the inheriting status plus the security rows defined on the objects.

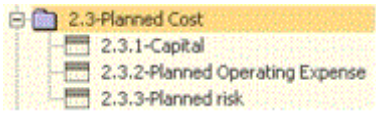
12) Check **User permissions of exported objects** and users as derived entities to export the user defined rows of security (permission defined for a user rather than a group or role), the owners of the objects, and User Group members. If you do not select this option, the importing user will become the object's owner (refer to ***Supporting Security and Security Policies*** (on page 468).
13) Click **Next**. The **Options** step of the Export Package wizard appears.
14) Select an option for storing new objects that do not already have a home folder:
    - Select **Root Folder** to import new objects directly into the root folder.
    - Select **Create a new folder named**: to import new objects into a new import folder you specify under the appropriate hierarchy. When you import, a folder with this name is created in each hierarchy to which new objects are added. All new objects are placed in these folders if you select the option to import all new selected objects into an import folder.
15) If you selected **Indicators** on the **Content** step, they will be exported as is, and will override any indicators used in the target system when imported. Skip this step. However, if you do not export them, click the **Indicator Mapping** button to open the **Indicator Mapping** dialog box and determine how the current package's indicators should be mapped to the slots available in the target system, if known. The mapping can also be done later, when importing a package.
16) Select one of the following rules for replacing existing selected objects in the import process:
    - **Show conflicts for all potential replacements**. When you import the package, all existing objects are not replaced and they appear in the conflict report where you can manually select the objects that you wish to import.
    - **Do not show conflicts for objects with creator ID**. Objects belonging to the creator specified here are replaced without appearing in the conflict report. These are objects that were previously imported from a package that was set to be a solution module with its unique ID being the creator ID displayed here. Other objects appear in the conflict report.
    - **Do not show conflicts for objects modified prior to**. Objects older than the specified date are replaced without appearing in the conflict report. Other objects are not replaced and they appear in the conflict report. The date arrow opens a calendar from which you can select the date.
    - **Replace ALL without showing conflicts**. All objects are replaced without appearing in conflict report.

    Note: Value lists are always overwritten and therefore never appear in the conflict report.

17) Configure how portfolios and folders should be replaced as follows:
    - **Replace** - replaces the container and its contents with no regard for what was previously in the container. All deleted items of the replaced container are placed in the "removed" import folder.
    - **Append** - replaces objects in the container and appends any objects that were in the target container but are not in the import package.

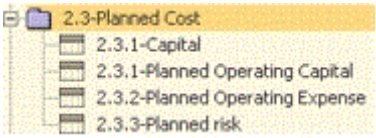
- For example, if the package contains:

- And the target database contains:



- After using the Replace option, the result will be:

- After using the Append option, the result will be:



18) Check **Package defines storage** if package storage should override existing storage for objects that are replaced by the package.

19) Check **Package defines category names** if you wish to maintain the package names of categories that exist in both the package and the target database.
When unchecked (default), the names of categories in the package do not override the names in the target database.

20) Click **Next**. The Export progress window is displayed. The Export PPM Package application searches for derived objects to include in the exported package. When the search completes, the Derived Objects step of the Export Package wizard is displayed.

This step contains a summary of the contents of the export package. It includes:

- **Objects explicitly selected in `Content'**. The number of hierarchies explicitly selected.
- **Objects implicitly selected in `Content' step**. The number of objects indirectly selected in the selected hierarchies.
- **Total derived objects (added by packager)**. The number of derived objects added by the packager.
- **New derived objects; Store derived objects in**. All new derived objects, as selected in the Options step, are imported to the Import Folder name here.

> **Note:** Derived value lists are always transferred to the target database. If they were not, it would create a problem with query based portfolios or functions which rely on new values in value lists.

- **EXISTING objects (derived) should be replaced following these rules**. The rules for importing existing derived objects. Refer to the next to the last step in this procedure for information about the rules.

21) To view the list of derived objects in the package, click **Details**. The Derived Objects dialog box is displayed.

> **Note:** The Derived Objects dialog box is read-only.

22) Click **Close** to return to the Derived Objects step of the Export Package wizard.
23) To change the rules for importing existing derived objects, select one of the following:
    - **Do NOT replace anything. Do not show conflicts**. The derived objects do not replace existing objects without appearing in the conflict report.
    - **Same policy as the selected objects**. Follows the policy defined for selected objects.
24) Click **Finish**. The **Create Package** dialog box appears. Select a new name and location for the export package, if necessary.

Importing a Package

A package created using the Export PPM Package application can be imported into any PPM database using the Import PPM Package application, which is also installed automatically with your PPM server. The import process is similar to the export process. During the import process, you can redefine most of the import options which were defined in the export process. However, you cannot add anything new to the package. For example, if users were omitted from the export package, you cannot add them during import since they do not exist in the package.

To use the Import PPM Package application, you need permission to import.

> **Note:** Carefully select which user will perform the import since that user will become the owner of all of the imported objects that have no specified owner.

Verifying that You Have Import Permission

To verify that you have import permission:

1) At the top of any main page, click **Setup**. The **Setup** module appears.
2) From the **Setup** drop-down list, select Modules.
3) In the left navigation pane, click **Server tools**.
4) In the **Name** column in the workspace, locate Import a package. Verify that the description is, *Can import a Primavera Portfolio Management Package*.
5) If you do not have import permission, select Import a package row.
6) Click **Edit**. The **Module** dialog box appears.
7) Select the desired user, or user group, and click **Edit**. The Security Settings dialog box appears.
8) Click the **Allow** checkbox for Read & View.
9) Click **OK**.

Once you verify that you have import permission, verify the import options and change them if necessary, and import the package.

Importing a Package

To import a package:

1) From the Primavera Portfolio Management Console **Packages** tab, click **Import** (refer to ***Working with Packages*** (on page 433) in Administration).

   Or

   From the Windows **Start** menu, choose **Programs > Primavera Portfolio Management > Import PPM Package**. The Login dialog box appears.

   > **Note:** No other users should be logged on while the Import PPM Package program is running.

2) Enter your login name and password and click **OK**. An alert message appears.
3) Click **Yes** to continue with the import process. The Open PPM package dialog box appears.
4) Select the package you want to import and click **Open**.

   > **Note:** During the import process, you can always change the package you are importing. Click **Open** package from any of the Import Package wizard steps to select a different package to open.

   The General step of the Import Package wizard appears. The information shown in this step is obtained from the import package. You can change any information. Refer to steps 3-5 in ***Creating and Exporting a Package*** (on page 470) for more information about the General step.
5) Click **Next**. The **Content** step of the Export Package wizard is displayed. The **Content** step contains a list of the hierarchies in the import package. For information on the options in this step, refer to steps 10-12 in ***Creating and Exporting a Package*** (on page 470).
6) To view details of the objects in a hierarchy, select the hierarchy, and click **Details**.

   OR

   Double-click the hierarchy. The Details dialog box appears. All the objects in the hierarchy that are included in the import package are listed.
7) Click **Close** to return to the Content step of the Import Package wizard.
8) Click **Next**. The **Options** step of the Import Package Wizard appears.

   Refer to steps 13-18 in ***Creating and Exporting a Package*** (on page 470) for information about the options in this step.
9) Click **Indicator Mappings** to open the **Indicator Mapping** dialog box and determine how the imported package's indicators should be mapped to the slots available in the target system. The mapping can also be done earlier, when exporting a package.
10) Click **Next**. The Derived Objects step of the Import Package wizard is displayed. Refer to steps 20-23 in ***Creating and Exporting a Package*** (on page 470) for information about the options in this step.
11) Click **Finish**. If no conflicts are detected, a confirmation message appears.

    > **Note:** If conflicts exist, the Conflict Report window appears. For more information on resolving conflicts when importing packages, refer to

Resolving Package Conflicts (on page 477).

12) Click **Import** to continue the import process. A confirmation message will appear when the import process is complete.
13) Click **OK**.

Note: Value lists are always overwritten and therefore never appear in the conflict report.

Resolving Package Conflicts

According to the replacement policy that was selected in the *Options* step for selected objects, and in the *Derived Objects* step for derived objects, a set of conflicts appear in a conflict dialog box. These conflicts reflect pairs of objects in the package and in the target database that have the same name. Careful consideration should be taken as whether to update the existing object or not.

Note: Click **Cancel** to exit without importing anything. You may choose to exit and edit conflicting objects in your database using the PPM user interface before re-attempting the package import.

Resolving Conflicts When Importing a Package

To resolve conflicts when importing a package:

1) Click the name of an object to view a description of the existing object and a description of the package object in the **Description of** area.
2) Click the checkbox for each object you want to override in your existing database.
   Or
   Click **Check All** to override all the conflicting objects in your database.

Note: Click **Uncheck All** to uncheck all the items currently checked.

3) Click **Import** to continue the import process, which involves storing the imported objects. When the import process completes, a confirmation message is displayed.
4) Click **OK**.

It is also possible to create a conflict report file. Once created, you can print the report, and/or send it to the package supplier. This is especially important if you choose to obtain an updated package in order to resolve the conflicts.

Generating a Conflict Report

To generate a Conflict Report:

1) Click the printer icon at the top right of the Conflict Report dialog box.

   The Conflict Report is displayed in your browser and is saved locally to the address displayed in **Address** field of your browser.

Viewing Import Errors

A conflict may occur in which the option of overriding database information or objects is not available. In such a case, the conflict report dialog box does not appear. Instead, the Import PPM Package application displays an error message indicating that the import process failed and the reasons for the import failure. When a package import fails, the database may become corrupt, and should be restored.

Situations in which the import process fails in this manner include:

- The package contains a category with the same identifier as an existing category, but with a different value type. For example, the category in the database has the "Integer" value type and the category in the package has the "Date/Time" value type.
- The package contains a category with the same identifier as an existing category, both of the "Value List" value type, but they use a different value list name. For example, the category "Risk" has the "Value List" value type in both database and package, but in the database the list is called "Level" while in the package it is called "Severity".
- The package contains a category with the same identifier as an existing category, but with a different data type. For example, the category in the database has Values and Indicators, while the category in the package has Indicators only.

If you receive an error message indicating that the import of the package could not be completed, click **Copy** in the Import Errors dialog box to copy the error information to the clipboard. Append this information to an e-mail message to your technical support representative at Oracle Primavera. Be sure to also include the following information:

- The product, package, database type, and release versions involved.
- A conflict report, if conflicts occurred.
- How the conflicts were resolved.

Import Report

There are some errors that the Import PPM Package is able to resolve during the import process, or other import issues of which you should be aware. In this event, these issues are listed in the Import Report dialog box.

Using the Propose Form

Appendix B

Oracle Primavera Portfolio Management Propose is an add-on module that gives unregistered users limited access to the Primavera Portfolio Management (PPM) application for the purpose of filling out a predefined form. Workers, clients, or customers can use Propose to capture ideas, conduct surveys, or enter requests via web forms. These are routed automatically to PPM for scoring, analysis, and action.

> **Note:** Once the Propose form is submitted it can be viewed only by logged-in PPM users.

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Accessing a Propose Form

Appendix B

To access a Propose form select its link.

Entering Data in a Propose Form

Appendix B

The Propose forms can include one or more tabs and use a variety of data entry elements.

This subsection provides an explanation of each element and the manner of entering data into each one.

Entering Data in a Data-Entry Field

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The following types of data-entry fields can exist in a Propose form:

- Text/Numeric: In this type of field you may enter either specified text or numeric values.
- Dropdown list: Opens a set of predefined choices. Select a value from the dropdown list.
- Text Area/Annotation: The text area and annotation fields are for free-text entry. A scroll bar lets you view all of the characters in the fields. You can cut and paste characters into the text area/annotation field as long as you remain within the limit of 35,000 characters.

- Date Box: Enter a date into the field or select a date from the date box.
- Indicator: An indicator field is one in which the drop-down list is of colors indicating the condition of the entry. Select an Indicator from a drop-down list.

To enter data in a data-entry field:

1) If more than one tab is defined in the form, click the name of the tab you want to display.
2) Click the cell and enter the appropriate text or numeric value into the data entry field, or select a value from the drop-down list or date box.

Entering Data in a Table

Appendix B

Tables enable you to view multiple category values in a single component. The arrangement of data in columns and rows allows you to easily scan the data and make comparative evaluations and summaries.

The following types of dataentry cells exist in a Table:

- Text/Numeric: Enter the specified text or numeric value.
- Dropdown list: Select a value from the specified drop-down list.
- Date Box: Enter a date into the cell or select a date from the date box.

To edit data in a table:

1) Double-click a cell in the table.

> **Note:** When you double-click a cell in the table, cells that are calculated, read-only, or restricted become covered with gray diagonal lines to indicate that they are disabled during the updating process.

2) Enter a value directly in the cell, or, if available, click the drop-down list arrow button to display a drop-down list of available values or indicators and select the desired option.
3) Repeat steps 2-4 as necessary.

> **Note:** Press TAB or ENTER to move from one cell to another when entering values.

4) From the toolbar, click **Submit**.

Entering Data in a Dynamic List

Appendix B

A Dynamic List shows sub-items entities which are related only to the proposed item. . For more information on sub-items, refer to ***Working with Dynamic Lists*** (on page 377).

> **Note:** For instructions on modifying a dynamic list, refer to ***Customizing Dynamic List Components*** (on page 377) in Working with Dynamic Lists.

The Dynamic List component columns can differ from one dynamic list to another.

Editing a Dynamic List

Appendix B

To edit a dynamic list:

1) On the dynamic list component, double-click on any cell. If the cell is editable, it changes to edit mode and you can enter the data. Cells that are calculated cannot be updated, so they are shown hatched.
2) Complete all required cells, indicated by an asterisk in a column header. If data is not filled into a required field, the system indicates this error by underlining the field with a red wavy line and issues a warning message.
3) By default required fields are not enforced. You can define the degree of enforcement of required fields. Enforcement options are as follows:
   - Must be completed on all tabs: the user must fill all of the required fields on all the tabs of the form. In this option, if the user enters data in any tab, he must fill all required fields in all the tabs, before submitting the form.
   - Must be completed on modified tabs only: the user must fill all of the required fields on any of the modified tabs. In this option, if the user must fill all required fields only in the tabs he has modified, before submitting the form.
   - Are not enforced: This option regards required fields as recommendation only. If required fields are not filled, a message will be displayed, but the form can be submitted regardless.
4) Click **Submit** to save your input.

Adding, Removing, or Changing the Order of Rows in the Dynamic List

Appendix B

To add, remove, or change the order of the rows in the dynamic list:

1) To add a new row click **New**.

> **Note:** Every time you double-click on a cell in the row, that row is numbered and the marker moves down to the next row in the dynamic list. When the default rows are filled, a new row is generated automatically. This enables unlimited data entry.

2) To change the order of the rows in the dynamic list, focus on a row and select the desired Move Row option.
3) To remove a row from the dynamic list click **Remove**.

Note: As always when working in a form, all changes are saved in the data base only after you Submit.

Working with Data in a Phases List

Appendix B

A Phases List displays all the phases in the life cycle of the proposed item, together with relevant phase details.

Notes:

- If a life cycle has not yet been assigned for an item, click the Assign Life Cycle button on the upper right corner of the Phases List group box to open the Life Cycle dialog box. Once a life cycle is defined the button will not be available anymore. For more information on the Life Cycle dialog box, refer to ***Creating Life Cycles*** (on page 151), in Configuring the System Components.
- For instructions on modifying a life cycle, refer to ***Working with Life Cycles*** (on page 283), in Working with Management Workbooks.

The Phases List contains the following columns, as shown in the figure below:

- (Phase Completed): A checkbox indicating whether a phase is complete.
- Phase: The name of the phase.
- (Health): The health indicator of the phase.
- Status: The status of the phase.
- (Percent Completed): The percentage of the phase that is complete.
- Planned Start: The original date on which you plan to begin the phase.
- Planned End: The original date on which you plan to end the phase.
- Forecast Start: The date on which you forecast the phase will begin. The Forecast Start date reflects the dynamic fluctuations in the phase plan.
- Forecast End: The date on which you forecast the phase will end. The Forecast End date reflects the dynamic fluctuations in the phase plan.
- Actual Start: The date on which the phase begins.
- Actual End: The date on which the phase ends.
- (Phase Annotation): Enter and read comments or notes about the phase.

Entering Data in a Phases List

Appendix B

The following items apply to the procedure in this topic:

- The cells are automatically checked based on the Status cell values. A checkmark in this column indicates that the phase is finished or skipped. A indicates the item's current phase. For more information on Life Cycles, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
- Press TAB or ENTER to move from one cell to another when entering values.
- You can place your mouse over the vertical lines that divide the row headers and drag the column width to the desired size.

To enter data in a Phases List:

1) Click the name of the tab you want to display.
2) Double-click the (Health) cell and select the health indicator for the phase. Doubleclick the Status cell and select the phase status.
3) Double-click the Status cell and select the phase status.

> **Note:** The value Current Phase can exist for only one phase in the Phases List. If Current Phase status is selected for more than one phase, all phases with Current Phase status will revert to their previously listed statuses after the form is submitted.

4) Double-click the (Percent Completed) cell and enter the percent of the stage that is complete.
5) Double-click the Planned Start cell and enter a planned start date for the phase.
6) Double-click the Planned End cell and enter a planned end date for the phase.
7) Double-click the Forecast Start cell and enter a forecast start date for the phase.
8) Double-click the Forecast End cell and enter a forecast end date for the phase.
9) Double-click the Actual Start cell and enter the actual start date for the phase.
10) Double-click the Actual End cell and enter the actual end date for the phase.
11) Click the (Phase Annotation) cell to open a dialog box in which you can enter comments or notes about the phase. If there is already an annotation entered for a phase, an annotation icon will appear in the Phase Annotation cell. Click the icon to view and edit the annotation.
12) Enter an annotation and click **OK** on the annotation dialog box. An annotation icon appears in the selected cell of the Phases List.

> **Note:** You can place your mouse over the selected annotation icon to view a tool tip containing the text of the annotation.

13) From the toolbar, click **Submit**.

Working with Data in a Deliverables List

Appendix B

The Deliverables List allows you to track deliverables associated with the proposed item. Deliverables can be filtered, listing only the defined type. The list displays the deliverable's name and additional related information, such as the deliverable owner's name and the due date.

Notes:

- If a life cycle has not yet been defined for an item, click Assign Life Cycle button on the upper right corner of the Deliverables List group box to open the Life Cycle dialog box. Once a life cycle is defined the button will not be available anymore. For more information on the Life Cycle dialog box, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
- For instructions on modifying a life cycle, refer to ***Working with Life Cycles*** (on page 283), in Working with Management Workbooks.

The Deliverables List group box contains the following command buttons:

- New: Click New to open the Deliverable dialog box shown below and create a new deliverable. For information on defining deliverables, refer to ***Creating Life Cycles*** (on page 151) in Configuring the System Components.
- Edit: Select a deliverable from the Deliverables List and click Edit to open the Deliverable dialog box shown above and edit the selected deliverable. For information on editing deliverables, refer to ***Working with Deliverables*** (on page 286), in Working with Management Workbooks.

  Note: You may also edit the deliverable directly inside the Deliverables List by doubleclicking any cell you want to update (except for the Phase Status cell).

- Remove: Select a deliverable from the Deliverables List and click Remove to remove the selected deliverable from the list.

The Deliverables List contains the following columns:

- (Deliverable Completed): A checkbox indicating whether a deliverable is complete.
- (Deliverable Mandatory): A checkbox indicating whether the deliverable is mandatory.
- Deliverable: The name of the deliverable.
- Owner: The owner of the deliverable.
- Phase: The phase to which the deliverable belongs.
- Phase Status: The current status of the phase.
- Link: A web link (URL) related to the deliverable.
- Due Date: The date by which the deliverable is due. When the deliverable is late, its due date appears in red.
- Description: The description of the selected deliverable is displayed in a separate text area that is below the Deliverables List.

Entering Information in a Deliverables List

Appendix B

To enter information in a Deliverables List:

Notes:

- The Phase Status cells are entered automatically by the system based on the status of the Phase that is assigned to each deliverable. Phase status can be set in the Phases List.
- Press TAB or ENTER to move from one cell to another when entering values.

1) Click the name of the tab you want to display.
2) Double-click the (Deliverable Completed) checkbox if the deliverable is complete. (The checkbox appears after you click in the cell).
3) Double-click the (Deliverable Mandatory) cell if the deliverable is mandatory. (A drop-down list appears after you click in the cell).
4) Double-click the Deliverable cell and enter a name for the deliverable.
5) Double-click the Owner cell and select an owner for the deliverable from the drop-down list.
6) Double-click the Phase cell and enter a phase from the dropdown list.
7) Double-click the Link cell and enter a web address (URL) related to the deliverable.
8) Double-click the Due date cell and select a Due date for the deliverable.
9) Click in the Description box located beneath the Deliverables List and enter a description for the selected deliverable.
10) From the toolbar, click **Submit**.

Working with Data in a Dependencies List

Appendix B

Dependencies determine the relationship between the proposed item and other items /portfolios.

A dependency has the following properties:

- Direction: Is the proposed item dependent on another item / portfolio, or does it support another item/portfolio?
- Type: Classifies the dependency, e.g., software/hardware/ firmware; or, mandatory / optional. Type is a userdefinable values list. For more information about values lists refer to ***Value Lists*** (on page 145) in Configuring the System Components.
- Weight: Determines the overall importance of the dependency and its contribution to the portfolio. Weight is a userdefinable value list. For more information about values lists refer to ***Value Lists*** (on page 145) in Configuring the System Components.
- Cost: A quantitative measure of the dependency. Cost units are userdefinable and can be money, time, etc. For more information about units refer to ***General Dependency Options*** (on page 372) in Working with Dependencies.

Each tab can include as many dependencies lists as the number of direction-type combinations.

A Dependencies List displays the following information:

- Dependencies List Header: Shows the Dependencies List's Label, its Direction and the dependency Type.
  - Direction: Defines the direction of the Dependencies List. The direction can be defined as either Depends On, or Supports.
  - Type: When the Dependencies List type is defined as All, you may click the Type drop-list to display and select another Type option to filter the list by.

    When the Dependencies List type is specified in advance, there is no drop-list and the type is simply stated in the heading.
- Dependencies list: Includes various columns grouped under Dependency Properties and Item Properties. To sort the table, click the column heading. The columns are:
  - Item Name: Displays a numbered list of items/portfolios. An item is preceded by . A candidate item is preceded by . A portfolio is preceded by .
- Dependency Properties columns: The listed items are described in two types of columns: Dependency Properties, and Item Properties. By default the Dependency columns include Type, Weight, Cost and Annotation. These columns are used to describe the dependency relationship. The Item Properties describe the listed item itself.
  - Type: The dependency type(s) as defined in by the user.
  - Weight: The overall importance of the dependency and its contribution to the portfolio.
  - Cost: The quantitative measure of the dependency and the defined units.
  - Annotation: If there is an annotation associated with the dependency an annotation icon appears in this column.
  - Item Properties columns:
  - Manager: Name of the manager responsible for the item/portfolio.
  - Start Date: Item start date.
  - End Date: Item end date.
  - Current Phase: Item current phase.
- Annotation Box: Displays a description of the relationship of the proposed item. This description is also displayed in the reverse list.

Adding a Dependency to the Dependencies List

Appendix B

You must have editing permission on the item to add items/portfolios to the Dependencies List.

To add a Dependency to the Dependencies List:

1) Click **Add**. The Items pop-up list is displayed.
2) Select an item/portfolio from the pop-up list, or from the list of recently viewed items/portfolios at the top of the pop-up list. The selected item/portfolio is appended to the list.

> **Note:** To select multiple items/portfolios hold down the Shift or Ctrl key on your keyboard as you select additional phases.

Editing a Dependency

Appendix B

You must have editing permission on the item to edit items/portfolios to the Dependencies List.

Editing a Dependency in the Dependencies List

Appendix B

To edit a Dependency in the Dependencies List:

1) Edit the dependency directly in the list by selecting and editing Dependency cells.

   Or

   Doubleclick the Dependency Item Name.

   Or

   Select a dependency and click **Edit**. The Dependency Properties dialog box is displayed.

   At the very top the Dependency Properties dialog box is the name of selected item/portfolio, the direction of the dependency (either Depends on or Supports) and the name of the dependent or supporting item/portfolio.

2) Edit information as required in the following areas of the Dependency Properties dialog box:

   - Type: Classify the dependency by selecting an option from the dropdown list.

     Note: You can also select the dependency type directly in the Dependencies List table, by double clicking on the dependency's Type cell.

   - Weight: Define the overall importance of the dependency and its contribution to the portfolio by selecting an option from the dropdown list.

     Note: You can also select the dependency weight directly in the Dependencies List table, by double clicking on the dependency's Weight cell.

   - Cost: Enter a numeric value for the dependency.

     Note: You can also insert the dependency cost directly into the Dependencies List table, by double clicking on the dependency's Cost cell.

   - Annotation: Insert an annotation that further describes the dependency. When there is an annotation for the dependency, an annotation icon appears in the Dependencies list.

   To view the annotation you can select the dependency from the Dependencies List. The annotation text appears in the Annotation Box below the Dependencies List table.

   Or

   You can hover above the annotation icon in the Dependencies List table. The annotation text appears as a tooltip.

Removing a Dependency from the Dependencies List

Appendix B

To remove a dependency from the Dependencies List:

1) Select the dependency to remove by clicking anywhere on the row. The selected row is highlighted in yellow.
2) Click **Remove** to remove the dependency from the list.

Entering Links in a Links List

Appendix B

A Link List allows users to link to:

- Uploaded documents in the item's documents central location.
- Documents on the network.
- Web sites.

You can use a document's link anywhere that supports links, either within the system (text fields, annotations, link lists, deliverables, etc.) or outside the system (in email, Word documents, reports, etc.). This capability allows organizations to overcome existing network/firewall limitations that prevent dispersed users and departments from sharing documents.

A form can contain two types of Links Lists:

- Category Links: the Links List stores and displays links associated with a specific category.
- Item Links: the Links List stores and displays links associated with the item or portfolio. The same content displayed in the Form's Links List also appears in the Links tab of the Workbook.

If you have Edit permission on the item, you can add and remove links from the list.

The Links List contains the following columns:

- Name column: Displays the name of the link. If the document was uploaded to the PPM server, then the document name is preceded by . If the document is located on the network or is a web site, then the document name is preceded by
- Link column: Displays the URL of the link.
- Size column: Displays the size of the document.

> **Note:** The size is only displayed for uploaded documents.

- Owner column: Displays the user responsible for the link.
- Uploaded column: Displays the date the document was uploaded.

> **Note:** The date is displayed only for uploaded documents.

- Description area: Displays a description of the link.
- New button: Accesses the Link dialog box to add a new link to the Links list.
- Edit button: Accesses the Edit Link dialog box to edit the selected link.
- Remove button: Removes the selected link from the list.

> **Note:** For uploaded documents, you only remove the link to the document, not the document itself.

- Upload button: Access the Upload Document dialog box to upload a new document and place its link on the Links List.

Creating a New Link

Appendix B

To create a new link:

1) In the Links List, click **New**. The Link dialog box is displayed.
2) Enter link information as required in the following fields of the Link dialog box:
   - Name: Enter a name for the new link. If you use the Upload, Documents, or Browse button (described below), then the selected name is automatically entered into the field.
   - Link: Enter the URL, or web address, of the new link. You can enter the URL of a web site or a location within the system. The text entered in this field will be displayed as hypertext. For information on how to obtain a PPM link, refer to ***Obtaining a Primavera Portfolio Management Link*** (on page 293) in Working with Management Workbooks. Use the Upload, Documents, or Browse button (described below) to help you link to uploaded documents in the system, or external documents in the network.
   - Upload Button: Click to upload a new document to the PPM server and link to it. The Upload Document dialog box is displayed. For more information, refer to ***Uploading Documents*** (on page 398) in Working with Documents.
   - Documents Button: Click to link to a document on the PPM server. The Documents dialog box box appears, listing the uploaded documents dialog box. Select a document from the list and click OK. The document's name and link are entered in the Link dialog box.
   - Browse Button: Click to browse to a document in the network. The Choose File dialog box is displayed. Select a document and click Open. The document's name and link are entered in the Link dialog box.
   - Owner: From the dropdown list, select the user responsible for the link.
   - Description: Enter a brief description of the link. You can include hypertext in the description.
3) Click **OK**. The new link is added to the Links list.

Error Indication

Appendix B

Propose features an error checking mechanism that notifies you when data has been entered incorrectly, while not preventing you from submitting the form and proceeding with your work.

The following error indications exist in Propose:

- Tool Tips: Errors related to data entry are indicated in the forms. The system underlines the names of components that contain errors with red wavy lines. Place your mouse pointer over error indications to view a tool tip describing the errors.

  A list of the error types that are indicated follows:

- Tab errors: when one or more errors exist in a form, a wavy line appears underneath the names of tabs that contain the errors. The wavy line is colored beige when it is located under a currently displayed tab, and red when it is located under a tab that is not currently displayed.
- Required fields errors: when data has not been filled for a required field (marked with an asterisk), a red wavy line appears under the field's name.
- Data entry field errors: when data has been entered incorrectly into a data entry field, a red wavy line appears underneath the label of the data entry field or cell.
- Table/List cell errors: when data has been entered incorrectly into a cell in a table or a list, a red wavy line appears underneath the value in the cell.
- Phases status errors: when you select the Current Phase status for more than one phase in a Phases List, a red wavy line appears under the selected Phase Status.
- Date errors: when you specify end dates that are earlier than the existing start dates, a red wavy line appears under the label of the field.

- Warning Messages: When you submit a Propose form that contains errors, a warning message appears detailing the error(s). Only fields without errors will be submitted.

Package Content

AppendixAPackageContent-27snn.html

A package contains objects that are defined in the Oracle Primavera Portfolio Management (PPM) system. These objects include:

- Items and Portfolios
- Maps
- Scorecards
- Forms
- Dashboards
- Graphs
- Tabs
- Tables
- Categories
- Versions
- Value Lists
- Life Cycles
- Phases
- Users
- Groups
- Processes
- Modules Security
- Library Functions
- Imported Data Scheme
- Imported Phases Scheme

- Function INCLUDE file
- Indicators

> **Note:** For definitions and descriptions of the PPM objects, refer to ***Portfolio Management Software for Technology Leaders*** (on page 27). For information regarding library functions and imported data tables, refer to ***Defining an Imported Data Source*** (on page 143) in Working with Categories.

Packages cannot include data and portfolio specific information such as data from scorecard cells and form fields, portfolio phases and deliverables, goals, or investor map version information.

When designing a package, select all the objects you want included in the package. When an object is included in a package, the export wizard will automatically include all the derived objects unless you clear the options for derived objects to be exported.

These objects or items are automatically derived and included in the export package:

- **Categories:** When a category is added to a package, that category's drill-down dashboards, reference category, default graphs, values list, and any other categories used by its functions are automatically added as well.
- **Scorecards:** When a scorecard is added to a package, all of its included categories are automatically included, as well as referenced versions.
- **Investor Maps:** When an investor map is added to a package, all the categories it uses are included, including the additional categories, as well as referenced versions.
- **Life Cycles:** When a life cycle is added to a package, all of its phases and deliverables are automatically included.
- **Dashboards:** When a dashboard is added to a package, all of its graphs are automatically included.
- **Graphs:** When a graph is added to a package, all of its categories are automatically included.
- **Users:** When a user is added to a package, only the references to the user's default objects are included. If the default objects are found during the import process in the target database, then the references are resolved.

  The packager behaves as follows with users:
  - Users are exported without their password
  - When importing users, new users get a blank password, existing users retain their old passwords.
- **Processes:** Only a processes folder can be selected during package export. That folder and its links and sub-folders will be included in the package. The objects the links referenced are NOT included. If these objects are found during the import process in the target database, then the links are resolved
- **Items:** When an item is added to a package, its life cycle is included.
- **Portfolios:** When a portfolio is added to a package, its life cycle is automatically included. If a query based portfolio is selected, all the categories associated with the query are included. If the query mentions a user, this user is also included.

- **User Groups:** When a user group is added to a package, its user groups are automatically included. If the **Include user permissions and object owners** checkbox is selected, its member users are also included.
- **Forms:** When a form is added to a package, all its tabs are automatically included. If the form contains default values, users may also be included.
- **Tabs:** When a tab is added to a package, all its associated categories are automatically included, as well as referenced versions.

Packages are XML files, with readable content that can be edited in any text editor. In addition to the included objects, each package contains administrative information, such as:

- The PPM software release version with which the package was created.
- The date the package was created.
- The name of the user who created the package.
- A description of the package.
- If the package is a solution module, the name of the module and origin ID number and organization name is included.

Glossary

Add-ons

Additional modules that can be added to Oracle Primavera Portfolio Management without having to upgrade the product. Add-ons can be developed by Oracle Primavera or by third parties.

Alert

An automatically generated notification sent via e-mail to a pre-defined list of recipients when a condition or event occurs.

Alignment

The extent of agreement, coordination, conformance, and consistency among organizational purpose, vision, and values. Alignment exists when there is the correct balance between spending/technology investments and business priorities.

Analytic Assessment

The subjective or objective assessment of a key performance category used for performance or investment management. The analytic assessment is often derived from one or more key performance indicators. For instance, a health assessment often considers quality, staff, schedule, and budget factors within defined performance parameters or bands.

Analytic Scorecard

An analytic scorecard is used to derive key performance categories from a group of key performance indicators. Examples of analytic (automated) scorecards include: Business Value, Risk, Quality, Budget, Staff, Schedule, and Health assessments.

Analytics

Analytics are the combined metrics that communicate the present status for the entity being measured. For example, there are budget analytics that would be a series of related financial measures all combined to give a clear understanding of the state of the organization spend.

Automation

The process of collecting present processes and practices which are manual, and transferring the process and practice elements to a state where they are monitored and/or managed by a technology solution.

Best Practices

The processes, practices, or systems identified in public and private organizations that, when performed improve an organization's performance and efficiency in specific areas. Best practices vary from organization to organization based on their processes and key performance categories.

Budget Assessment

The budget assessment is a key performance category that compares the budget plan to actual performance. It often contributes to the overall health assessment of an investment.

Business Investment

The decision of an organization to focus and direct resources toward an investment that will achieve the meeting of key business objectives (KBOs).

Business Process

A collection of related, structured activities - a chain of events - that produce a specific service or product for an internal or external customer. In PPM, a workflow represents a business process and automates the series of tasks defined by it.

Business Value

The expected return back to the business from an investment. Various approaches to value, like ROI, and EVA are derived from external systems or Business Value measures and seen in Investor Maps and Scorecards.

Candidates

Proposed items, not yet added to a portfolio's scenario. Candidates are distinguished from other items by their icon, and may be referenced differently by the functions.

Collaborate

Collaborate is a menu consisting of various options for sharing PPM information with others. These include an option for creating alerts to be sent to various recipients when triggered, and an option that enables users to e-mail the current Oracle Primavera Portfolio Management browser page to a colleague. There is also an option in which users can obtain the address (URL) of the current browser page, which can be pasted into Microsoft Office applications or saved for future reference.

Dashboards

Provides visual graphs and instant insight into an individual technology investment, a group of investments or a specific criterion. Enables managers to focus in on key performance indicators and trends critical to their specific areas of interest and responsibility.

Data as of

User interface label applied to field data that can be adjusted to reflect a pre-defined date or timespan called a version. Wherever Data as of appears in the interface, it represents a user-configurable option to adjust the current object based on data as of a specific date or version.

Data Mining

The process of exploring and analyzing, by automatic or semi-automatic means, large quantities of data in order to discover meaningful patterns, correlation and rules within the larger set of data.

Data Transforms

Data that is automatically extracted at pre-defined intervals and transformed from other software or databases and imported into the Oracle Primavera Portfolio Management (PPM) database. Data transforms replace the need for manual entry. This data forms the basis for performance analysis by the PPM system.

Dependencies

An Oracle Primavera Portfolio Management feature that lets you assign dependencies to items and portfolios independent of their grouping. An item/portfolio either Depends On or Supports other items/portfolios.

Documents

Documents related to a particular item can be collected in a central repository and shared across the organization with any users that have appropriate security permissions. Documents can include Word files, Excel spreadsheets, reports, illustrations, and any other document types.

Folders

A folder is a collection of related objects or folders. Each object type has its own folder hierarchy. For example, it is not possible to have Scorecards in a Maps hierarchy. Each folder hierarchy has its own `root'. Objects and folders may appear in multiple folders. However, each object has a single home folder. All other instances of that object are referenced objects.

Forms

A Form is the center for data-entry in Oracle Primavera Portfolio Management. Forms can be used to enter organizational data. Additionally, you can use Forms as a reporting tool to view, summarize, and categorize data efficiently. Forms also enable you to create custom-designed forms that cater to the specific needs of your organization. Forms feature the ability to enter default values.

Health Assessments

The level of and delta between a technology investment's plan and its actuals. The healthier a technology investment is, the closer the actual status is to the initial plan. For example, health is often a combination of budget, staff, schedule, and quality assessments and is used during the operational phase of a technology investment's life.

Hierarchies

All Oracle Primavera Portfolio Management objects are organized in hierarchies. Arranging objects in hierarchical trees creates an organizational map that defines the organizational environment and makes it easier to navigate among objects and views. Hierarchies also support the process of applying and managing system security.

Home Folder

Objects may appear in multiple folders. This allows information to be shared by different processes. However, each object has a single home folder. All other instances of that object are referenced objects. By default, all created objects inherit their security settings from their home folder.

Home Portfolio

Items may appear in multiple portfolios. This allows information to be shared by different processes. However, each item has a single home portfolio. All other instances of that item are referenced items. By default, all created items inherit their security settings from their home portfolio.

Hypertext

Text that acts as hypertext when displayed in descriptions or annotations fields. Text will be displayed as hypertext when entered in one of the following formats:

- <sample>
- http://www.oracle.example.com
- \\servername\directory
- www.oracle.example.com
- ftp.oracle.example.com
- ftp://oracle.example.com
- mailto:person@oracle.example.com
- person@oracle.example.com

Hypertext does not display as hypertext when it appears in editing dialog boxes.

Indicator

An icon used throughout the PPM application to represent a value, result, or performance within a series of 2-7 possible scores, each with its own indicator symbol and color. The system supports sixteen indicator slots.

Instance (of a workflow)

A specific occurrence of a workflow. A workflow, as defined within a single template, can have multiple instances, includingworkflows in progress as well as completed workflow instances.

Investment

Investments either consume or plan to consume management resources, like time, money and staff. Investments go through a budget lifecycle involving justification, prioritization, selection, review and shut down.

Investment Management

This process supports annual and incremental strategic budget planning, as well as the ongoing budget and review processes. The ultimate goal of technology investment management is to have a continuous budgeting process of portfolio and investment justification, prioritization, selection, review and adjustment.

Investment Portfolio

A group and/or collection of technology investments or initiatives that are related and that an organization combines together to better manage and measure results. For example, these results are often used to better communicate the IT operations to the business.

Investor Maps

Multi-dimensional graph-views enable one to effectively manage their technology investment portfolio and draw attention to areas of risk and visually portray the technology investment strategy. For example, dimensions like ROI, time to return, degree of fit with business objectives, budget, performance and risk can all be used to analyze the distribution of technology spend.

Item

An item is a development effort with a defined beginning and end, delivering a specific product and/or deliverable.

Key Business Objective (KBO)

Objectives defined by the business or organization at large that will achieve the long-term success of the entire business or organization. KBOs are used to align sub-business units with the overall direction of the business or organization.

Key Performance Category (KPC)

These are derived from Key Business Objectives (KBOs) and are measures that represent one aspect of the KBO. For example, the KPC for an investment could be the health that is derived by data from several indicators. KPCs are the KBOs "next-level down" components.

Key Performance Indicator (KPI)

These are the measures that make up a Key Performance Category (KPC). For example, the Staff as KPC - could be made up of the following KPIs - headcount, turnover and skill inventory. KPIs are normally analyzed on a plan versus actual basis. The KPI plan is defined during an investment justification process and the KPI actual is extracted from transactional systems according to a scheduled basis.

KPI Performance Band

KPIs have performance bands (pre-set limits) associated with them. These are seen in the Dashboards and assist in quickly seeing if a KPI is within acceptable performance limits. These performance bands are defined by rules that perform the KPI analytics necessary to set a red, yellow, or green indicator.

Life Cycle

The life cycle is a collection of phases that encapsulates the Stage-Gate processes used in many organizations to monitor progress in application development, technology operations or vendor management.

Locale

Oracle Primavera Portfolio Management (PPM) checks the default regional settings of the operating system of the user's computer. If PPM supports the computer's default locale, the user interface automatically uses the regional settings (digit grouping and decimal symbols and date separator and formats) for that locale. If the computer's locale is not yet supported, PPM automatically uses English (United States) regional settings.

Processes

The The **Processes** tab on the Guide pane provides you with a way to organize your work. **Processes** displays sets of favorite URLs and guided processes that provide you with direct access to objects, including documents, and any local or web URL.

Operational Excellence

The reliability and predictability of services as well as the ability to successfully meet agreed upon levels of service for the business and measurements of productivity for major activities.

PPMC

Primavera Portfolio Management Console. A server utility that incorporates many of the server functions within a single interface.

Performance Management

Effectively automating data collection and analysis, status reporting and the portfolio review process allowing decision-making to be based on data, not conjecture.

Permissions

The basic building blocks of the Oracle Primavera Portfolio Management system security infrastructure. Permissions include Read, Edit, Create, and other actions and combinations of actions. Each of these permissions can be assigned to roles, users, and user groups, as well as to high level portfolios, objects, and items, and then propagated to any element down the hierarchy. Permissions can also be adjusted for individual elements regardless of their position in the hierarchy.

Phases

Phases are the key components of a Life Cycle. They include the key deliverables, checklists, document links and action items being managed for a technology investment.

Portfolio

A collection of related items, which are grouped in order to manage and view performance of common business activities and goals. You can also group related portfolios into a single portfolio. Portfolios can be grouped according to any parameter you define, such as type of business activity or geographic region.

Processes

Processes are sets of favorite URLs and defined practices arranged in a series that provide you with guidance, including direct access to objects, including documents, and any local or web URLs. Processes provide you with a way to organize your work. Using processes allows for better collaboration and easier navigation.

PPM

Primavera Portfolio Management.

Quality Assessment

A key performance category, or indicator, that compares the quality plan to actual performance. The quality assessment often contributes to the overall health assessment of an investment. For example, quality may be characterized by KPIs like defects or customer satisfaction.

Return on Investment (ROI)

A concept used to aid in investment decisions. ROI can be simply calculated by considering the annual benefit (over multiple years) divided by the initial investment. Financial measures are elusive in the early stages of an investment when they are needed for decision-making. This forces diverse methods of selection and de-selection based on a conceptual ROI.

Risk

Current understanding of present factors that, once comprehended, give an ability to assess and predict the future success of technology investment or goal achievement. Managers make efforts to reduce the probability of these factors actually occurring by identifying countermeasures to minimize risk.

Roles

Roles are used to help assign security permissions. Oracle Primavera Portfolio Management includes two roles: Manager and Owner. Every item and portfolio has a Manager. All other objects have an Owner. An Owner or Manager of an item, object, or portfolio acquires the security permissions assigned to the Owner and Manager roles for that item, object, or portfolio.

Schedule Assessment

A schedule assessment is a key performance category, or indicator that compares the schedule plan to actual performance. The schedule assessment often contributes to the overall health assessment. The schedule assessment is usually based on information extracted from a project management system.

Scorecard

The Scorecard provides a consistent framework for monitoring and communicating the status and health of initiatives. It also creates an early-warning system to alert managers to potential crises. The Scorecard facilitates meaningful dialog within the business on the status of key performance categories.

Security

Security provides the ability to protect data (not everyone should see the financial numbers) and objects (not everyone should be able to manipulate the value-lists).

Staff Assessment

A key performance category or indicator that compares the staff plan to actual performance. The staff assessment often contributes to the overall health assessment. The staff assessment often includes KPIs like headcount, skills match and turnover.

Status Reports

Forms serve as a reporting tool, displaying up-to-date data, metrics, and measurements. They enable users to view Portfolio category values, indicators, annotations, and free text. Users can access external web sites and documents, and other modules within the application by embedding web links in any text they enter. Status reports can be circulated within the organization in several ways. Links to forms can be sent using email, hard copies can be printed, and forms can be exported as Microsoft word files (can also be embedded in Excel, Power Point, and other documents).

Storage

Each element has a home portfolio or folder in which the element is stored. The element can then be referenced in other folders and portfolios. Referenced elements inherit their security settings from their home portfolio or folder.

Technology Spend

The financial outlay of the organization regarding its expenditures in areas associated with technology such as: hardware, software, human resources, depreciation and general operation costs. This is thought of as the actual financial spend, versus planned.

UAA

User Access and Audit log.

Value-Added

Activities and/or steps that add to or change a product or service; these are the activities or steps that customers (internal and external) view as important and necessary.

Version

A pre-defined date or time span applied to PPM data to analyze and compare information in a consistent manner. Versions appear in fields labeled Data as of.

What-If Scenarios

A PPM feature allowing users to look at present and future work portfolios, making adjustments that produce different budget, resource and planning scenarios. These scenarios then aid in technology investment decision-making.

Workbooks

The dynamic module of the system that aggregates investment details, action items, checklists, contacts, and other information to support and automate daily management activities.

Workflow

The automated series of steps and tasks representing a business process defined to achieve a business goal. For example, Standard New Project Approval Process and Fast Track New Project Approval Process might represent two workflows. Workflows can be initiated and terminated either automatically or manually; however, they require a human reviewer to sign off on their final completion.

Workflow Trigger

The event that activates a workflow or one of its steps. The following events may act as workflow triggers:

- A change to the value in a particular Category.
- A change in the status of another workflow or step.
- A user manually starting a workflow or step.

Workflow Processor

The component of the system that performs operations and dispatches events associated with a published workflow. Examples of events handled by the processor include automatic triggering of workflows, tracking, step and task completion, and notifications and alerts.

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