Using the DeepSee Dashboard Designer

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About This Book

This book describes how to create DeepSee dashboards and embed them in your applications. This book contains the following sections:

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For more information, see the following books:

- *Introduction to InterSystems DeepSee*, an introductory guide for all users.
- *Using the DeepSee Analyzer*, a guide for implementers and advanced users who want to create pivot tables to embed in applications — or who simply want to explore their data.
- *Using the DeepSee Architect*, a guide for implementers who are setting up a DeepSee model.
- *Using the DeepSee Connector*, a guide for implementers who are using the DeepSee Connector to access externally stored data.

  Note: The DeepSee Connector is available only with Ensemble.

- *DeepSee Site Configuration and Maintenance Guide*, a guide for implementers and system administrators. This book describes how to configure and maintain a DeepSee site. It also includes a chapter on troubleshooting.
- *DeepSee User Guide*, a user manual for your end users. This book describes how to work with deployed dashboards and pivot tables.

For general information, see the *InterSystems Documentation Guide*.

1

Introduction to the Dashboard Designer

This chapter introduces the DeepSee Dashboard Designer, which you use to create dashboards that you can embed in your applications. This chapter discusses the following topics:

- Purpose of the Dashboard Designer
- Required preparation before you can use the Dashboard Designer
- Summary of dashboard options
- How to log into DeepSee
- How to access the Dashboard Designer from anywhere within DeepSee
- How to switch to another namespace
- How to exit the Dashboard Designer

Be sure to consult *InterSystems Supported Platforms* for information on system requirements.

1.1 Purpose of the DeepSee Dashboard Designer

You use the DeepSee Dashboard Designer during an implementation process whose overall goal is to embed pivot tables in existing or new applications. Pivot tables provide real-time business intelligence

(BI) — interactive tables and graphs with which your users can explore the data used in or generated by their applications.

The purpose of the Dashboard Designer is to create dashboards that display pivot tables, speedometers, and detail listings. Dashboards can include buttons, drop-down list controls, and other elements with which the user can control the display.

1.2 Required Preparation

Before you can use the Dashboard Designer, you (or someone else) must create the following elements:

- Pivot tables
- KPIs
- Detail listings

For information on creating pivot tables and KPIs, see *Using the DeepSee Analyzer*. For information on creating detail listings, see *Using the DeepSee Architect*.

1.3 Summary of Dashboard Options

This section summarizes what you can do in dashboards.

1.3.1 Available Elements

You can include any of the following elements in a dashboard:

Element Type	Icon	Purpose	For Details
Label		A string, which can be the result of a Caché ObjectScript function call.	See "Overview of Text and Graphic Elements."
Image		An image, which can be interactive.	
Picture box		An image, tiled repeatedly to fill the element.	
Button		A button that displays a string, which can be the result of a Caché ObjectScript function call. Can be interactive.	
Picture button		A button that displays a string and an image. Can be interactive.	
Drop-down menu		A button that displays a drop-down menu when clicked. Controls a frame.	See "Adding Frames."
Frame		A frame that contains a dashboard.	
Timer		A timer that can refresh one or more data elements.	See "Adding Refresh Timers."
Timer control		A control with which the user can start and stop a timer.	
Pivot table		A pivot table.	See "Overview of Data Elements."
Speedometer		A KPI (key performance indicator) displayed within a speedometer.	
Detail listing		A detail listing.	
Venn diagram		A Venn diagram	See "Adding Venn Diagrams."

Element Type	Icon	Purpose	For Details
Combo box		A drop-down list from which the user can select one item.	See "Overview of Data Controls."
List box		A list from which the user can select one (or maybe more) item. Shown in a box.	
Text box		A box into which the user can type a value.	
Date picker		A control into which the user can type a date or can click a button to choose a date.	
Check box		A check box that the user can select or clear.	
Search box		A control into which the user can type a value or can click a button to search for a value in a list.	
Dashboard library object		An element that has been copied to the dashboard library.	See "Using the Dashboard Library."

You can move and resize these elements as needed. You can place elements in front of each other, for example, if you want to display a label in front of a graphic. The Designer provides a couple of tools you can use to fine-tune the placement and size of the elements.

1.3.2 Links Among Elements

You can create links between elements for several purposes:

- You can specify a link between two elements so that one element filters the other one. For example, if a user selects a customer from a drop-down list, that selection can filter a pivot table or other data element.
- You can specify a link between two elements so that if the user selects or makes a change in one element, that refreshes the other one. For example, you can add a Search button that updates a pivot table or other data element.

  Frequently, you combine the two preceding types of links. For example, if you have a filter link from a drop-down list to for another object, you might also add a refresh link between these objects.
- You can specify a link between a timer control and a timer.

Not all elements can be used in links. But for any element that can be used this way, that element can participate in multiple links. It is quite common, for example, for a given drop-down list to control multiple data elements.

1.3.3 Programmatic Connections Among Elements

In some cases, you can use one element to set the value of a system variable or a custom variable that affects another element, which you connect as a refresh target.

For example, a user might select a number from a list, and that could control the number of top-ranked members displayed in a pivot table.

For another example, the default value of a label could use the **$$VAR** function to display your custom variable. The value of this variable could be set by another element, which refreshes the label.

1.3.4 Post Actions

You can configure a dashboard element so that when a user clicks the element, DeepSee performs one or more post actions after any filter and refresh actions. A post action does one of the following:

- Displays a dashboard, possibly in a new window.
- Displays a Web page in another browser window.
- Displays a small child window that displays the value of a KPI.

1.4 Logging Into DeepSee

To log into DeepSee:

1. Click the InterSystems Launcher.

   When you do so, the system displays a menu.

2. Click **DeepSee**.

   If you have not yet specified a namespace, the system displays a page that prompts you for a namespace.

   Otherwise, the system displays the DeepSee login page.

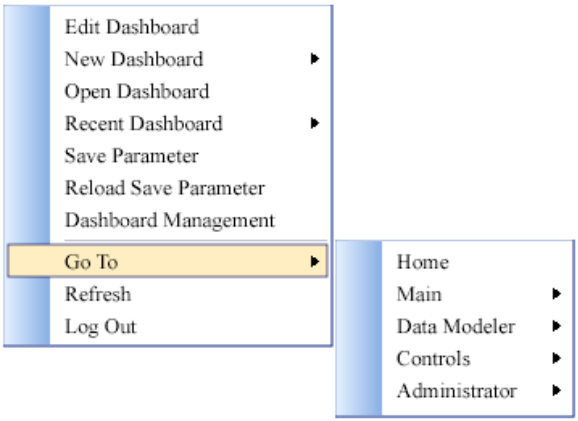
3. If you are prompted for a namespace, type the name of the namespace you want to work in and then click **Logon to DeepSee**.

   The system then displays the DeepSee login page.

4. On the DeepSee login page, enter a DeepSee username and password. For example, you can use the username `demo` with the password `demo`.
5. For **Role**, select `demo`.
6. Click **Login**.

DeepSee displays the home page, which depends upon the user ID you used to log in. In general, the home page is either a DeepSee module or a dashboard. If the page is a DeepSee module, it has a row of buttons at the top as follows:

If the page is a dashboard, the right-click menu provides access to all the same options provided by these buttons, in addition to options that apply to dashboards:



1.5 Accessing the Dashboard Designer

In general, you can access the Dashboard Designer either via an existing dashboard or by creating a new dashboard. This section describes the following:

- How to display a dashboard from anywhere within DeepSee
- How to edit the dashboard you are viewing
- How to exit the Dashboard Designer

For information on creating new dashboards, see the tutorials later in this book or see the chapter "Creating Dashboards."

1.5.1 Displaying a Dashboard

If you are currently viewing a DeepSee module, do either of the following to display a dashboard:

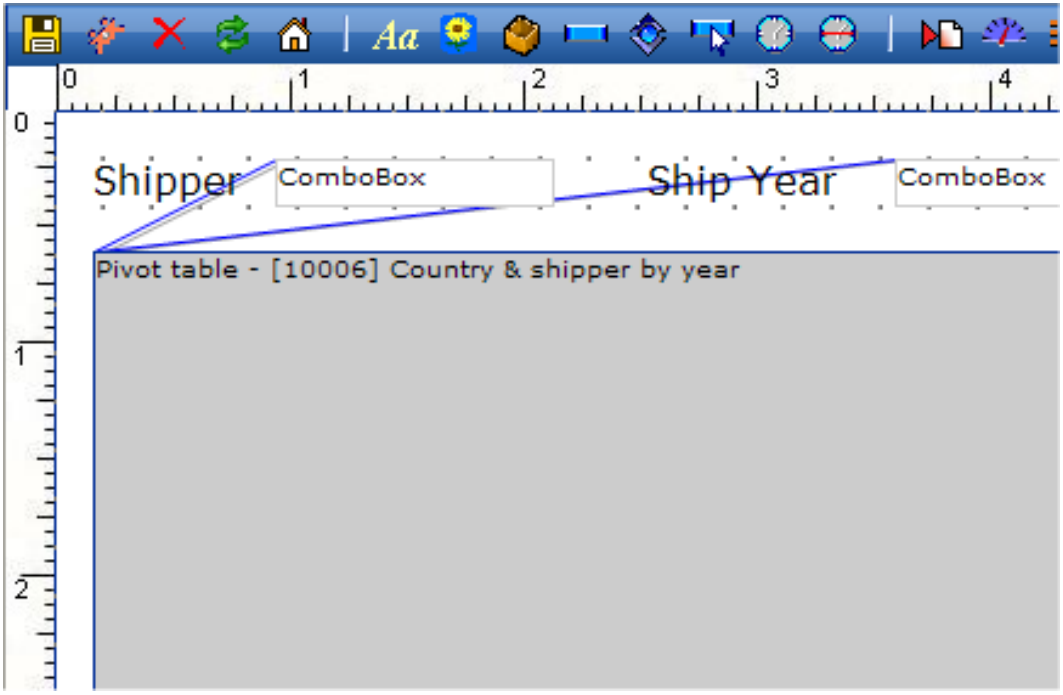
- Click **Main > Open Dashboard** and then click a dashboard.
- Click **Main > Recent Dashboard** and then click a dashboard.

If you are currently viewing a dashboard, do either of the following to display some other dashboard:

- Right-click and then click **Go To > Main > Open Dashboard**. Then click a dashboard.
- Right-click and then click **Go To > Main > Recent Dashboard**. Then click a dashboard.

1.5.2 Editing the Current Dashboard

To edit the dashboard you are currently viewing, right-click and then click **Edit Dashboard**. Depending on the dashboard, you may see something like the following:



1.6 Switching to Another Namespace

To switch to a different namespace:

1. Log out. To do so, do one of the following, depending on what you are currently viewing:
   - If you are currently viewing a DeepSee module, click the **Log Off** button in the upper right.
   - If you are currently viewing a DeepSee dashboard, right-click and then click the **Log Out** option.

   The system logs you out of DeepSee.
2. Click **Switch Namespace**.
3. For **Namespace**, type the name of the namespace you want to work in.
4. Click **Logon to DeepSee**.

   This displays a login page.
5. Log in as usual.

1.7 Exiting the Dashboard Designer

To exit the Dashboard Designer, click the close button (X) in the upper right.

DeepSee closes the child browser window.

Important: DeepSee does not prompt you to save any changes. Any unsaved changes are discarded.

2

Tutorial

This chapter presents a tutorial in three parts:

1. The first part describes how to create a simple dashboard with a dashboard and a drop-down list.
2. The second part adds a speedometer and a label.
3. The third part describes a more complex variation.

You can use this tutorial with any data. It assumes that you have created at least one DeepSee pivot table and one KPI. For information on creating pivot tables and KPIs, see *Using the DeepSee Analyzer*.

2.1 Tutorial Part 1

In the first part of the tutorial, we create a simple dashboard that contains a pivot table and a drop-down list (called a combo box) that filters it.

1. Log into DeepSee as described earlier in this chapter.
2. Now do one of the following:
   - If you are viewing a DeepSee module, click **Main > Open Dashboard** and then click **New**.
   - If you are viewing a dashboard, right-click and then click **New Dashboard > Blank**.

   DeepSee displays a dialog box where you specify the basic properties of the new dashboard.
3. In this dialog box, specify the following basic information:
   - For **Board Name**, type the name of this dashboard.
   - For **Folder**, click the browse button (...) and select a folder to contain this dashboard.

4. Click **OK**. You might need to resize the dialog box in order to see this button.

   DeepSee then displays the dashboard in edit mode.

5. Add a pivot table to this dashboard as follows:

   a. Click the add pivot table button ().

   b. In the **List Of Pivot** section, expand folders as needed and click the pivot table that you want to add.

   c. Click **OK**. You might need to resize the dialog box in order to see this button.

      The pivot table is added in the upper left corner of the dashboard.

   d. Drag and drop the pivot table to the desired location.

   e. Resize the pivot table as needed.

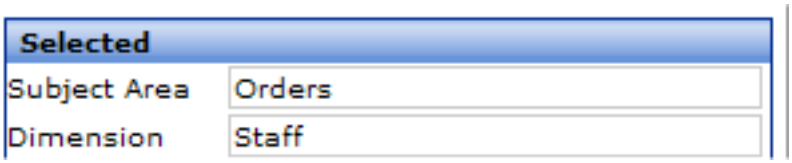
6. Add a combo box to this dashboard as follows:

   a. Click the add combo box button ().

   b. For **Subject Area**, click the browse button (...), click a subject area, and click **OK**. The dimensions in the subject area are then displayed within **Dimensions**.

   c. For **Dimensions**, double-click a dimension.

      When you do so, the system puts your subject area and dimension name into **Schema** and **Dimension** on the right, as follows:



   d. Click **OK**. You might need to resize the dialog box in order to see this button.

      The combo box is added in the upper left corner of the dashboard.

   e. Drag and drop the combo box to the desired location.

   f. Resize the combo box as needed.

7. Create a filter link between the combo box and the pivot table, as follows:

   a. Right-click the combo box and then click **Set as Filter**.

   b. Right-click the pivot table and then click **Apply Filter to this object.** When you do so, a blue line is drawn between the two elements.

8. Create a refresh link between the combo box and the pivot table, as follows:
   a. Right-click the combo box and then click **Set as Refresh Trigger**.
   b. Right-click the pivot table and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the two elements.
9. Click the save dashboard icon (). Then click **OK**.
10. Click the close button (X) in the upper right.

    DeepSee displays the new dashboard in view mode.
11. Refresh the browser window.

Depending upon your data, your data model, and your pivot table, DeepSee displays something like this:

Ship Country	Shipper	2005 Count	2006 Count	2007 Count
Argentina	Federal Shipping	0	1	2
	Speedy Express	0	2	2
	United Package	0	3	4
Austria	Federal Shipping	2	8	2
	Speedy Express	4	6	2
	United Package	1	6	7
	Federal Shipping	0	4	4

Test the dashboard by selecting a dimension member from the combo box. The pivot table should be filtered and refreshed immediately to show only data associated with that member:

Ship Country	Shipper	2005 Count	2006 Count	2007 Count
Argentina	Speedy Express	0	2	2
Austria	Speedy Express	4	6	2
Belgium	Speedy Express	0	2	1
Brazil	Speedy Express	2	14	15
Canada	Speedy Express	0	2	2
Denmark	Speedy Express	0	5	1
Finland	Speedy Express	1	5	2
France	Speedy Express	7	14	6

2.2 Tutorial Part 2

In this part of the tutorial, we edit the previous dashboard to add a speedometer and a label.

1. Right-click and then click **Edit Dashboard**.
2. Add a speedometer to this dashboard as follows:
   a. Click the add speedometer button ().
   b. For **KPI Override Setting**, click the browse button (...), expand folders as needed, and click a KPI.
   c. Click **OK**. You might need to resize the dialog box in order to see this button.

      The speedometer is added in the upper left corner of the dashboard.
   d. Drag and drop the speedometer to the desired location.
   e. Resize the speedometer as needed.
3. Create a filter link between the combo box and the speedometer, as follows:
   a. Right-click the combo box and then click **Set as Filter**.
   b. Right-click the speedometer and then click **Apply Filter to this object**. When you do so, a blue line is drawn between the two elements.
4. Create a refresh link between the combo box and the speedometer, as follows:
   a. Right-click the combo box and then click **Set as Refresh Trigger**.

b. Right-click the speedometer and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the two elements.

5. Add a label to this dashboard, to place near the combo box, as follows:

   a. Click the add label icon ().

   b. For **Normal Display**, type a suitable string such as `Shipper`

   c. Click **OK**. You might need to resize the dialog box in order to see this button.

      The button is added in the upper left corner of the dashboard.

   d. Drag and drop the label to the desired location.

6. Rearrange the other dashboard elements if needed.

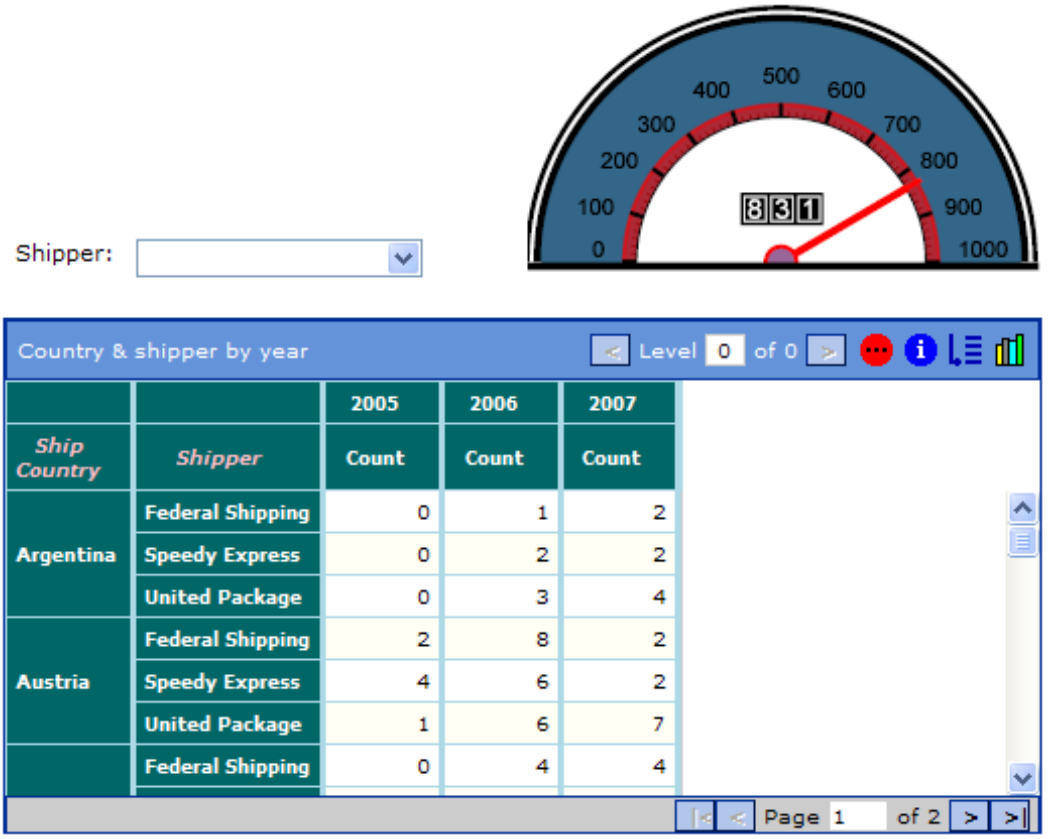
7. Click the save dashboard icon (). Then click **OK**.

8. Click the close button (X) in the upper right.

   DeepSee displays the new dashboard in view mode.

9. Refresh the browser window.

Now your dashboard might look like this:



When you choose an item from the combo box, the pivot table and the speedometer should both be automatically filtered and refreshed.

2.3 Tutorial Part 3

In this part of the tutorial, we create a slightly more complex dashboard that contains multiple combo boxes. Instead of including refresh links between these combo boxes and the pivot table, we add a button and use that as the refresh trigger.

1. Right-click and then click **New Dashboard > Blank**.
2. In the dialog box, specify the following basic information:
   - For **Board Name**, type the name of this dashboard.
   - For **Folder**, click the browse button (...) and select a folder to contain this dashboard.

3. Click **OK**. You might need to resize the dialog box in order to see this button.

   DeepSee then displays the dashboard in edit mode.

4. Add a pivot table to this dashboard as you did in the previous part of the tutorial.

5. Add a combo box to this dashboard, as you did in the previous part of the tutorial. Use different dimensions in the two combo boxes.

6. To add a second combo box:

   a. Right-click the first combo box and then click **Duplicate**. The copy is placed directly on top of the original.

   b. Drag and drop the copy.

   c. Double-click the copy, which displays a dialog box of its properties.

   d. In this dialog box, double-click a different dimension.

   e. Click **OK**.

7. For each combo box, add a filter link between that combo box and the pivot table, as follows:

   a. Right-click the combo box and then click **Set as Filter**.

   b. Right-click the pivot table and then click **Apply Filter to this object**. When you do so, a blue line is drawn between the two elements.

8. Add a button to this dashboard as follows:

   a. Click the add button icon ().

   b. For **Normal Display**, type `Find`

   c. Click **OK**. You might need to resize the dialog box in order to see this button.

      The button is added in the upper left corner of the dashboard.

   d. Drag and drop the button to the desired location.

9. Create a refresh link between the button and the pivot table, as follows:

   a. Right-click the button and then click **Set as Refresh Trigger**.

   b. Right-click the pivot table and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the two elements.

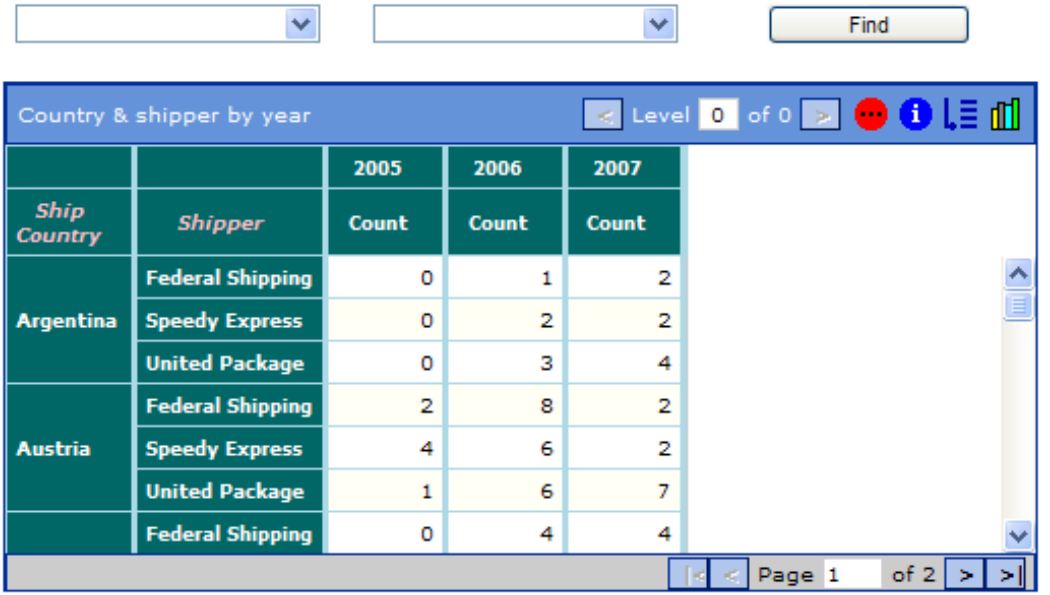
10. Click the save dashboard icon (). Then click **OK**.

11. Click the close button (X) in the upper right.

    DeepSee displays the new dashboard in view mode.

12. Refresh the browser window.

Depending upon your data, your data model, and your pivot table, DeepSee displays something like this:



Test the new dashboard by clicking options from the drop-down lists. Notice that the pivot table is not refreshed until you click **Find**.

3

Creating Dashboards

This chapter describes the basics of creating dashboards. It discusses the following topics:

- How to create a new dashboard
- How to edit a dashboard in general
- How to enable the security options for a dashboard
- How to add an element
- How to edit an element
- How to copy an element
- How to delete an element
- How to delete a dashboard
- How to adjust the sizes and positions of dashboard elements

3.1 Creating a New Dashboard

To create a new dashboard:

1. The way to start depends on your current location:
   - If you are currently viewing a dashboard (in view mode), right-click and then click **New Dashboard > Blank**.
   - If you are currently viewing a DeepSee module, click **Main > Open Dashboard**. Then click the **New** button.

DeepSee displays a dialog box where you specify the basic properties of the new dashboard.

2. For **Board Name**, type the name of this dashboard.
3. For **Folder**, click the browse button (...) and select a folder to contain this dashboard.
4. Optionally specify the following properties:
   - **Remarks** — Specifies a description or comments for this dashboard for internal use.
   - **Back Color** — Specifies the background color for this dashboard, as well as the initial background color for any elements you add to it. To use this option, click it, choose a color, and then click **OK**.
   - **Width** — Specifies the width of this dashboard. In practice, this specifies the maximum possible width of any background graphic.
   - **Height** — Specifies the height of this dashboard. In practice, this specifies the maximum possible height of any background graphic.
   - **Scrollable Dashboard** — Specifies whether this dashboard includes scroll bars when the browser window (or the containing dashboard frame) is too small to display all the contents of the dashboard. Select this option to enable the scroll bars.
   - **Inherit Query Variable** — Enables this dashboard to use values for any query variables that are passed in as part of the URL.
   - **Font** — Specifies the initial font typeface, font size, font color, and font size for any elements you add to this dashboard. To use this option, click **Font**, specify the details, and then click **OK**.
   - **Height** — Specifies the height of this dashboard.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

   DeepSee then displays the dashboard in edit mode, in a child browser window.
6. Add elements to the dashboard as described in the following section.
7. Click the save dashboard icon (). Then click **OK**.

   Or discard any unsaved changes by clicking the refresh icon ().
8. Click the close button (X) in the upper right.

   DeepSee displays the new dashboard in view mode.
9. Refresh the browser window.

Note: When you view a dashboard in edit mode, you can edit only that dashboard. To edit another dashboard or to create a new one, you must first exit the editor by clicking the close button (X) in the upper right.

Other dashboard options are discussed later in this book, as follows:

Option	Where Discussed
Subject Area and **Detail Listing**	Displaying Listing Fields and Other Source Data
Security	Enabling Security Options for a Dashboard
Board Background Picture	Adding a Background Image to a Dashboard
Appearance and **Style**	Ignore these options.

3.2 Editing a Dashboard

To edit a dashboard:

1. Display the dashboard in view mode, as follows:
   - If you are currently viewing a different dashboard (in view mode), right-click and then click **Recent Dashboard** and then the dashboard name.

     Or right-click, click **Open Dashboard**, navigate to the dashboard, and then click **OK**.
   - If you are elsewhere within DeepSee, click **Main > Open Dashboard** or **Main > Recent Dashboard**. Then proceed as described in the previous bullet.

2. **Tip:** Be careful where you do this. If one dashboard is enclosed in another (via a frame), you could accidentally open a different dashboard than you expect.

   DeepSee displays the dashboard in edit mode, in a child browser window.

3. Make changes as needed. Here you can do the following:
   - Add an element to the dashboard.
   - Edit an element.
   - Copy an element.
   - Delete an element.
   - Delete the dashboard itself.
   - Adjust the sizes and positions of dashboard elements.

These tasks are described later in this chapter.

4. Save the dashboard. To do so, click the save dashboard icon () and then click **OK**.

   Or discard any unsaved changes by clicking the refresh icon ()

5. Click the close button (X) in the upper right.

   DeepSee displays the dashboard in view mode.

6. Refresh the browser window.

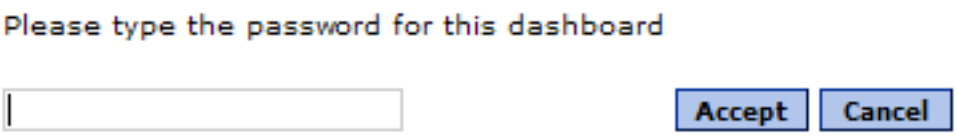
Note: When you view a dashboard in edit mode, you can edit only that dashboard. To edit another dashboard or to create a new one, you must first exit the editor by clicking the X in the upper right.

3.3 Enabling Security Options for a Dashboard

This section discusses how to enable the security options for a dashboard.

3.3.1 Adding a Password

You can require the user to enter a password in order to display a given dashboard. When the user tries to open the dashboard, DeepSee displays a dialog box like the following:



If the user does not enter the correct password, DeepSee displays the **Dashboard List** dialog box to prompt the user to open a different dashboard.

To add a password to a given dashboard:

1. Open the dashboard in edit mode, as described in the previous section.
2. Click the dashboard properties icon ().
3. To require a password, specify both of the following properties:
   - **Prompt text** — specifies prompt text to display when a user first accesses of this dashboard.

- **Password** — specifies the password needed to display this dashboard. .

4. Click **OK**. You might need to resize the dialog box in order to see this button.

3.3.2 Encrypting a Dashboard

You can encrypt a dashboard. To do so:

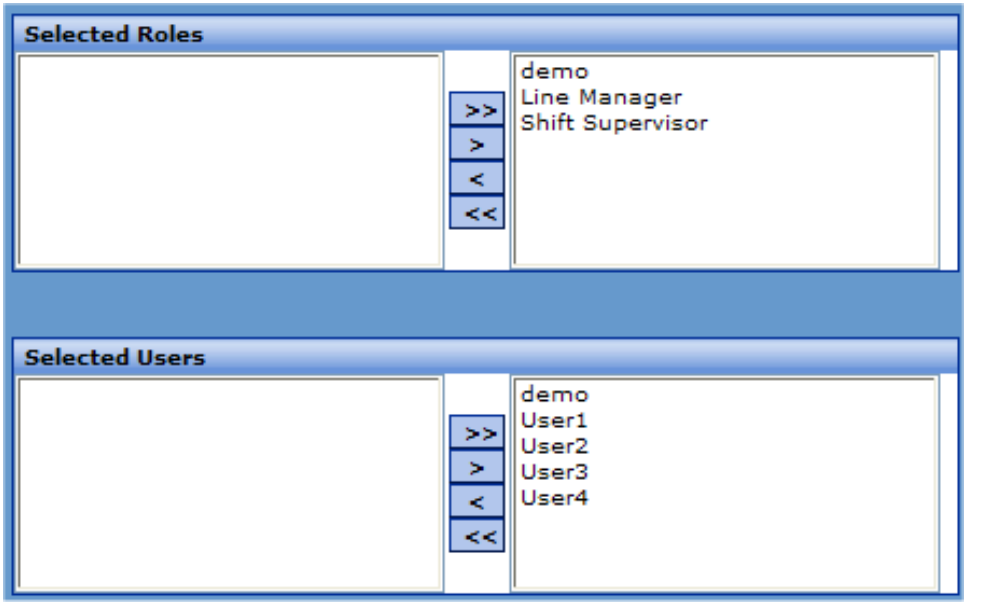
1. Open the dashboard in edit mode, as described in the previous section.
2. Click the dashboard properties icon ().
3. To encrypt the dashboard, make sure that **Encrypted** is selected; this check box is selected by default.
4. Click **OK**. You might need to resize the dialog box in order to see this button.

3.3.3 Restricting a Dashboard by Roles or Users

You can specify the roles, as well as the users, that are permitted to use a dashboard. To do so:

1. Open the dashboard in edit mode, as described in the previous section.
2. Click the dashboard properties icon ().
3. Click the **more...** button in the **Security** section.

   DeepSee displays a dialog box like the following:



The lists on the right show all the DeepSee roles and the DeepSee users.

4. To restrict this dashboard to specific roles, double-click those roles in the right-hand roles list. The roles are then copied to the **Selected Roles** list.
5. To restrict this dashboard to specific users, double-click those users in the right-hand users list. The users are then copied to the **Selected Users** list.
6. Click **OK**. You might need to resize the dialog box in order to see this button.

3.4 Copying a Dashboard

To copy a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Click the duplicate dashboard icon ().

   DeepSee displays a dialog box that prompts you for information about the copy.
3. For **New Board Name**, type the name of this new dashboard.
4. For **Folder**, click the browse button (...) and select a folder to contain this new dashboard.
5. Click **OK**.

DeepSee makes this copy from the original dashboard as saved. That is, if you open a dashboard in edit mode, make changes (but do not save them), and then use the copy option, the new dashboard reflects the original dashboard as it was before you made changes.

3.5 Adding an Element

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Click the icon corresponding to the type of element you want to add. See the following subsection for a quick summary.

   The system displays a dialog box in which you specify properties for the new element. The details depend upon the element and how you plan to use it.
3. Click **OK**. You might need to resize the dialog box in order to see this button.

   The new element is added in the upper left corner of the dashboard.
4. Drag and drop the element to the desired location.
5. Resize the element as needed.

3.5.1 Overview of the Dashboard Elements

The following table lists the elements you can add to a dashboard:

Element Type	Icon	Purpose	For Information
Label		A string.	See "Overview of Text and Graphic Elements."
Image		An image, which can be interactive.	
Picture box		An image, tiled repeatedly to fill the element.	
Button		A button that displays a string. Can be interactive.	
Picture button		A button that displays a string and an image. Can be interactive.	

Element Type	Icon	Purpose	For Information
Timer		A timer that can refresh one or more data elements.	See "Adding Refresh Timers."
Timer control		A control with which the user can start and stop a timer.	
Pivot table		A pivot table.	See "Overview of Data Elements."
Speedometer		A KPI displayed within a speedometer.	
Detail listing		A detail listing.	
Venn diagram		A Venn diagram	See "Adding Venn Diagrams"
Frame		A frame that contains a dashboard.	See "Adding Frames."
Combo box		A drop-down list from which the user can select one item.	See "Overview of Data Controls."
List box		A list from which the user can select one (or maybe more) item. Shown in a box.	
Text box		A box into which the user can type a value.	
Date picker		A control into which the user can type a date or can click a button to choose a date.	
Check box		A check box that the user can select or clear.	
Search box		A control into which the user can type a value or can click a button to search for a value in a list.	
Dashboard library object		An element that has been copied to the dashboard library.	See "Using the Dashboard Library."

3.6 Editing an Element

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Now either:
   - Double-click the element.
   - Right-click the element and then click **Edit**.

   The system displays a dialog box in which you specify properties for the new element. The details depend upon the element and how you plan to use it.
3. Click **OK**. You might need to resize the dialog box in order to see this button.

3.7 Copying an Element

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Right-click the element and then click **Duplicate**.
3. The system immediately copies the element and places the copy directly in front of its original.
4. Drag and drop the copied element to the desired location.

If the original element is a refresh target or as a filtered object, those links are copied.

If the original element is a refresh trigger or as a filter, those links are not copied.

If the original element includes post actions, those are copied.

You can also copy elements to the dashboard library and reuse them on other dashboards; see the chapter "Using the Dashboard Library."

3.8 Deleting an Element

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Now either:
   - Click the element and then press **Delete**.
   - Right-click the element and then click **Delete**.

3. The system immediately deletes the element.

You can also select multiple elements, so that you can delete them. To select them, left-click and hold while dragging; the selected elements are highlighted in orange. Then press **Delete**. The elements are immediately removed.

3.9 Deleting a Dashboard

To delete a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Click the delete dashboard icon ().

   DeepSee prompts you for confirmation.
3. Click **OK**.

   DeepSee then displays the **Dashboard List** dialog box to prompt you to open a different dashboard.

3.10 Adjusting Positions and Sizes of Elements

In addition to standard mouse gestures, the Dashboard Designer provides a couple of options to let you fine-tune the positions and sizes of elements on a dashboard:

- You can display a grid that helps you align elements while editing a dashboard
- You can use the dashboard management tool to adjust all elements
- You can display and edit the size and position of a single element
- You can move elements backward and forward, when they are stacked

3.10.1 Displaying the Grid

While you are viewing a dashboard in edit mode, you can display a grid of dots that can help you align elements with each other. To do this, you use an icon in the toolbar. This icon is shown as follows:

Icon	Meaning
	The grid is currently hidden. Click this icon to display the grid.
	The grid is currently shown. Click this icon to hide the grid.

3.10.2 Adjusting All Elements

The dashboard management tool lets you easily adjust the position and size of every element on a dashboard. This is particularly useful when you want to make sure elements are lined up precisely with each other. To use this tool:

1. Open the dashboard in view mode.
2. Right-click and then click **Dashboard Management**. DeepSee then displays a dialog box with a table of all the elements on this dashboard, showing their names and their types.
3. For any element, edit any of the following options:
   - **Top** — The position of the top edge of this element.
   - **Left** — The position of the left edge of this element.
   - **Width** — The width of this element.
   - **Height** — The height of this element.
   - **Auto Resize** — A check box that is enabled for graphic elements.

   Ignore the **Security (Enable)** option.
4. Optionally, to delete an element, click the table row corresponding to that element and then click **Delete Line**.

   DeepSee prompts you for confirmation.
5. Click **Save** and then click **OK**.

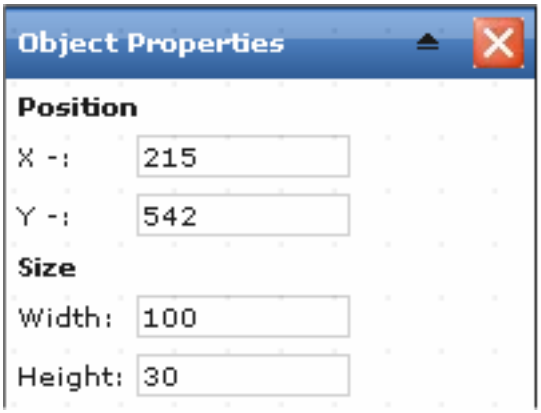
   DeepSee then saves your changes and refreshes the dashboard so that you can check your work.
6. When you are done, click the close button (X) in the upper right.

3.10.3 Adjusting One Element

When you are creating or modifying a dashboard, you can move an element (by drag and drop) and resize it (by dragging its handles). In addition, you can display and edit the size and placement, as follows:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this chapter.
2. Click the show object properties icon ( ).

   DeepSee then displays a child window as follows:



3. Move this window to a convenient location, where it does not cover any elements.
4. Click an element on the dashboard.

   The **Object Properties** window then displays details for that element. Here:

   - **X** — Indicates the position of the top edge of this element.
   - **Y** — Indicates the position of the left edge of this element.
   - **Width** — Indicates the width of this element.
   - **Height** — Indicates the height of this element.

5. Optionally edit a value and then move the cursor to another field in the **Object Properties** window. When you do so, the change is applied immediately.

When you no longer need the **Object Properties** window, click the hide object properties icon ( ).

You can also select multiple elements, so that you can move them. To select them, left-click and hold while dragging; the selected elements are highlighted in orange. Then left-click and drag the elements to a new location.

3.10.4 Moving Elements Backward and Forward

If you arrange dashboard elements on top of each other (typically to display elements in front of graphics), you may sometimes need to control which element is in front.

To adjust how far in front an element is, right-click it and then click one of the following:

- **Bring it forward**
- **Send it back**

4

Adding Data Elements

This chapter describes how to add elements that display data. It discusses the following topics:

- An overview of the available data elements
- How to add a pivot table to a dashboard
- How to add a speedometer to a dashboard
- Details on the display properties of speedometers
- How to add a detail listing to a dashboard

Also see the chapter "Displaying Listing Fields and Other Source Data," later in this book.

4.1 Overview of Data Elements

DeepSee dashboards can include any of the following data elements:

Element Type	Toolbar Icon	Purpose
Pivot table		Displays a pivot table.
Speedometer		Displays a KPI within a speedometer.
Detail listing		Displays a detail listing.

For information on adding data controls that affect these data elements, see the chapter "Adding Data Controls," later in this book.

4.2 Adding a Pivot Table

To add a pivot table to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add pivot table button ().

   DeepSee displays a dialog box in which you specify the details.
3. In the **List Of Pivot** section, expand folders as needed and click the pivot table that you want to add.
4. Optionally specify the following properties:
   - **Normal Display** — Specifies a new title for the pivot table. By default, the pivot table uses the title specified in the Analyzer.
   - **Display** — Controls how this pivot table is initially displayed.

     By default, the pivot table is initially displayed in tabular format. To use graph format initially, click the **Chart** option. The user can change the display format.
   - **Auto load** — If this option is selected, the pivot table automatically retrieves and displays the data.

     You would clear this option only if you added another element to the dashboard to act as a refresh trigger for the pivot table.
   - **Filter** — Specifies an additional filter to apply to the data shown in the pivot table. Type a filter expression. For example:

     ```
     [Ship Country = Australia]
     ```

     See the appendix "Filter Expressions."
5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The pivot table is added in the upper left corner of the dashboard.

4.3 Adding a Speedometer

A speedometer displays a KPI. Note that you can also display a KPI by using a label element and the **$$VAR** function. See "Adding a Label," later in this book.

To add a speedometer to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add speedometer table button ().

   DeepSee displays a dialog box in which you specify the details.
3. For **KPI Override Setting** (at the bottom of the dialog box), click the browse button and select the KPI to display in this speedometer.

   For information on defining KPIs, see *Using the DeepSee Analyzer*.
4. Optionally specify the following:
   - **Caption** — Specifies a caption for the speedometer.

     You can type a Caché ObjectScript expression that refers to a user-defined function (function starting with $$); see "Function Calls" in the appendix. You can use the **$$VAR** function, which is also described in that section.

     By default, the speedometer has no caption.
   - **Filter** — Specifies an additional filter to apply to the data used in the KPI. Type a filter expression. For example:

     ```
     [Ship Country = Australia]
     ```

     See the appendix "Filter Expressions."
   - Specify display properties as described in the following section.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The speedometer is added in the upper left corner of the dashboard.

4.4 Speedometer Display Properties

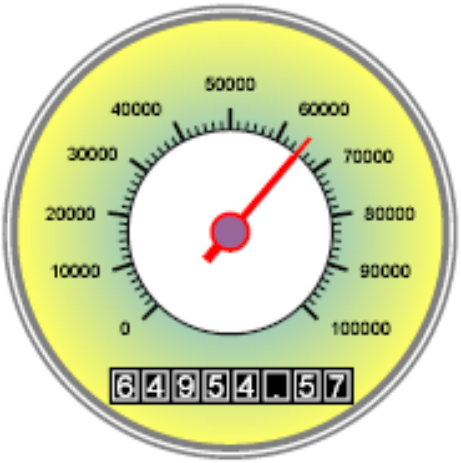
This section describes the display properties for speedometers and shows examples for quick reference.

- **Appearance** — Specifies whether this speedometer is shown as a half-circle or as a circle. The following shows examples of each; note that both these speedometers have exactly the same width:

- **Outer Layout Type** — Controls the appearance of the outer region of the speedometer, which can be displayed either as a solid color (as in the preceding examples) or as a gradient. Select **None**, **Gradient vertical**, or **Gradient round** (radial gradient).

  The following examples show the vertical gradient and the radial gradient.

  The radial gradient option is more suitable with a round speedometer (rather than a half-circle). For example:

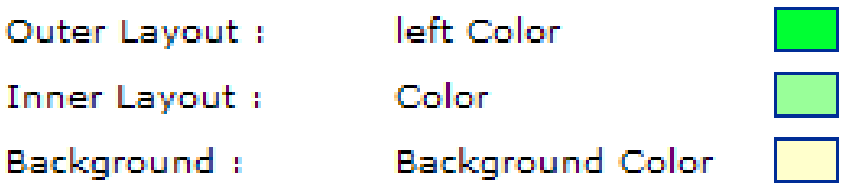


- **Outer Layout left Color** — Specifies the main color of the outer region of the speedometer. By default, this is dark blue.
- **Outer Layout right Color** — Specifies the secondary color of the outer region of the speedometer, if you are using one of the gradient options. By default, this is not specified.

  If you select one of the gradient options, be sure to use different colors for **Outer Layout left Color** and **Outer Layout right Color**.
- **Inner Layout** — Specifies the color of the inner region of the speedometer. This area is white by default.

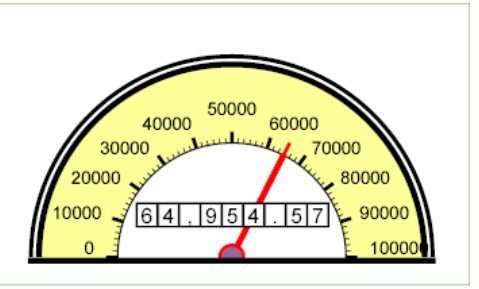
  This option has no effect if you use the **Outer Scale** option.
- **Background Color** — Specifies the color of the background of the speedometer, the area outside of the speedometer itself. This area is white by default.

  The following example shows non-default colors for the outer region, inner region, and background. First, the settings used are as follows:

  The resulting speedometer is as follows:

- **Background, Border Color** — Specifies the color of the border around the rectangle that encloses the speedometer. There is no border by default. An example border is shown later in this section (see **Meter Reading, Back Color**).
- **Meter Reading, Number Color** — Specifies the color of the numbers in the meter (shown in boxes in the examples). The default is white.
- **Meter Reading, Back Color** — Specifies the color of the background for the meter numbers. The default is black. The following example shows a speedometer with black meter numbers and white background for the meter numbers. The example also shows a green border.



- **Scale Colored** — If selected, this option displays the scale in a color that you choose (see **Scale Color**). By default, the scale is shown in the same color as the outer area of the speedometer.
- **Scale Color** — Specifies the color of the scale. The following examples show colored scales, both inner and outer versions.

If the KPI used in the speedometer has a set of ranges with display rules, those rules override the color you choose for the scale. For example:

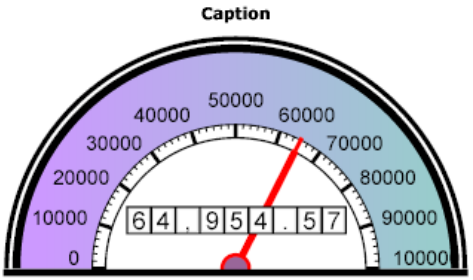
- **Label Color** — Specifies the color of the numbers of the scale itself (not the numbers in the meter). The default is black.
- **Arrow Color** and **Arrow Circle Color**— Control the color of the arrow and the circle shown at its center, respectively. By default, the arrow is red, and the circle is purple. The following shows a variation with green and white:

- **Scale Type** — Controls the placement of the scale. Select **Inner Scale** (the default) or **Outer Scale**. The following shows examples of each, with the default version on the left:

If you use **Outer Scale**, the speedometer does not have an inner area (and the color specified by **Inner Layout** is ignored).

- **Lighting Effect** — If you select this option, the speedometer looks as if a light is shining on it, as follows:

- **Font** — Click this to specify the typeface, font style, and font size of the caption, which is shown above the speedometer. For example:



Ignore the other options, which have no effect.

4.5 Adding a Detail Listing

To add a detail listing to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add detail listing table button ( ).

   DeepSee displays a dialog box in which you specify the details.
3. In the **List Of Detail Listing** section, expand folders as needed and click the detail listing that you want to add.
4. Specify how to display the detail listing. To do so, click one of the following options for **Display**:
   - **Grid (page)** — Displays the rows one page at a time.
   - **Grid (List All)** — Displays all rows in a single, scrolling window.
5. Optionally specify the following:

- **Name** — Specifies a caption for the detail listing.

  By default, the detail listing uses the title specified in the Architect.

- **Row Height** — Specifies the row height, if you want to adjust the default row height.

- **Auto load** — If you select this option, the detail listing table automatically retrieves and displays the data, clear the **Auto load** check box. Otherwise, it does not do so. You would clear this option only if you added another element to the dashboard to act as a refresh trigger for the detail listing.

- **Filter** — Specifies an additional filter to apply to the data shown in the detail listing. Type a filter expression. For example:

  ```
  [Ship Country = Australia]
  ```

  See the appendix "Filter Expressions."

6. Click **OK**. You might need to resize the dialog box in order to see this button.

   The detail listing is added in the upper left corner of the dashboard.

5

Adding Data Controls

This chapter describes how to add data controls to a dashboard. It discusses the following topics:

- An overview of the data controls
- How to add a control in general
- How to configure a combo box
- How to configure a list box
- How to configure a text box
- How to configure a date picker
- How to configure a check box
- How to configure a search box
- Details on the default value options
- How to use a control as a filter for other dashboard elements
- How to use a control to set a variable used by data elements

5.1 Overview of Data Controls

In user interface design, the word *control* refers generally to an object with which the user interacts with the application. The Dashboard Designer provides many kinds of controls. In this book, *data controls* are the objects with which the user can control the data elements (pivot tables, speedometers, and detail listings). The data controls are as follows:

Control Type	Toolbar Icon	Purpose
Combo box		User can select one item from the drop-down list.
List box		User can select one (or maybe more) item from the list shown in the box.
Text box		User can type a value.
Date picker		User can type a date or can click a button to choose a date.
Check box		User can select or clear the check box.
Search box		User can type a value or can click a button to search for a value in a list.

The following sections show examples of each of these data controls, in its default state. Note that none of the data controls include a label; this enables you to add labels at any position.

You can use any of the data controls in either of the following ways (or even in a combination of both ways):

- To filter a data element or another data control in the same dashboard. For example, a user chooses a country, and that updates a pivot table.
- To set variables used by data elements in the same dashboard. For example, a user types a number, and a pivot table that shows the top-ranked countries is updated to show that many of the top countries.

Both techniques are described at the end of the chapter.

5.2 Adding a Data Control

In general, to add a data control to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the button for the type of control you want to add. See "Overview of Controls."

   DeepSee displays a dialog box in which you specify the details.
3. Configure the control as needed, by setting its properties, as described in the following sections.

4. Click **OK**. You might need to resize the dialog box in order to see this button.

   The control is added in the upper left corner of the dashboard.

5. Drag and drop the control to the desired location.

6. Resize the control as needed.

5.3 Using Combo Boxes

A combo box is a drop-down list, as follows:

The user clicks the arrow on the right and then clicks a list member.

To configure a combo box, specify its properties as follows:

1. Optionally type a name into **Name**. This name is not visible in the dashboard itself but is useful when you edit the dashboard.

2. Create the list that this combo box uses. To do so, do one of the following:

   - Create a list of dimension members, as described in the following subsection. If you are using the user's selection as a filter, you must create the list this way.
   - Manually create a list, as described in the subsection after that.

3. Optionally do some or all of the following:

   - Specify a default list member. To do so, click the browse button (...) next to **Default Value**.

     Then type a Caché ObjectScript expression into **Caché Scripts**. Typically you type a string or a number. For example:

     ```
     "Federal Shipping"
     ```

     The expression must evaluate to one of the items in the list you created; otherwise it is not shown.

     Then click **OK**.

   - Specify whether the list is populated when the dashboard is accessed. To disable the default population, clear the **Load records Onload** check box.

You would do this only if you included another control that used this control as its refresh target. For example, one combo box would give the user a choice of countries. When the user selected a country, the country combo box would refresh the ship region combo box.

4. If you are using the user's selection as a filter, optionally choose a comparison operator for use in the filter. By default, the filter uses the equals operator. For example, suppose the combo box lists ship years. If the user selects the ship year `2005`, data is shown for the ship year equal to `2005`. You can instead use other comparison operators:
   - Greater than (>)
   - Greater than or equal to (>=)
   - Less than (>)
   - Less than or equal to (>=)
   - Equal to (=)
   - Not equal to (?=)
5. If you are using the user's selection to set a variable, enter the name of that variable into **Store In Variable**. See "Using a Control to Set a Variable," later in this chapter.
6. Click **OK**. You might need to resize the dialog box in order to see this button.
7. If you are using the user's selection as a filter, link the combo box to the element that it filters. See "Using a Control to Filter a Dashboard Element," later in this chapter.

Note: Ignore the **Custom** and **Post-Loading Scripts** options.

5.3.1 Creating a List of Dimension Members

For combo boxes (as well as list boxes and search boxes, both discussed later), you can create a list of dimension members that the control uses. The steps are similar for all three controls:

1. For **Subject Area**, select a subject area and click **OK**. The dimensions in the subject area are then displayed within **Dimensions**.
2. For **Dimensions**, double-click a dimension.

   When you do so, the system puts your subject area and dimension name into **Schema** and **Dimension** on the right. The box below **Condition** now displays all currently existing members of this dimension.
3. Optionally do some or all of the following:
   - Control whether the list includes the special first line.

By default, the first line in the combo box or a list box is a blank line, and this line corresponds to all members (no filtering). To remove this first line, clear the **First Line Display** check box.

To specify a title for the first line (such as `All`), type a value into the unlabeled box to the right of **First Line Display**.

Note: This option does not apply to search boxes.

- Restrict the set of members in the list. To do so, double-click the name of each member you want to include. When you do so, the member is added to the unlabeled box below **Sort Order**.

  If this box is empty (the default), all members of this dimension are included in the list (unless they are filtered out due to the user's permissions).

  To clear this box, click **Clear**.

- Specify how the list items are sorted. To do so, click a value for **Sort Order**. Be sure to use a sorting type that is appropriate for this dimension. For example, if Ship Date Year is a text-valued dimension, numeric sorting has no effect.

- Specify a filter to apply to the list of dimension members. To do so, type a filter expression into **Filter**. For example:

  ```
  [Ship Date Year = 2005]
  ```

  See the appendix "Filter Expressions."

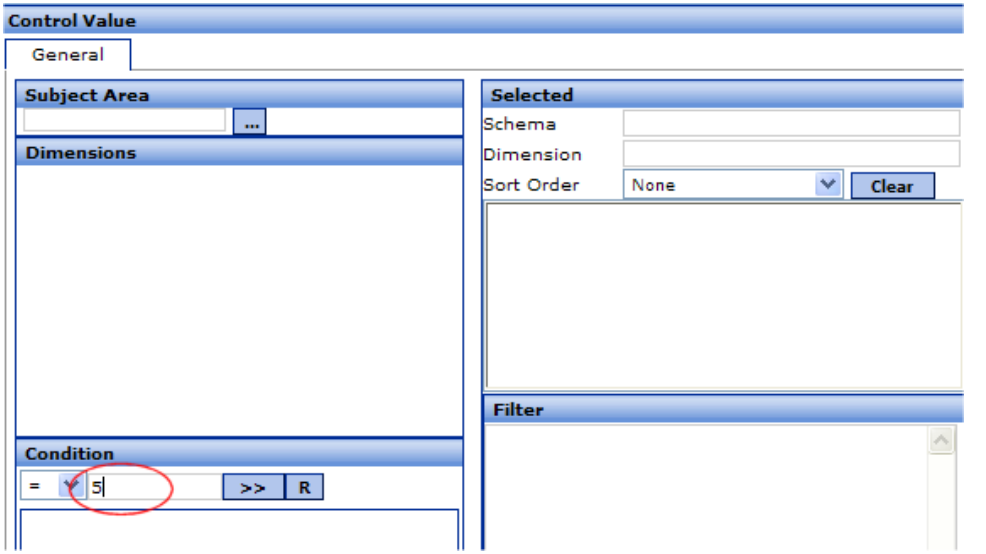
  For example, if the list of dimension members is the set of ship countries, and you specify the preceding filter, the user sees only the ship countries that received orders in 2005.

  Note: This option does not apply to search boxes.

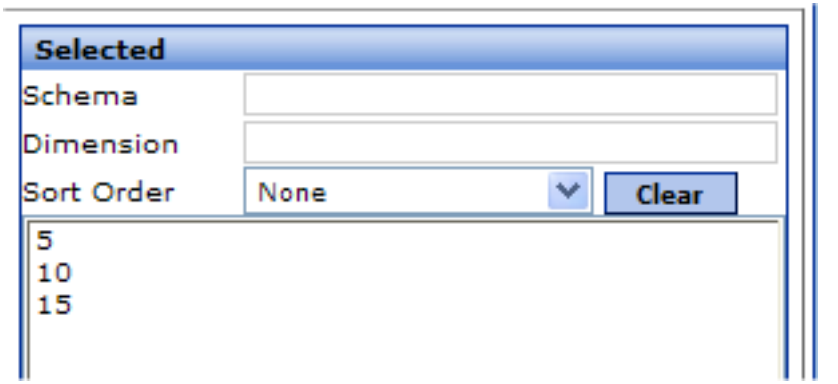
5.3.2 Create a List Manually

For combo boxes (as well as list boxes and search boxes, both discussed later), you can manually create the list of items that the control uses. To do so:

1. Type a list item into the box beneath **Condition**:



2. Click the >> button. The value you typed is then copied to the unlabeled box beneath **Sort Order**.
3. Repeat these steps as necessary until you have added all list elements:



4. Optionally specify whether the list includes the special first line.

   By default, the first line in the combo box or a list box is a blank line, and this line corresponds to all members (no filtering). To remove this first line, clear the **First Line Display** check box.

   To specify a title for the first line, type a value into the unlabeled box to the right of **First Line Display**.

   Note: This option does not apply to search boxes.

5.4 Using List Boxes

A list box is a box that contains a list of items, as follows:

The box automatically includes scroll bars if necessary.

List boxes are quite similar to combo boxes. To configure a list box, specify its properties in the same way as for a combo box, with two differences:

- For a list box, the only comparison operator you can use is the equals operator, so no choice is given.
- For a list box, you can enable the user to select multiple list elements at once. To do so, click **Allow Multi Select**.

5.5 Using Text Boxes

A text box is a plain box into which a user can type a value, as follows:

To configure a text box, specify its properties as follows:

1. Optionally type a name into **Name**. This name is not visible in the dashboard itself but is useful when you edit the dashboard.
2. If you are using the user's entry as a filter, select the dimension to which the filter refers. To do so:
   a. For **Subject Area**, select a subject area and click **OK**. The dimensions in the subject area are then displayed within **Dimensions**.
   b. For **Dimensions**, double-click a dimension.

When you do so, the system puts your subject area and dimension name into **Schema** and **Dimension** on the right.

3. If you are using the user's entry as a filter, optionally choose a comparison operator for use in the filter. By default, the filter uses the equals operator. For example, suppose the text box uses the ship year dimension. If the user types the value `2005` into the text box, data is shown for the ship year equal to `2005`. You can instead use other comparison operators:

   - Greater than (>)
   - Greater than or equal to (>=)
   - Less than (>)
   - Less than or equal to (>=)
   - Equal to (=)
   - Not equal to (?=)

4. Optionally do some or all of the following:

   - Specify a default value to show in the text box. To do so, click the browse button (...) next to **Default Value**.

     Then type a Caché ObjectScript expression into **Caché Scripts**. Typically you type a string or a number. For example:

     ```
     "Federal Shipping"
     ```

     The expression can evaluate to anything but must be consistent with your validation script, if you add one.

     Then click **OK**.

   - Specify a validation script. To do so, type one or more Caché ObjectScript statements into **Validation Scripts**. These statements can use and set the variable `val`, which contains the current value of the text box control.

   - Specify options to control the appearance of the text as it is being typed in. To do so, click the **Customize** tab and set some or all of the following options:

     - **Font** — Click this to choose the font typeface, size, and style. Ignore the other options, which are not used in this case.
     - **Fore Color** — Click this to choose the color of the text.
     - **Back Color** — Click this to choose the background color of the text box control.
     - **CAPS lock on all entry** — Click this to convert all text to upper case.

- **Alignment** — Click an option to control the alignment of the text within the text box control.

Ignore the **Border** setting.

5. If you are using the user's entry to set a variable, enter the name of that variable into **Store In Variable**. See "Using a Control to Set a Variable," later in this chapter.
6. Click **OK**. You might need to resize the dialog box in order to see this button.
7. If you are using the user's entry as a filter, link the text box to the element that it filters. See "Using a Control to Filter a Dashboard Element," later in this chapter.

Note: Ignore the **Sort Order**, **Custom**, **Post-Loading Scripts** options.

5.6 Using Date Pickers

A date picker includes a plain box into which a user can type a date (in the format dd/mm/yy or dd/mm/yyyy), as well as a button with which the user can open a dialog box for choosing a date, as follows:

If you use this element as a refresh trigger, the trigger is activated only if the check box is selected; otherwise the element is ignored.

To configure a date picker, specify its properties as follows:

1. Optionally type a name into **Name**. This name is not visible in the dashboard itself but is useful when you edit the dashboard.
2. If you are using the user's entry as a filter, select the date dimension to which the filter refers.

   To do so:

   a. For **Subject Area**, select a subject area and click **OK**. The dimensions in the subject area are then displayed within **Dimensions**.

   b. For **Dimensions**, double-click a date dimension.

      Note: To use the date picker, be sure to select the base date dimension name (for example `Order Date`). Do not use the variants `Order Date Year`, `Order Date Quarter`, `Order Date Month`, and so on.

When you do so, the system puts your subject area and dimension name into **Schema** and **Dimension** on the right.

3. If you are using the user's entry as a filter, optionally choose a comparison operator for use in the filter. By default, the filter uses the equals operator. For example, suppose the date picker uses the `Order Date` dimension. If the user selects the date 06/01/1980, data is shown for that date. You can instead use other comparison operators:
   - Greater than (>)
   - Greater than or equal to (>=)
   - Less than (>)
   - Less than or equal to (>=)
   - Equal to (=)
   - Not equal to (?=)
4. Optionally specify a default value to show in the date box. To do so, click the browse button (...) next to **Default Value**.

   Then type a date-valued Caché ObjectScript expression into **Caché Scripts**. Use the format dd/mm/yy or dd/mm/yyyy. For example:

   ```
   "15/06/08"
   ```

   Then click **OK**.
5. If you are using the user's entry to set a variable, enter the name of that variable into **Store In Variable**. See "Using a Control to Set a Variable," later in this chapter.
6. Click **OK**. You might need to resize the dialog box in order to see this button.
7. If you are using the user's entry as a filter, link the date picker to the element that it filters. See "Using a Control to Filter a Dashboard Element," later in this chapter.

Note: Ignore the **Sort Order**, **Custom**, and **Post-Loading Scripts** options.

5.7 Using Check Boxes

A check box looks like this:

Each state of the check box (cleared or selected) corresponds to a value.

To configure a check box, specify its properties as follows:

1. Optionally type a name into **Name**. This name is not visible in the dashboard itself but is useful when you edit the dashboard.
2. If you are using this check box as a filter, select the dimension to which the filter refers.

   To do so:

   a. For **Subject Area**, select a subject area and click **OK**. The dimensions in the subject area are then displayed within **Dimensions**.

   b. For **Dimensions**, double-click a dimension.

      When you do so, the system puts your subject area and dimension name into **Schema** and **Dimension** on the right.

3. Specify the values associated with the selected and cleared states. To do so, type values into **Checked** and **Unchecked**.

   If you are using the check box as a filter, these values must be equal to the names of members of the dimension you selected previously.
4. Optionally configure the default state of the check box:

   a. Click the browse button (...) next to **Default Value**.

   b. Type a Caché ObjectScript expression into **Caché Scripts**. This expression must evaluate to one of the values that you typed in the previous step.

   c. Click **OK**.

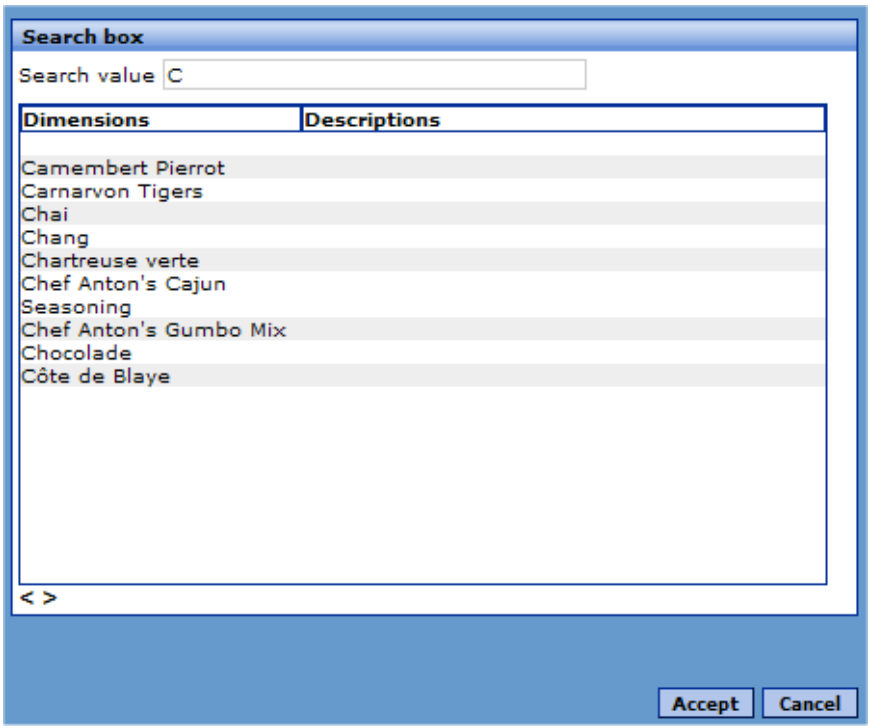
   If you do not do this, the check box is cleared by default.
5. If you are using the user's selection to set a variable, enter the name of that variable into **Store In Variable**. See "Using a Control to Set a Variable," later in this chapter.
6. Click **OK**. You might need to resize the dialog box in order to see this button.
7. If you are using the user's selection as a filter, link the check box to the element that it filters. See "Using a Control to Filter a Dashboard Element," later in this chapter.

Note: Ignore the **Custom** and **Post-Loading Scripts** options.

5.8 Using Search Boxes

A search box is meant to help the user find an item in a list, typically in a very long list. It includes a plain box into which a user can type a value, as well as an icon that displays a search dialog box, as follows:

To use this control, the user optionally types a value into the box and then clicks the search icon. The search dialog box then displays all list items that start with the same characters; the comparison is case-sensitive. For example:



The user then clicks a list item and clicks **Accept** to select it.

To configure a search box, specify its properties as follows:

1. Optionally type a name into **Name**. This name is not visible in the dashboard itself but is useful when you edit the dashboard.
2. Create the list that this search box uses. To do so, do one of the following:

- Create a list of dimension members, as described in "Creating a List of Dimension Members," earlier in this chapter. If you are using the user's selection as a filter, you must create the list this way.
- Manually create a list, as described in "Creating a List Manually," earlier in this chapter.

3. Optionally specify the default list element. To do so, click the browse button (...) next to **Default Value**.

   Then type a Caché ObjectScript expression into **Caché Scripts**. Typically you type a string or a number. For example:

   ```
   "F"
   ```

   This expression would select all list items that start with *F*.

   Then click **OK**.

4. If you are using the user's selection to set a variable, enter the name of that variable into **Store In Variable**. See "Using a Control to Set a Variable," later in this chapter.
5. Click **OK**. You might need to resize the dialog box in order to see this button.
6. If you are using the user's selection as a filter, link the search box to the element that it filters. See "Using a Control to Filter a Dashboard Element," later in this chapter.

Note: Ignore the **Custom** and **Post-Loading Scripts** options.

5.9 Specifying Default Values

For data controls, you can specify a default value, as noted in the earlier sections of this chapter. You do this when you add or edit the data control in the dashboard.

Click the browse button (...) next to **Default Value**. Then you can specify **Default Value Type** and the corresponding details:

- **Quick Script** is the default type. If you use this, enter a Caché ObjectScript expression into **Caché Scripts**. Typically you type a string or a number. For example:

  ```
  "Federal Shipping"
  ```

- **Data Object** refers to the value of a source field in the database. For information on using this type, see the chapter "Displaying Listing Fields and Other Source Data," later in this book.
- **Listing fields** refers to the value of a detail listing field. See the chapter "Displaying Listing Fields and Other Source Data," later in this book.

Do not use the type **Caché Script Object**.

5.10 Using a Control to Filter Another Dashboard Element

You can use any of the controls to filter any number of data elements or other controls in the same dashboard.

Note that filters do not affect frames, except for frames that are loaded as detail lists (see the chapter "Displaying Listing Fields and Other Source Data").

To use a control to filter a data element or another control:

1. Configure the control as described earlier in this chapter, following the instructions for using the control as a filter.
2. Specify the control as the refresh trigger and as a filter. To do so, do both of the following, in either order:
   - Right-click the control and then click **Set as Refresh Trigger**.
   - Right-click the control and then click **Set as Filter**.
3. Specify the other element as the refresh target and as the filtered object. To do so, do both of the following, in either order:
   - Right-click the element and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the control and the other element.
   - Right-click the element and then click **Apply Filter to this object**. When you do so, a blue line is drawn between the control and the other element.

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

5.11 Using a Control to Set a Variable

You can use any of the controls to set system variables used by data elements in the same dashboard. For example, suppose that the dashboard included a pivot table that ranked the top ten sales regions by default. You could add a combo box that listed the numbers 5, 10, 15, and 20, and you could use the user's selection to control the number of top-ranked sales regions that are shown. That is, the user

could select 20, and then the pivot table would display the top 20 sales regions. This works because the combo box uses the user's selection to update a system variable that is used by the pivot table.

You can also use the same mechanism to set your own variables. For example, you could use a combo box to set the variable VVCOUNTRY (or some other name you choose), and you could have a label that displays the value of that variable by using the **$$VAR** function; see "Function Calls" in the appendix.

To use a control to set a variable:

1. Configure the control as follows:
   a. For **Store In Variable**, either type the variable name or click the browse button (...) and then select a system variable.

      Note: For check boxes, the properties dialog box does not include a browse button for variables, so type the variable instead.

   b. Click **OK**.

      The dialog box is closed and the variable is displayed in **Store In Variable**.
2. Specify the control as the refresh trigger. To do so, right-click the control and then click **Set as Refresh Trigger**.
3. Specify the data element as the refresh target. To do so, right-click the data element and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the control and the data element.

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

5.11.1 Example 1: Controlling the Ranking of a Pivot Table

In this example, we create a combo box with which the user selects a number. The same dashboard includes a pivot table that uses ranking. Depending on which number the user selects, the pivot table is updated to show a different number of top-ranked elements. To set up a dashboard with these elements (assuming that you have a suitable data model):

1. Create a pivot table that uses ranking. See *Using the DeepSee Analyzer*.

   For example, this pivot table could display the top ten ship countries.
2. Create a new empty dashboard.
3. Add the pivot table to the dashboard.
4. Add a combo box to the dashboard. For this combo box:
   - Manually define the list members as 5, 10, 15, and 20.

- For **Store In Variable**, select the variable `zzRANKCNT`

5. Connect the combo box and the pivot table. Use the combo box as the refresh trigger, and use the pivot table as the refresh target. See the previous section in this chapter.

5.11.2 Example 2: Controlling a Label

In this example, we create a combo box with which the user selects a ship country. This combo box acts as a filter and refresh trigger for a pivot table; it also controls a label on the dashboard. To set up a dashboard with these elements (assuming that you have a suitable data model):

1. Create a new empty dashboard.
2. Add a pivot table to the dashboard.
3. Add a combo box to the dashboard. For this combo box:
   - Select the Orders subject area and then select the Ship Country dimension.
   - For **Store In Variable**, type a variable name such as `MyVar`
4. Connect the combo box and the pivot table. Use the combo box as the refresh trigger and filter, and use the pivot table as the refresh target and filtered object. See the previous section in this chapter.
5. Add a label to the dashboard. For this label:
   - Specify **Normal Display** as `$$VAR(MyVar)`
   - Specify **Default** as `All Countries`
6. Connect the combo box and the label. Use the combo box as the refresh trigger, and use the label as the refresh target. See the previous section in this chapter.

6

Adding Refresh Timers

You can add timers to a dashboard; typically you do this to refresh (reload) data at periodic intervals. You can include timer controls, which allow the users to stop and start the timers. This chapter discusses the following:

- How to add a timer to a dashboard
- How to add a timer control to a dashboard

6.1 Adding a Timer

To add a timer to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add timer button ().

   DeepSee displays a dialog box in which you specify the details.
3. Optionally type a name into **Name**.
4. Optionally type a description into **Description**. This is not visible in the dashboard itself.
5. For **Interval**, type the refresh interval, in seconds.
6. If you want to display this timer, click **Display Timer Information**. In this case, the timer is displayed as follows:

When the remaining time is five seconds or less, the timer displays the remaining time in red font.

7. Click **OK**. You might need to resize the dialog box in order to see this button.

   The timer is added in the upper left corner of the dashboard.

8. Drag and drop the timer to the desired location.
9. Resize the timer as needed.
10. Right-click the timer and then click **Set as Refresh Trigger**.
11. Specify a data element as the refresh target. To do so, right-click the data element and then click **Set as Refresh Target**. When you do so, a gray line is drawn between the timer and the data element.

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

6.2 Adding a Timer Control

A timer control is a button with which the user can start and stop a timer. Note that a timer control can affect multiple timers, as you choose.

To add a timer control to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add timer control button ().

   DeepSee displays a dialog box in which you specify the details.

3. Optionally do some or all of the following:
   - Edit the value in **Start Timer Caption**, which is the caption of the button to start the timer. The default is `Start Timer`.
   - Edit the value in **Stop Timer Caption**, which is the caption of the button to stop the timer. The default is `Stop Timer`.

- Click **Font** and then select a different font for the start/stop button.
- Click **Fore Color** and then select a different color of font for the start/stop button.
- Click **Back Color** and then select a different background color for the start/stop button.

4. Click **OK**. You might need to resize the dialog box in order to see this button.

   The timer control is added in the upper left corner of the dashboard.
5. Drag and drop the timer control to the desired location.
6. Resize the timer control as needed.
7. Right-click the timer control and then click **Set as Timer Control**.
8. Right-click a timer and then click **Apply Timer Control**. When you do so, a gray line is drawn between the timer control and the timer.

The following shows an example of a timer and a timer control:

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

7

Adding Text and Graphics

This chapter describes how to add text and graphics to a dashboard. It discusses the following topics:

- An overview of text and graphic elements
- How to load images into the DeepSee library for use in dashboards
- How to add a background image to a dashboard
- How to remove a background image from a dashboard
- How to add a label
- How to add an image
- How to add a picture box
- How to add a button
- How to add a picture button
- How to group multiple picture buttons
- How to use the KPI override feature to control the appearance of a label or image

7.1 Overview of Text and Graphic Elements

You can specify a background image for a dashboard to display.

You can also include the following text and graphic elements in a dashboard; note that some of these elements can be interactive:

Element Type	Toolbar Icon	Purpose	Interactive?
Label		Displays a string, which can be the result of a Caché ObjectScript function call.	No
Image		Displays an image.	Yes*
Picture box		Displays an image, tiled repeatedly to fill the element.	No
Button		Adds a button that displays a string, which can be the result of a Caché ObjectScript function call.	Yes*
Picture button		Adds a button that displays a string and an image.	Yes*

*See "Configuring an Image, Button, or Picture Button to Control a Frame," later in this book.

7.2 Loading Images into the DeepSee Library

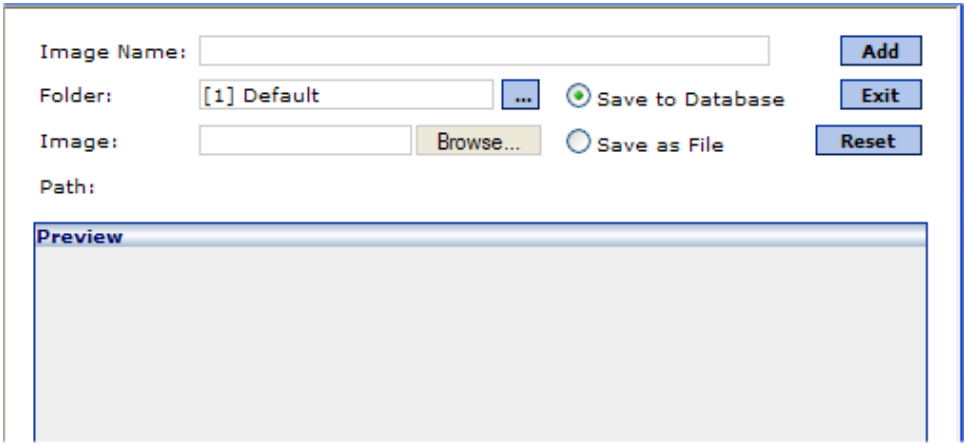
DeepSee provides a module that enables you to load existing image files into the DeepSee library.

Depending on your choice, the actual image file is either copied into the database or is copied into the DeepSee directories on the server.

In either case, you specify a name for the image, and DeepSee assigns an internal ID to it and creates an image "file" in the DeepSee library. This image "file" is then available for use in dashboards.

1. First:
   - If you are currently viewing a DeepSee module, click **Controls > Image List**.
   - If you are currently viewing a dashboard, right-click and then click **Controls > Image List**.
2. Right-click a folder in the left area and then select **Add Image**.

   DeepSee displays a dialog box where you specify the details of the image "file" that you are creating.



3. On this dialog box, specify the following:
   - **Image Name** — Type a name for this image. DeepSee displays this name when you are selecting an image to add it to a dashboard, but users do not see the name.
   - **Folder** — Optionally select a different folder to contain the image "file."
   - **Image** — Click **Browse** and navigate to the actual image file that you want to use.
4. Optionally click **Save as File** if you do not want to load the image into the database.

   If you choose this option, DeepSee copies the image file into the directory *install-dir*\CSP\sys\bi\work*namespace*\img, giving the file a new name based on the internal ID it assigns to the image.

   If you instead use **Save as File**, DeepSee copies the image into the database.
5. Click **Add**.

7.3 Adding a Background Image to a Dashboard

To add a background image to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the dashboard properties button ().

   DeepSee displays a dialog box in which you specify the details.
3. Do one of the following:

- Select a DeepSee image file. To do so, either type the image ID into **Image List** or click the button next to that field and then select an image. This action inserts a pointer on this dashboard to that stored image.
- Select an external image file. To do so, click **Browse**, navigate to the file, and click **OK**. This action loads the file into the database and uses it on this dashboard.

4. Optionally choose a value for **Picture Position**, one of the following:
   - **Left Top** (the default)
   - **Left Center**
   - **Left Bottom**
   - **Center Top**
   - **Center Center**
   - **Center Bottom**
   - **Right Top**
   - **Right Center**
   - **Right Bottom**
   - **Tile**

   Ignore the **Stretch** and **Zoom** options.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The image is displayed in the specified position.

Note that unlike the other objects in the dashboard, you cannot manipulate this one directly. To move the image, you must edit the dashboard properties. To resize the image, you must edit the image file itself.

7.4 Removing a Background Image from a Dashboard

To remove a background image to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the dashboard properties button ().

DeepSee displays a dialog box in which you specify the details.

3. Do one of the following:
   - To remove the pointer to a stored image, click **Clr**.
   - To remove an image that was loaded from a file, click **Clear**.
4. Click **OK**. You might need to resize the dialog box in order to see this button.

   The image is displayed in the specified position.

7.5 Adding a Label

To add a label to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add label button ().

   DeepSee displays a dialog box in which you specify the details.
3. Type the text of the label into **Normal Display**.

   Or type a Caché ObjectScript expression that refers to a user-defined function (function starting with $$); see "Function Calls" in the appendix. You can use the **$$KPI** or **$$VAR** function, which are also described in that section.

   The label can have multiple lines.
4. Optionally specify the following:
   - **Font** — Click this and then specify the typeface, font style, and font size. You can also choose underline or strike-through effects. Ignore the color options and alignment, which have no effect.
   - **Fore Color** — Click this and then select the color of the text.
   - **Back Color** — Click this and then select the color of the background of the label. Or select **Back Style Transparent** to make this background transparent.
   - **Default** — Click this and then type a default value. This is useful when you use a function call within **Normal Display**.
   - **Alignment** — Click an option in the drop-down list, to specify how the text is aligned within the label.
   - **Scrollbar** — Select this to add a vertical scroll bar to the right side of the label.

5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The label is added in the upper left corner of the dashboard.

Other options are discussed later in this book, as follows:

Option	Where Discussed
Default	Displaying Listing Fields and Other Source Data
KPI Override Setting and **KPI Filter**	Using KPI Display Rules to Override Text or Graphics
3D Appearance, **Border**, **Store In Variable**, and **DashboardID**	Ignore these options.

7.6 Adding an Image

To add an image to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add image button ().

   DeepSee displays a dialog box in which you specify the details.
3. Do one of the following:

   - Select a DeepSee image file. To do so, either type the image ID into **Image List** or click the button next to that field and then select an image.
   - Select an external image file. To do so, click **Browse**, navigate to the file, and click **OK**. This action loads the file into the database and uses it as this dashboard element.

   The dialog box displays a preview of the image.
4. Optionally specify the following:

   - **Upon Clicked** — Specifies the image to display when the user clicks the picture button. Click the browse button (...) next to **Upon Clicked** and choose a image as described previously. If you use this option, make sure that the image has the same dimensions as the main image.
   - **Tool Tip Text** — Specifies a short string to display when the user hovers the cursor over the button.

     You can type a Caché ObjectScript expression that refers to a user-defined function (function starting with $$); see "Function Calls" in the appendix. You can use the **$$KPI** function, which is also described in that section.

- **Auto Resize** — If you select this, the image object is resized to fit the image as soon as you click **OK**.

5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The image is added in the upper left corner of the dashboard.

Other options are discussed later in this book, as follows:

Option	Where Discussed
DashboardID	Configuring an Image, Button, or Picture Button to Control a Frame
KPI Override Setting and **KPI Filter**	Using KPI Display Rules to Override Text or Graphics
On Click Grouping	Grouping Images and Picture Buttons
Default Value, **Set Value**, **3D Appearance**, and **Border**	Ignore these options.

7.7 Adding a Picture Box

A picture box displays an image, which is tiled repeatedly to fill the area of the picture box.

To add a picture box to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add picture box button ().

   DeepSee displays a dialog box in which you specify the details.
3. Do one of the following:

   - Select a DeepSee image file. To do so, either type the image ID into **Image List** or click the button next to that field and then select an image.
   - Select an external image file. To do so, click **Browse**, navigate to the file, and click **OK**. This action loads the file into the database and uses it as this dashboard element.

   The dialog box displays a preview of the image.
4. Optionally select **Auto Resize**. If you do so, the image object is resized to fit the image as soon as you click **OK**.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

The picture box is added in the upper left corner of the dashboard.

Note: Ignore the **Default Value**, **DashboardID**, **3D Appearance**, and **Border** options.

7.8 Adding a Button

To add a button to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add button icon ().

   DeepSee displays a dialog box in which you specify the details.
3. Type the text of the button into **Normal Display**.

   Or type a Caché ObjectScript expression that refers to a user-defined function (function starting with $$); see "Function Calls" in the appendix. You can use the **$$KPI** or **$$VAR** function, which are also described in that section.
4. Optionally specify the following:
   - **Font** — Click this and then specify the typeface, font style, and font size. You can also choose underline or strike-through properties. Ignore the color options and alignment, which have no effect.
   - **Fore Color** — Click this and then select the color of the text.
   - **Back Color** — Click this and then select the color of the background of the label.
   - **Back Style Transparent** — Click this to make this background transparent. If you do, the background color is ignored.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The button is added in the upper left corner of the dashboard.

Note: For information on **DashboardID**, see "Configuring an Image, Button, or Picture Button to Control a Frame," later in this book.

Ignore the **3D Appearance** option.

7.9 Adding a Picture Button

A picture button is a button that includes both an image and a caption. You specify the position of both of these elements.

To add a picture button to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add picture button icon ().

   DeepSee displays a dialog box in which you specify the details.
3. Type the caption of the button into **Caption**.
4. Specify the main image used on the picture button. To do so, click the **Normal Display** tab and then do one of the following:

   - Select a DeepSee image file. To do so, either type the image ID into **Image List** or click the button next to that field and then select an image.
   - Select an external image file. To do so, click **Browse**, navigate to the file, and click **OK**. This action loads the file into the database and uses it as this dashboard element.

   The **Normal Display** tab displays a preview of the image.
5. Optionally specify the following:

   - **Upon Clicked** — Specifies the image to display when the user clicks the picture button. Click the tab and choose a image as described previously. The tab shows a preview of the image. If you use this option, make sure that the image has the same dimensions as the main image.
   - **Mouse Over** — Specifies the image to display when the user hovers the cursor over the picture button. Click the tab and choose a image as described previously. The tab shows a preview of the image. If you use this option, make sure that the image has the same dimensions as the main image.
   - **Font** — Specifies the typeface, font style, and font size for the caption. You can also choose underline or strike-through properties. Ignore the color options and alignment, which have no effect. Click this and specify the options.
   - **Fore Color** — Click this and then select the color of the caption text.
   - **Auto Resize** — If you select this, the picture button is resized to fit the image as soon as you click **OK**.
   - **Picture Position** — Specifies the position of the image within the picture button. Click an option from the drop-down list.

- **Caption Position** — Specifies the position of the caption within the picture button. Click an option from the drop-down list.

6. Click **OK**. You might need to resize the dialog box in order to see this button.

   The picture button is added in the upper left corner of the dashboard.

Other options are discussed later in this book, as follows:

Option	Where Discussed
DashboardID	Configuring an Image, Button, or Picture Button to Control a Frame
On Click Grouping and **On Click Startup**	Grouping Images and Picture Buttons
Back Color, **Border Width**, **Set Value**, **Appearance**, and **Style**	Ignore these options.

Ignore the other options for this object.

7.10 Grouping Images and Picture Buttons

When you create multiple images, you can group them so that only one is selected at any given time. That is, if the user clicks one of them, any previously selected image is automatically unselected.

The same is true when you create multiple picture buttons.

To group images or picture buttons:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Do the following to each image picture button:
   a. Double-click the image or picture button in the dashboard.
   b. For **On Click Grouping**, type a string that identifies the group.

      Be sure to use the identical string (including case) in all other picture buttons in this group.
   c. Click **OK**. You might need to resize the dialog box in order to see this button.
3. Optionally configure one of the images or picture buttons so that it is automatically selected when the dashboard is open. To do so, select **On Click Startup** for that item.

Note that the only purpose of the group is to control which group member is selected at any given time.

7.11 Using KPI Display Rules to Override Text or Graphics

For labels and images, you can use the KPI override feature, which uses the display rules defined in a KPI and applies them to the object. A KPI consists of two general elements:

- A measure or formula.
- A set of display rules. Each display rule specifies a range of values and has an associated display options. The display options can include font size, typeface, color, and so on. The following example shows three rules:

From Value	To Value	Foreground Color	Background Color	Font Name
0	500	#00FF00		Arial Black
500	1000	#FFFF66		Arial Black
1000		#CC0000		Arial Black

  Each range of values can also have an associated image (not shown in this example).

For labels, you can use KPI display rules to override the text display options that the label uses. Similarly, for images, you can use KPI display rules to override the image that is used. In either case, you select a KPI. When the dashboard is shown, the system evaluates the KPI, determines which display rule to use, and overrides the default label or image as appropriate.

To apply KPI display rules to a label or image:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Double-click the label or image in the dashboard.
3. For **KPI Override Setting**, click the browse button (...) and select a KPI.
4. Optionally, to filter the data used to evaluate the KPI, type a filter expression into **KPI Filter**. For example:

   ```
   [Ship Country = Australia]
   ```

   See the appendix "Filter Expressions."
5. Click **OK**. You might need to resize the dialog box in order to see this button.

For information on defining KPIs, see *Using the DeepSee Analyzer*.

8

Adding Frames

This chapter describes how to add frames to a dashboard. It discusses the following topics:

- How to add a frame to a dashboard
- How to configure an image, button, or picture button to control a frame
- How to configure a drop-down menu to control a frame
- How to display a Web page in a frame

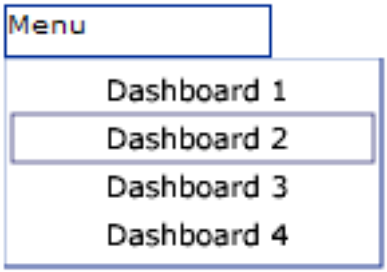
8.1 Overview of Frames, Frame Controls, and Drop-down Menus

A dashboard can include frames. A *frame* is a rectangular area that typically displays another dashboard; it can also display a Web page. You position and resize the frame as needed.

In general, you can use frames in any of the following ways:

- As a static element that displays another dashboard, resulting in a more complex visual layout.
- As a dynamic element controlled by an image, button, or picture button. These objects are known as *frame controls*, in this book.

  When you add a frame control to a dashboard, you associate it with a specific dashboard. When the user clicks a given frame control, the frame is refreshed to show the dashboard associated with that frame control.
- As a dynamic element controlled by a drop-down menu. Each item in the drop-down menu corresponds to a dashboard. For example:



When the user clicks an option in the drop-down menu, the frame is refreshed to show the dashboard associated with that item in the drop-down list.

8.2 Adding a Frame

To add a frame to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add frame button ().

   DeepSee displays a dialog box in which you specify the details.
3. Optionally do some or all of the following:
   - For **Default Dashboard**, click the browse button (...) and then click the name of a dashboard.
   - For **Bottom Margin**, type a number that specifies the bottom margin of this frame, relative to the window. For example, use 0 to make the frame flush with the bottom of the browser window.
   - For **Right Margin**, type a number that specifies the right margin of this frame, relative to the window. For example, use 0 to make the frame flush with the right edge of the browser window.

   If you do not specify **Bottom Margin** and **Right Margin**, the frame is not resized automatically when the browser window is resized. Instead, the frame keeps the dimensions to which you resize it manually in the Dashboard Designer.
4. Click **OK**. You might need to resize the dialog box in order to see this button.

   The frame is added in the upper left corner of the dashboard.

For information on the other frame options, see the next topic.

8.3 Configuring an Image, Button, or Picture Button to Control a Frame

In general, to configure an image, button, or picture button to control a frame:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Double-click the image, button, or picture button object in the dashboard.

   DeepSee displays a dialog box in which you specify the details.
3. For **Dashboard Id**, click the browse button (...) and then click the name of a dashboard.
4. Click **OK**. You might need to resize the dialog box in order to see this button.
5. Right-click the object that you just edited or added and select **Set as Refresh Trigger**.
6. Right-click the frame and select **Set as Refresh Target**. When you do so, a gray line is drawn between the frame and the object you just edited.
7. Optionally save the dashboard.

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

8.4 Adding a Drop-down Menu to Control a Frame

You can add drop-down menus to dashboards. Drop-down menus use DeepSee shortcuts, which are discussed in the *DeepSee Site Configuration and Maintenance Guide*.

There are several types of shortcuts:

- A link to a DeepSee module.
- A link to a dashboard.
- A link to a dashboard function (such as the Edit Dashboard option).
- A group of other shortcuts. When you add a drop-down menu to a dashboards, you choose a shortcut of this type.

In general, to add a drop-down menu and configure it to control a frame:

1. If necessary, create the individual shortcuts to include in the drop-down menu. See the *DeepSee Site Configuration and Maintenance Guide*.
2. If necessary, create a shortcut that groups those individual shortcuts. See the *DeepSee Site Configuration and Maintenance Guide*.
3. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
4. Click the add drop-down menu button ().

   DeepSee displays a dialog box in which you specify the details. The **Menu List** area lists all the shortcuts that are groups of other shortcuts.
5. In **Menu List**, click the shortcut to associate with this drop-down menu.
6. Optionally specify the following:
   - **Normal Display** — Specifies the appearance of the drop-down menu in normal mode.

     To specify the font typeface, font size, font style, and font color, click **Font** and then specify the details.

     To choose an image, click the browse button (...) next to **Image List** and then click an image. Or click **Browse...** and then click an image file.
   - **On mouse over** — Specifies the appearance of the drop-down menu when the user hovers the cursor over it.

     By default, the drop-down menu appears the same as in normal mode. To customize its appearance when the user hovers the cursor over it, click the **On mouse over** tab and then specify the details as described in the previous bullet.
7. Click **OK**. You might need to resize the dialog box in order to see this button.
8. Right-click the drop-down menu and select **Set as Refresh Trigger**.
9. Right-click the frame and select **Set as Refresh Target**. When you do so, a gray line is drawn between the frame and the drop-down menu.
10. Optionally save the dashboard.

Tip: To delete links to an object, right-click it and then click **Delete all links to object**.

8.5 Displaying a Web Page in a Frame

You can embed Web pages in your dashboards by displaying the Web pages within frames. The process is as follows:

1. First, define a shortcut that acts as a logical name for the URL of the Web page. To do so:
   a. Click the close button (X) in the upper right of the Dashboard Designer.
   b. Right-click and then click **Go To > Administration > Shortcut Management**.
   c. Type a name into **Name** so that you can identify this shortcut later.
   d. Click **Call a Module**.
   e. For **URL**, type the complete URL to use.
   f. Click **Save**.
2. Return to the Dashboard Designer.
3. Add a frame to your dashboard as described earlier in this chapter. When you do, specify the frame properties as follows:
   a. Click the browse button (...) for **Default Dashboard**.
   b. Expand the **Modules** folder.

      This folder lists the DeepSee modules as well as any shortcuts you have defined.
   c. Click the shortcut you created and then click **OK**.

9

Displaying Listing Fields and Other Source Data

This chapter describes how to create dashboards that display listing fields (or other lowest-level, source data). It discusses the following topics:

- An overview
- How to use the Detail Listing Dashboard wizard to create a dashboard that displays listing fields
- How to manually create a dashboard to display listing fields or other source data

Also see the section "Adding a Detail Listing," earlier in this book.

9.1 Overview of Displaying Source Data on Dashboards

You can create dashboards that display listing fields or other source data. For example:

This dashboard initially displays data for the entire subject area (this is configurable). The user selects dimension members from any or all of the combo boxes and then clicks **Search**. The dashboard then filters the display appropriately. The bottom of the dashboard (not shown) displays buttons with which the user can page ahead and back, if there are too many items to display on one page.

DeepSee provides a wizard to help you display source data like this, or you can create the dashboards manually. See the following sections: "Using the Detail Listing Dashboard Wizard" and "Manually Creating Dashboards to Display Source Data."

9.2 Using the Detail Listing Dashboard Wizard

The Detail Listing Dashboard wizard helps you quickly create a dashboard that displays detail listing fields. The wizard creates two dashboards, one of which is used within the other one. The primary dashboard (with the secondary dashboard embedded) looks like the example shown in the previous section.

To use the Detail Listing Dashboard wizard and create a dashboard like this:

1. Display any dashboard (in view mode).
2. Right-click and then click **New Dashboard > By Wizard**.

   DeepSee displays a dialog box where you choose the kind of dashboard to create.
3. Click **Detail Listing Dashboard**.

   DeepSee then displays the first page of the wizard.
4. On the first page of the wizard, specify the following details:
   - For **Board Name**, type the name of the primary dashboard.

The name of the secondary dashboard will be the same as the primary one, with `(Detail)` added to the end.

- For **Dashboard Title**, type the title to display on the primary dashboard. This title is added as a label element.
- For **Folder**, click the browse button (...) and select a folder to contain the two dashboards.
- For **Remarks**, type an optional description or comments for internal use.
- For **Subject Area**, click the browse button (...) and then click a subject area. This selection controls your choices for the detail listing.
- For **Detail Listing**, click the browse button (...) and then click the detail listing to use.

5. Click **Next**.

   DeepSee then displays a list of the dimensions in the selected subject area. You choose the dimensions by which the user can filter the displayed detail listing.

6. Double-click each dimension that you want to filter on. The dimension is added to the **Selected Filter(s)** list.

   The order in which you add the dimensions controls the order in which the corresponding filters are displayed. In example shown here, the dimensions `Shipper`, `Ship Country`, and then `Ship Date Year` were selected.

7. Click **Next**.

   DeepSee then displays a list of all the listing fields in your selected detail list.

8. Double-click each listing field that you want to display. The listing field is added to the **Selected Data Object(s)** list.

   The order in which you add the listing fields controls the order in which they are displayed. In example shown here, the listing fields `OrderID`, `Ship Date`, and then `Customer` were selected.

9. Click **Next**.

   DeepSee displays a table of the selected listing fields.

10. Optionally edit the captions for the listing fields. To do so, type a value into **Caption** for the corresponding entry in this table.

11. Click **Finish** and then click **OK**.

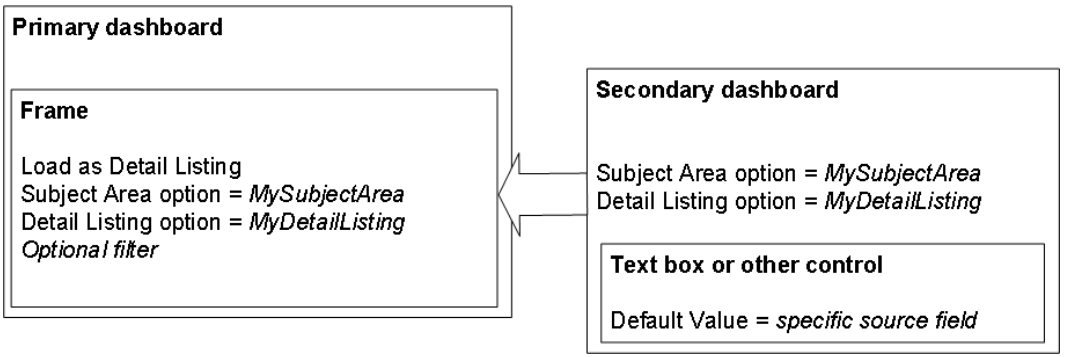
    DeepSee creates the specified dashboards and then displays the primary dashboard in view mode.

9.3 Manually Creating Dashboards to Display Source Data

To manually create dashboards to display source data, do the following in either order:

- Create the primary dashboard, which includes a suitably configured frame.
- Create the secondary dashboard, which displays one or more source data fields as default values within controls.

The following figure sketches the basic requirements.



Because the primary dashboard refers to the secondary dashboard, you may find it simpler to create the secondary dashboard first, so that you do not need to reopen and re-edit the primary dashboard. The following sections provide the details.

9.3.1 Creating the Secondary Dashboard

The secondary dashboard displays one or more listing fields, typically with labels and typically arranged in a row, like the following example:

To create the second dashboard:

1. Create a new, blank dashboard, as described in "Editing a Dashboard," earlier in this book.

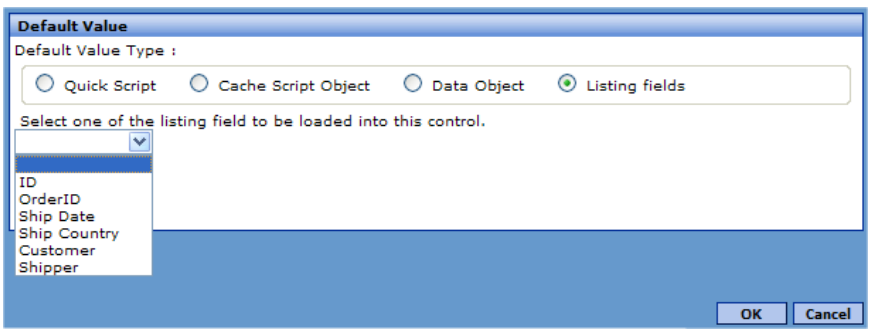
Tip: You may find it useful to follow a naming convention. For example, the name of a given secondary dashboard could be the same as the primary dashboard, with `(Detail)` appended to it. This is the convention followed by the DeepSee dashboard wizard discussed earlier in this chapter.

2. For the new dashboard, specify the detail listing for this dashboard to use:
   - For **Subject Area**, click the browse button (...) and then click a subject area. This selection controls your choices for the detail listing.
   - For **Detail Listing**, click the browse button (...) and then click the detail listing.
3. Add an object that displays the value of a listing field. You use a label or any of the data controls.
   a. Click the button for the type of object you want to add. See "Overview of Controls." Or use a label object ().

      DeepSee then displays a dialog box on which you configure this object.
   b. Click **Default Value** or **Default**, depending on which object you are adding.

      DeepSee displays a dialog box.
   c. Now do one of the following:
      - To display a listing field, click **Listing fields**.

        The dialog box displays a drop-down list of all the listing fields in the detail listing that this dashboard uses.

        Choose a listing field and then click **OK**.
      - To display some other source field, click **Data Object**. Then click the browse button (...).

        The dialog box displays the hierarchy of source data fields in this subject area.

        Navigate to and click the desired field and then click **OK**.
   d. Click **OK** to close the dialog box for the object.

e. Reposition the new object and resize it.

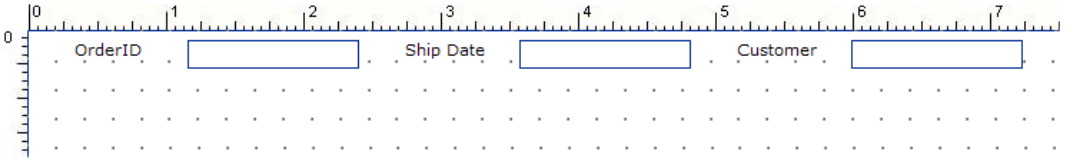
f. If needed, add a suitable label object and place it appropriately nearby.

4. Repeat the preceding step as needed.

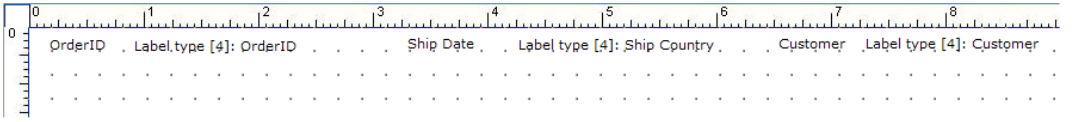
   Tip: Because this dashboard is displayed repeatedly as rows in a frame, it is a good idea to arrange the dashboard elements in short, wide rectangle.

5. Save the dashboard.

The result might be something like the following (which uses text boxes to display the source data):



Or the following (which uses labels to display the source data):



9.3.2 Creating the Primary Dashboard

The primary dashboard contains a frame that displays the secondary dashboard. It can (and usually does) also contain controls that filter the contents of the secondary dashboard.

To create the primary dashboard:

1. Create a new, blank dashboard, as described in "Editing a Dashboard," earlier in this book.
2. Add a frame () to the dashboard, as described in "Adding a Frame," earlier in this book.
3. When you add the frame, specify the following details:

   - **Default Dashboard** — Optionally choose a dashboard such as the secondary dashboard you created in the previous section.

     This step is not technically required, because you could instead use images, buttons, or picture buttons to control which dashboard the frame displays. See the chapter "Adding Frames," earlier in this book.

   - **Load as detail listing** — Select this option.

- **Number of rows** — The secondary dashboard is shown repeatedly as rows within the frame. Specify the number of rows to show at a time; the primary dashboard includes buttons to page through all the rows.
- **Row height** — Specify the height for each row.
- **Subject Area** — Click the browse button (...) and then click a subject area. This selection controls your choices for the detail listing.
- **Detail Listing** — Click the browse button (...) and then click the detail listing for this frame to use.
- **Filter** — Optionally specify a filter to control which source data this frame accesses. To do so, specify a filter expression, for example:

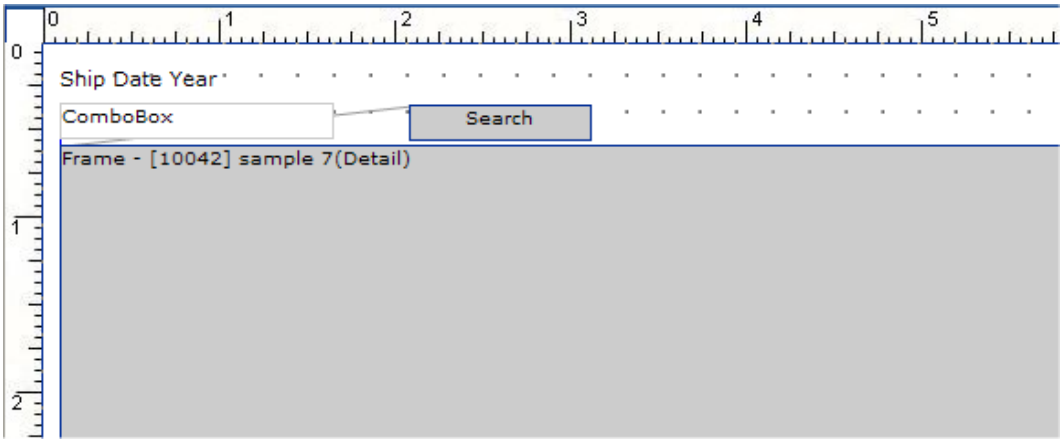
  ```
  [Ship Country = Australia]
  ```

  See the appendix "Filter Expressions."

  If you do not specify a filter, the frame accesses all records in the subject area.

4. Optionally add controls to act as additional filters for the frame. See "Using a Control to Filter Another Dashboard Element," earlier in this book.
5. Add labels as needed.
6. Save the dashboard.

The result might be something like the following:



10

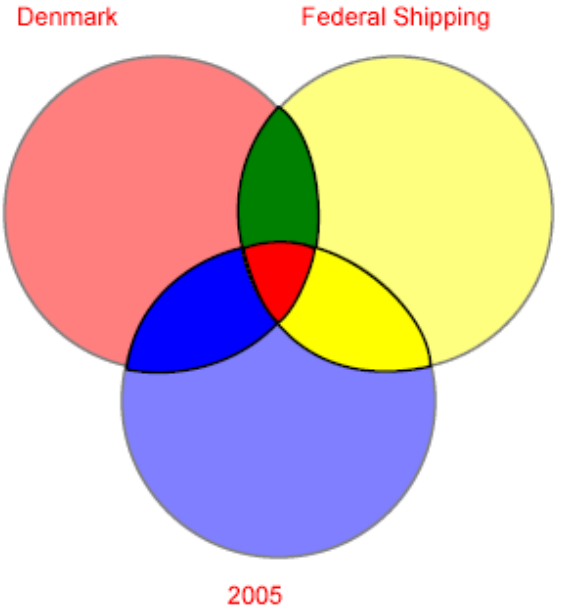
Adding Venn Diagrams

This chapter describes how to add Venn diagrams to your dashboards. It discusses the following topics:

- An overview of Venn diagrams in DeepSee
- How to define a reusable Venn diagram
- How to add a Venn diagram to a dashboard

10.1 Overview of Venn Diagrams

DeepSee provides a simple capability for creating Venn diagrams. A Venn diagram is assumed to have three main groups, which are shown as circles with labels, for example:



To work with this Venn diagram, the user has the following options:

- Right-click on any segment of the diagram and then click **Listing to Screen (whole group)**. DeepSee then displays a detail listing that shows the records that make up the *selected group*. This refers to the area that is outlined with a bold red line.
- Right-click on any segment of the diagram and then click **Listing to Screen (selected section only)**. DeepSee then displays a detail listing that shows the records that make up the section that your cursor is on. This may be the same as the selected group.
- Right-click and then click **Switch Table/Venn**. DeepSee then displays a table listing the number of records in each group and in each intersection, as follows:

Sample	
Denmark	18
Federal Shipping	255
[Denmark] AND [Federal Shipping]	7
2005	143
[Denmark] AND [2005]	2
[Federal Shipping] AND [2005]	51
[Denmark] AND [Federal Shipping] AND [2005]	2

10.2 Defining Venn Diagrams

You define Venn diagrams in a separate part of DeepSee and then you add them to dashboards as needed.

First, configure DeepSee to give you access to Venn diagram setup. To do so:

1. First:
   - If you are currently viewing a dashboard (in view mode), right-click and then click **Go to > Administrator > Shortcut Management**.
   - If you are elsewhere within DeepSee, click **Administrator > Shortcut Management**.
2. In the **Available Shortcuts** list, scroll down to and double-click **Data Modeler**.
3. In the left list, scroll down to and double-click **Venn Diagram Setup**. This adds **Venn Diagram Setup** to the list on the right, which is the list of shortcuts within the **Data Modeler** shortcut.
4. Click **Save**.

The preceding setup is necessary only once.

To define a Venn diagram:

1. First:
   - If you are currently viewing a dashboard (in view mode), right-click and then click **Go to > Data Modeler > Venn Diagram Setup**.
   - If you are elsewhere within DeepSee, click **Data Modeler > Venn Diagram Setup**.

   The left area of the page then displays the folders stored in DeepSee, along with any Venn diagrams that currently exist.

   The right area of the page displays details for the selected Venn diagram, if any.
2. Click **Clear** to ensure that the right area is cleared.
3. Specify the following basic details for the new Venn diagram:
   - **Name** — Specify a name.
   - **Schema** — Click a subject area from this drop-down list.
   - **Folder** — Click the browse button (...) and select a folder to contain the Venn diagram.
   - **Color Schema** — Click this and either select an existing chart theme or create and select a new one. For information, see the section "Defining and Using Chart Themes" in *Using the DeepSee Analyzer*.

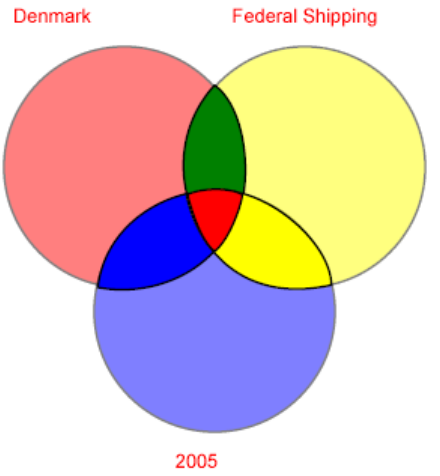
4. In the table below the basic details, specify the name and definition of each of the three main groups in this Venn diagram. In each row, specify the following:

   - **Query Caption** — Specify a name for this group.
   - **Query** — Specify a filter expression that defines this group. For example:

     ```
     [Ship Country = Australia]
     ```

     See the appendix "Filter Expressions."

5. Optionally **View** to preview this Venn diagram. If you do, the preview is shown in the bottom area of the page. For example:



Condition	Results
Denmark	18
Federal Shipping	255
Denmark AND Federal Shipping	7
2005	143
Denmark AND 2005	2
Federal Shipping AND 2005	51
Denmark AND Federal Shipping AND 2005	2

6. Click **Add** to add this Venn diagram.

10.3 Adding a Venn Diagram to a Dashboard

To add a Venn diagram to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add Venn diagram button ().

   DeepSee displays a dialog box in which you specify the details.
3. In **List of Venn Diagrams**, navigate to and click the desired Venn diagram.

4. Optionally specify the following additional details:

   - **Normal Display** — Specify a caption to use when the Venn diagram is shown in table format. The default is to use the name contained in the definition of the Venn diagram (see previous section).
   - **Display** — Click **Table** or **Diagram** to specify the initial appearance of this Venn diagram on this dashboard.
   - **Color Schema** — Click the browse button (...) and either select an existing chart theme or create and select a new one. For information, see the section "Defining and Using Chart Themes" in *Using the DeepSee Analyzer*.

     The default is to use the color scheme contained in the definition of the Venn diagram (see previous section).

5. Click **OK**. You might need to resize the dialog box in order to see this button.

   The Venn diagram is added in the upper left corner of the dashboard.

11

Configuring Post Actions

You can configure a dashboard element so that when a user clicks the element, DeepSee performs one or more *post actions*, which generally display additional windows of data. This chapter describes the types of post actions and how to configure them. It contains the following topics:

- An overview of the post actions you can configure
- How to add a post action in general
- Details for the different types of post actions
- How to delete a post action

11.1 Overview of Post Actions

You can configure a dashboard element so that when a user clicks the element, DeepSee performs one or more post actions, of the following types:

- **Dashboard** — Displays a dashboard, possibly in a new window.
- **Web Page** — Displays a Web page in another browser window.
- **KPI Drill Down** — Displays a small child window that displays the value of a KPI.
- **Scripts** — Executes one or more line of Caché ObjectScript.

Post actions occur after any filter and trigger actions.

You can configure post actions for any of the following dashboard elements: labels, images, buttons, picture buttons, and text boxes.

11.2 Adding a Post Action

To add a post action to a dashboard element:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Right-click the element and then click **Post Action**.

   DeepSee displays a dialog box in which you specify the details. The top area displays a table of the post actions that have been configured for this element if any. Use the bottom area to add new ones or delete existing ones.
3. Click one of the following:

   - **Dashboard** — Displays a dashboard, possibly in a new window.
   - **Web Page** — Displays a Web page in another browser window.
   - **Scripts** — Executes one or more line of Caché ObjectScript.
   - **KPI Drill Down** — Displays a small child window that displays the value of a KPI.

   Ignore **Detail Listing** and **Workflow**.

   The bottom part of the dialog box then displays fields that are appropriate for your selection.
4. Specify the details as appropriate for the post action you chose. See the following section.
5. Click **Add**. This adds an entry to the table at the top of the dialog box.
6. To add more items, click **Clear**and then repeat the preceding steps.
7. Click **OK** to close the dialog box.

11.3 Details for Different Types of Post Actions

This section describes the details you provide for the different types of post actions.

Ignore the post action of type **Workflow**; this type is not supported in DeepSee.

11.3.1 Options for Displaying Another Dashboard

If you choose **Dashboard**, specify the details as follows:

- **Dashboard** — Specify the dashboard to display. To do so, click the browse button (...), select the dashboard, and click **OK**.

- **Open in New Window** — Select this to display the dashboard in a new browser window. Or clear this to reuse the current browser window.
- **Full Screen** — Select this to maximize the browser window. Or clear this to leave the browser window size unchanged.

11.3.2 Options for Executing Caché ObjectScript

If you choose **Scripts**, specify the details as follows:

- For **Caché Scripts**, type in one line of Caché ObjectScript.

  To clear your entry, click **Clear**.

11.3.3 Options for Displaying a Web Page

If you choose **Web Page**, specify the details as follows:

- For **URL**, type in the URL of the Web page to open.

  To clear your entry, click **Clr**.

Ignore the **Load a doc** option, which does not apply to DeepSee.

11.3.4 Options for Displaying a KPI Drill-down

If you choose **KPI Drill Down**, specify the details as follows:

- For **KPI**, type in the ID of the KPI to display. Or click the browse button (...), click the KPI, and then click **OK**.
- For **Filter**, optionally type a filter expression. This filters the data used to evaluate the KPI. For example:

  ```
  [Ship Country = Australia]
  ```

  See the appendix "Filter Expressions."

For information on defining KPIs, see *Using the DeepSee Analyzer*

11.4 Deleting a Post Action

To delete a post action from a dashboard element:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Right-click the element and then click **Post Action**.

   DeepSee displays a dialog box in which you specify the details.
3. In the upper area, click the row corresponding to the post action you want to delete.
4. Click **Delete**. DeepSee immediately removes the post action.
5. Click **OK** to close the dialog box.

12

Using the Dashboard Library

The DeepSee Designer provides a simple mechanism for you to save dashboard elements so that you can reuse them elsewhere. This chapter discusses the following topics:

- How to copy an element to the dashboard library
- How to use a library object in a dashboard
- How to delete objects from the library

12.1 Adding an Element to the Dashboard Library

To add an element to the dashboard library:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Right-click the element and then click **Add to Dashboard Library**.

   DeepSee immediately copies the element, as is, to the dashboard library and assigns it an internal identifier.

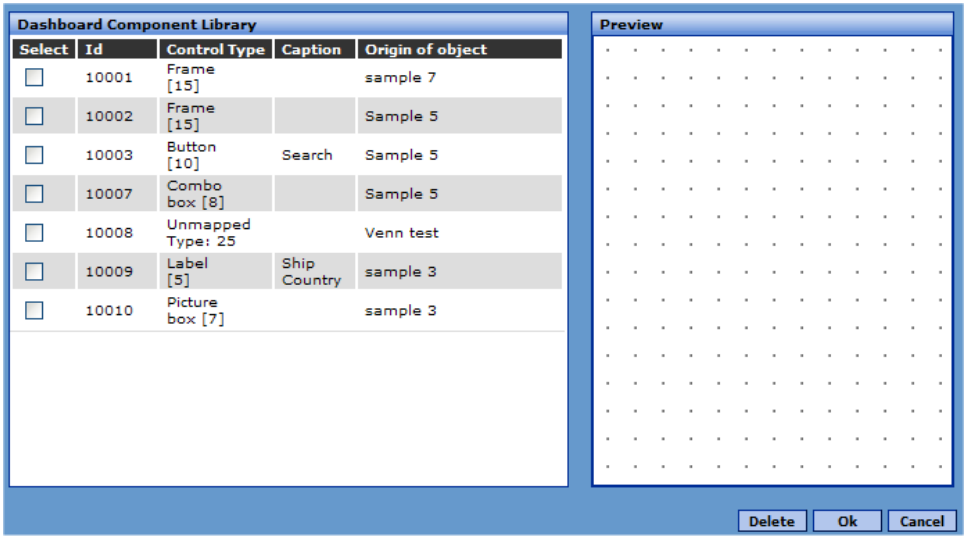
   The copy includes any post actions defined for this element. This copy does not, however, include any links.

12.2 Using a Library Object in a Dashboard

To add a library object to a dashboard:

1. Open the dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.
2. Click the add library object button ().

   DeepSee displays a dialog box that lists all the objects in the dashboard library.



3. Click the row that contains the object you want to add. When you do, a preview is shown in the right pane.
4. Click **OK**. You might need to resize the dialog box in order to see this button.

   The object is added in the upper left corner of the dashboard.

12.3 Deleting Objects from the Dashboard Library

To delete an object from the dashboard library:

1. Open any dashboard in edit mode, as described in "Editing a Dashboard," earlier in this book.

2. Click the add library object button ().

   DeepSee displays a dialog box that lists all the objects in the dashboard library.

3. Click the **Select** option in the row for each object you want to delete.
4. Click **Delete**.
5. Click **OK**. You might need to resize the dialog box in order to see this button.

13

Using Query Variables

This chapter discusses DeepSee query variables.

13.1 Introduction to Query Variables

In DeepSee, you can define and later reuse *query variables*. A query variable can be defined as any valid Caché ObjectScript expression. You use query variables within DeepSee filter expressions.

At run time, when DeepSee examines the filter expression, it checks for any query variables. Then it substitutes the definition of the query variable and evaluates it.

13.2 Defining Query Variables

To define a query variable:

1. First:
   - If you are currently viewing a DeepSee module, click **Controls > Query Variable**.
   - If you are currently viewing a dashboard, right-click and then click **Go To > Controls > Query Variable**.
2. For **Query Variable Type**, click **Query Variable**.

   DeepSee displays all the existing query variables.
3. Right-click in the **Query Variable** tab and click **Add Line**.

4. In the new empty line, type the name of the query variable into **Variable Name**.
5. Optionally type a comment or description into **Description**.
6. Type a valid Caché ObjectScript expression into **Value / Formula**.
7. Click **Save**.

13.3 Referring to a Query Variable

In a filter expression, use the following syntax to refer to a DeepSee query variable:

```
[DimensionName = {query_variable_name}]
```

14

Adding Dashboards to Your Applications

This chapter discusses the basics of adding dashboards to your applications.

14.1 Adding Dashboards to Your Applications

To add DeepSee dashboards to your applications, do the following:

1. Create a DeepSee user with suitable permissions. To do this, you would typically:

   a. Create a DeepSee role that has permission to display dashboards and detail listings, and no other back-end tools.

   b. Create a DeepSee user that uses that role.

   For details on creating DeepSee users and roles, see the *DeepSee Site Configuration and Maintenance Guide*.

2. Within your application, add a link that uses a URL of the following form:

   ```
   http://localhost:57772/csp/sys/bi/speedLogin.csp?$NAMESPACE=
   NS&usr=username&pwd=password&role=rolename&dbId=10026
   ```

   Where:

   - 57772 is the port number for which your Caché or Ensemble server is configured.
   - *NS* is the namespace in which you defined the dashboard.
   - *username* is a DeepSee user name.

- *password* is the corresponding password.
- *rolename* is the DeepSee role to use.
- 10026 is the ID of the dashboard.

When the dashboard is displayed, the URL shown in the browser address bar does not include the namespace name or the login details.

Note: Depending upon your application, you might need to use `&` or `&` rather than `&` in order for your application to compile. For example:

```
http://localhost:57775/csp/sys/bi/speedLogin.csp?NAMESPACE=
ENSEMBLE&amp;usr=demo&amp;pwd=demo&amp;role=demo&amp;dbId=10026
```

14.2 Passing Parameters to Dashboards

First, it is useful to summarize how a dashboard and its contents can use parameters:

- A filter expression can include a Caché ObjectScript expression that refers to a query variable. For example, you can have a filter expression like the following:

  ```
  [Ship Country = {MyVar}]
  ```

- Labels, button captions, and speedometer captions can use the **$$VAR** function to refer to a variable set within the same dashboard or to a query variable.

You can use any of these variables as parameters and provide values for them within the URL to access the dashboard. For example:

```
http://localhost:57772/csp/sys/bi/speedLogin.csp?$NAMESPACE=
NS&usr=username&pwd=password&role=rolename&dbId=10026&MyVar=Spain
```

Note: Depending upon your application, you might need to use `&` or `&` rather than `&` in order for your application to compile. For example:

```
http://localhost:57775/csp/sys/bi/speedLogin.csp?NAMESPACE=
ENSEMBLE&amp;usr=demo&amp;pwd=demo&amp;role=demo&amp;dbId=10026
```

To enable a dashboard to accept a value for a query variable that you pass in this manner, be sure to check the **Inherit Query Variable** option for the dashboard; see "Create a New Dashboard," earlier in this book.

14.3 Security Settings for Internet Explorer

To enable the use of use DeepSee dashboards while providing a secure environment, try the following settings in Internet Explorer. To access these options, click **Tools > Internet Options** in Internet Explorer, click the **Security** tab, and then edit the details for the applicable zone.

- **.NET Framework** — Select **Disable** for all options.
- **.NET Framework-reliant components** — Select **Disable** for all options.
- **ActiveX controls and plug-ins** — Select **Enable** for the following options:
  - **Allow Scriptlets**
  - **Binary and script behaviors**
  - **Run ActiveX controls and plug-ins**

  Select **Disable** for the others.
- **Downloads** — Select **Disable** for all options.
- **Enable .NET Framework Setup** — Select **Disable**.
- **Microsoft VM** — Select **Disable** for all options.
- **Miscellaneous** — Select **Enable** for the following options:
  - **Allow script-initiated windows without size or position constraints**
  - **Use Phishing Filter**
  - **Use Pop-up Blocker**

  Select **Prompt** for the following options:
  - **Display mixed content**
  - **Drag and drop or copy and paste files**
  - **Launching programs and files in an IFRAME**
  - **Submit non-encrypted form data**

  Select **High safety** for **Software channel permissions**.

  Select **Disable** for the others.
- **Scripting** — Select **Enable** for the following options:
  - **Active scripting**

  - **Scripting of Java applets**

    Select **Disable** for the others.

- **User Authentication > Logon** — Select **Prompt for user name and password**.

Your settings might need to be different, depending on your environment.

A

Expressions and Scripts in the Dashboard Designer

The Dashboard Designer uses expressions and scripts of varying types. This appendix summarizes the cases for your convenience. It discusses the following topics:

- Filter expressions
- Function calls
- Caché ObjectScript expressions
- Caché ObjectScript scripts

A.1 Filter Expressions

A *filter expression* is a boolean expression that specifies which records to use.

A.1.1 Where Used

Filter expressions are used in the following contexts in dashboards (as well as many other contexts in DeepSee):

- In the configuration of a data element (pivot table, speedometer, or detail listing) included on a dashboard. See the chapter "Adding Data Elements."
- In the **KPI Filter** option of a label or image that uses the KPI override feature. See the section "Using KPI Display Rules to Override Text or Graphics."

- In the **Filter** setting of a frame that is configured to display listing fields or other source data. See "Manually Creating Dashboards to Display Source Data."
- In the definitions of the three main groups in a Venn diagram. See "Defining Venn Diagrams."

A.1.2 Syntax

A filter expression has one of the following syntax:

```
[DimensionName = String]
```

Here:

- *DimensionName* is the name of a dimension, without quotes.
- *String* is an unquoted string that typically equals the name of a member of that dimension, or the start of a name.

Notes:

- The spaces before and after the equals sign (=) are required.
- There must be no space between the left square bracket and the dimension name.
- There must be no space between the right string and the right square bracket.
- You can combine filter expressions by using the logical operators NOT, AND, and OR. For example:

  ```
  [Ship Country = Canada] OR [Ship Country = Mexico]
  OR [Ship Country = USA]
  ```

  Use brackets to control the precedence.
- Filter expressions use the internal names of dimensions and members. By default, the external name of a dimension is the same as the internal name; similarly, the external name of a member is the same as the internal name. This means that if you have renamed dimensions or members, the filter editor still shows the original names.

A.1.3 Filter Expression Using IN

You can also create a filter expression with the following syntax:

```
[DimensionName IN String1,String2,String3,...]
```

For example:

```
[Ship Country IN Canada,Mexico,USA]
```

A.1.4 Filter Expression with a Full Date

When you create a dimension based on a date, DeepSee creates a set of dimension variants, which you can use separately or in combination. For example, if you create a date dimension called `Order Date`, DeepSee creates the variants `Order Date Year`, `Order Date Quarter`, `Order Date Month`, and so on. The `Order Date Year` variant uses only the year part of the date, `Order Date Quarter` uses only the quarter number, and so on.

You can use these in the same way as any other dimensions, including using them in filters.

However, when you filter by date, you often want the filter to consider a complete date rather than just an isolated segment of it. For example, you might want to filter a subject area to show only the data that falls within a particular ten-year span of time.

To do so, you can use the date dimension name without any of the automatically generated suffixes. For example:

```
[Birth Date > 01/01/1980] AND [Birth Date < 01/01/1990]
```

The dates must be in the form dd/mm/yyyy or dd/mm/yy.

A.1.5 Filter Expression with Embedded Caché ObjectScript

A filter expression can include an embedded Caché ObjectScript expression. The syntax is as follows:

```
[DimensionName = {COS expression}]
```

An extremely simple example is as follows:

```
[Ship Country = {"Den"_"mark"}]
```

A.1.6 Filter Expression That Uses a Query Variable

In a filter expression, use the following syntax to refer to a DeepSee query variable:

```
[DimensionName = {query_variable_name}]
```

A.1.7 Filter Expression That Uses Session Data

In a Caché ObjectScript expression in DeepSee, you can refer to the current DeepSee username or the current DeepSee user role, as follows:

```
%session.Data("CurrUser")
%session.Data("CurrRole")
```

For example, you could use the current DeepSee role to specify a filter:

```
[Region Name = {$CASE(%session.Data("CurrRole"),
   "role1":"North Region","role2":"South Region",
   "role3":"West Region",:"East Region") }]
```

A.2 Function Calls

In a couple of places, you can use a function call. Specifically, you can write a Caché ObjectScript expression of the following form:

```
$$functionname(arg1,arg2,...)
```

The function name must start with $$

You can use function calls in labels, button captions, and speedometer captions.

DeepSee provides a couple of convenient functions:

- **$$KPI** — Refers to the value of a KPI. You can use this in labels and button captions.
- **$$VAR** — Refers to the value of a variable set within the same dashboard. You can use this in labels, button captions, and speedometer captions.

A.2.1 $$KPI Function

To refer to the value of a KPI, use the **$$KPI** function:

```
$$KPI(kpiid,filterexpr)
```

This function takes the following arguments:

kpiid	ID of another KPI, as shown in **KPI List** and elsewhere in DeepSee.
filterexpr	(Optional) Quoted filter expression.

You cannot use this function in speedometer captions.

For example, the following expression returns the value of KPI 10005 divided by KPI 10001:

```
$$KPI(10005)/$$KPI(10001)
```

Suppose that KPI 10005 is based on the `Freight` measure and KPI 10001 is based on count. The previous expression then returns the average freight cost per order, for the entire subject area.

Consider the following variation:

```
$$KPI(10005,"[Ship Country = USA]")/$$KPI(10001,"[Ship Country = USA]")
```

This expression returns the average freight cost per order, for orders sent to the USA.

A.2.2 $$VAR Function

To refer to the value of a variable set within the same dashboard, use the **$$VAR** function:

```
$$VAR(varname)
```

This function takes the following argument:

varname	Name of a variable used within the same dashboard. To set this variable, use the **Store In Variable** option of another element in the dashboard.

A.3 Caché ObjectScript Expressions

You can use Caché ObjectScript expressions in multiple places in dashboards:

- Within the name of a member in a filter expression, as described earlier in this appendix.
- As the default value for combo boxes, list boxes, and other data controls.

A.4 Caché ObjectScript Scripts

A custom script is one or more Caché ObjectScript statements. You can write custom scripts in the following places:

- Post-loading scripts for combo boxes, list boxes, and other data controls.
- Post actions associated with dashboard elements.

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