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PeopleTools 8.54: Pivot Grid

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PeopleTools 8.54: Pivot Grid
CDSKU
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Preface

Understanding the PeopleSoft Online Help and PeopleBooks

The PeopleSoft Online Help is a website that enables you to view all help content for PeopleSoft Applications and PeopleTools. The help provides standard navigation and full-text searching, as well as context-sensitive online help for PeopleSoft users.

PeopleSoft Hosted Documentation

You access the PeopleSoft Online Help on Oracle's PeopleSoft Hosted Documentation website, which enables you to access the full help website and context-sensitive help directly from an Oracle hosted server. The hosted documentation is updated on a regular schedule, ensuring that you have access to the most current documentation. This reduces the need to view separate documentation posts for application maintenance on My Oracle Support, because that documentation is now incorporated into the hosted website content. The Hosted Documentation website is available in English only.

Note: Only the most current release of hosted documentation is updated regularly. After a new release is posted, previous releases remain available but are no longer updated.

Locally Installed Help

If your organization has firewall restrictions that prevent you from using the Hosted Documentation website, you can install the PeopleSoft Online Help locally. If you install the help locally, you have more control over which documents users can access and you can include links to your organization's custom documentation on help pages.

In addition, if you locally install the PeopleSoft Online Help, you can use any search engine for full-text searching. Your installation documentation includes instructions about how to set up Oracle Secure Enterprise Search for full-text searching.

See *PeopleTools Installation* for your database platform, "Installing PeopleSoft Online Help." If you do not use Secure Enterprise Search, see the documentation for your chosen search engine.

Note: Before users can access the search engine on a locally installed help website, you must enable the Search portlet and link. Click the Help link on any page in the PeopleSoft Online Help for instructions.

Downloadable PeopleBook PDF Files

You can access downloadable PDF versions of the help content in the traditional PeopleBook format. The content in the PeopleBook PDFs is the same as the content in the PeopleSoft Online Help, but it has a different structure and it does not include the interactive navigation features that are available in the online help.

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Common Help Documentation

Common help documentation contains information that applies to multiple applications. The two main types of common help are:

- Application Fundamentals
- Using PeopleSoft Applications

Most product families provide a set of application fundamentals help topics that discuss essential information about the setup and design of your system. This information applies to many or all applications in the PeopleSoft product family. Whether you are implementing a single application, some combination of applications within the product family, or the entire product family, you should be familiar with the contents of the appropriate application fundamentals help. They provide the starting points for fundamental implementation tasks.

In addition, the *PeopleTools: Applications User's Guide* introduces you to the various elements of the PeopleSoft Pure Internet Architecture. It also explains how to use the navigational hierarchy, components, and pages to perform basic functions as you navigate through the system. While your application or implementation may differ, the topics in this user's guide provide general information about using PeopleSoft Applications.

Field and Control Definitions

PeopleSoft documentation includes definitions for most fields and controls that appear on application pages. These definitions describe how to use a field or control, where populated values come from, the effects of selecting certain values, and so on. If a field or control is not defined, then it either requires no additional explanation or is documented in a common elements section earlier in the documentation. For example, the Date field rarely requires additional explanation and may not be defined in the documentation for some pages.

Typographical Conventions

The following table describes the typographical conventions that are used in the online help.

Typographical Convention	***Description***
Key+Key	Indicates a key combination action. For example, a plus sign (+) between keys means that you must hold down the first key while you press the second key. For Alt+W, hold down the Alt key while you press the W key.
. . . (ellipses)	Indicate that the preceding item or series can be repeated any number of times in PeopleCode syntax.
{ } (curly braces)	Indicate a choice between two options in PeopleCode syntax. Options are separated by a pipe (|).
[ ] (square brackets)	Indicate optional items in PeopleCode syntax.

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Typographical Convention	*Description*
& (ampersand)	When placed before a parameter in PeopleCode syntax, an ampersand indicates that the parameter is an already instantiated object. Ampersands also precede all PeopleCode variables.
⇒	This continuation character has been inserted at the end of a line of code that has been wrapped at the page margin. The code should be viewed or entered as a single, continuous line of code without the continuation character.

ISO Country and Currency Codes

PeopleSoft Online Help topics use International Organization for Standardization (ISO) country and currency codes to identify country-specific information and monetary amounts.

ISO country codes may appear as country identifiers, and ISO currency codes may appear as currency identifiers in your PeopleSoft documentation. Reference to an ISO country code in your documentation does not imply that your application includes every ISO country code. The following example is a country-specific heading: "(FRA) Hiring an Employee."

The PeopleSoft Currency Code table (CURRENCY_CD_TBL) contains sample currency code data. The Currency Code table is based on ISO Standard 4217, "Codes for the representation of currencies," and also relies on ISO country codes in the Country table (COUNTRY_TBL). The navigation to the pages where you maintain currency code and country information depends on which PeopleSoft applications you are using. To access the pages for maintaining the Currency Code and Country tables, consult the online help for your applications for more information.

Region and Industry Identifiers

Information that applies only to a specific region or industry is preceded by a standard identifier in parentheses. This identifier typically appears at the beginning of a section heading, but it may also appear at the beginning of a note or other text.

Example of a region-specific heading: "(Latin America) Setting Up Depreciation"

Region Identifiers

Regions are identified by the region name. The following region identifiers may appear in the PeopleSoft Online Help:

- Asia Pacific
- Europe
- Latin America
- North America

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Industry Identifiers

Industries are identified by the industry name or by an abbreviation for that industry. The following industry identifiers may appear in the PeopleSoft Online Help:

- USF (U.S. Federal)
- E&G (Education and Government)

Using and Managing the PeopleSoft Online Help

Click the Help link in the universal navigation header of any page in the PeopleSoft Online Help to see information on the following topics:

- What's new in the PeopleSoft Online Help.
- PeopleSoft Online Help acessibility.
- Accessing, navigating, and searching the PeopleSoft Online Help.
- Managing a locally installed PeopleSoft Online Help website.

PeopleTools Related Links

Oracle's PeopleSoft PeopleTools 8.54 Documentation Home Page (Doc ID 1664613.1)

"PeopleTools Product/Feature PeopleBook Index" (PeopleTools 8.54: Getting Started with PeopleTools)

PeopleSoft Information Portal

My Oracle Support

PeopleSoft Training from Oracle University

PeopleSoft Video Feature Overviews on YouTube

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Chapter 1

Getting Started with PeopleSoft Pivot Grid

PeopleSoft Pivot Grid Overview

PeopleSoft Pivot Grid supports operational dashboard reporting within the PeopleTools framework to provide a pivot table and chart representation of data using PSQuery and component data source. The framework also enables you to see different views of the data, as in a Microsoft Excel pivot table, and the same data is also available in a chart view.

Using Pivot Grid, you can view data in these different visualizations:

- Pivot Grid only.

  You are able to view the operational reporting data in a grid, where data pivoting, slicing, and dicing is possible.

- Chart only.

  You are able to view the operational reporting data in a chart. In addition, you can display the grid from a chart-only view and then perform various actions—such as pivoting data, dragging and dropping, and slicing and filtering data—to change the grid layout. After the layout is satisfactory, you can synchronize the chart with the grid view.

- Pivot Grid and chart.

  You are able to view the operational reporting data in both a grid and a chart. The data between the grid and the chart is synchronized for an accurate view.

PeopleSoft Pivot Grid Implementation

The following table lists the steps involved in implementing pivot grid models.

Step	***Reference***
Create a query to extract the data you want to use for your pivot data analysis.	See Query Design Considerations.
Create a pivot grid model with default display preferences.	See Pivot Grid Wizard Overview.
View pivot grid models.	See Pivot Grid Viewer Overview.
Create pivot grid pagelets.	See Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.

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Chapter 2

Understanding PeopleSoft Pivot Grid

Pivot Grid Terms

This topic defines terminology that is specific to Pivot Grid.

Axis and Values

Axis and Values are at the core of analytical and operational reporting.

- Axis members are those attributes that qualify Values. They give structure to Values and they allow different views of the Values.
- Values are the metric that business users use to make business decisions. Generally, Values are numbers except when the aggregate function COUNT is used.

For example, in an expense report scenario, incurred expenses is the Value; whereas attributes such as Employee, Department, Business Unit, and Expense Type, the expense qualifiers, form the Axis members.

In a scenario showing Product Sales, Actual Sales, Number of Units Sold, and Cost of Each Unit, these items could be Values; whereas attributes such as Region, Product Name, and Date Range for the sales, the Value qualifiers, would form the Axis members.

In an organization chart, the Count of Employees could be a Value, and the axis members could be Departments, Job Codes, Pay Grade, and so on.

Report filter

Report filter determines the range of values that appears in the Pivot Grid and the chart. In SQL terms, report filter is similar to a WHERE clause that limits the data returned. In PeopleSoft Pivot Grid, report filter presents a slice of data to viewers in both the chart and the grid.

If the PSQuery data source uses prompt values, they are automatically added as filters. You can customize query prompt values when viewing the pivot grid. When you create a Pivot Grid model, you can select additional columns to use as filters.

Aggregates

Aggregate functions include SUM, MIN, MAX, AVG, and COUNT.

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Pivot Grid	A Pure Internet Architecture component that provides a multidimensional presentation of data.
Pivot	A change of the dimensional orientation of a report inside Pivot Grid.
Overlay	Two charts with the same X axis but different Y axes that are plotted and then one is superimposed over the other.
Multi Select Filter	A drop-down list that enables you to select multiple items to filter data, which appears in grids and charts.
Drilling URL	When you build a query using PeopleSoft Query - Query Manager, you can define drilling URLs that are associated with this query. These settings are saved into the database as part of the metadata for this query. When you run this query, the query results show the results as URL links, which you can click to be redirected to either a PeopleSoft Pure Internet Architecture page, another query result page, or an external page. See "Drilling URL in PeopleSoft Query" (PeopleTools 8.54: Query).
Publish as Pivot Grid	A link in PeopleSoft Query - Query Manager used to access Pivot Grid Wizard. When you use the Publish as Pivot Grid link to access Pivot Grid Wizard, the wizard appears with the query definition and data columns populated. See Creating a Pivot Grid Model Using Query Manager.
Configure Pivot Grid Views	A link used to create new Pivot Grid views or to edit existing ones. See Defining the Pivot Grid Display Options section in Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.
Reset Layout	An option used to clear all the personalizations and to reset the Pivot Grid model to the default setting (without personalization).
Expand All	A link in the grid title region used to expand all the dimensions in the row and column positions for totals.
Collapse All	A link in the grid title region used to collapse any expanded positions in the grid row or column for totals.
Publish as Grouplet	Application developer can use this link to create the grouplets that are used in the Fluid mode. These grouplets are configured to point to the Fluid Viewer component for the specific model.
Fluid Mode	The PeopleSoft Fluid User Interface is designed to be a significant enhancement to the PeopleSoft's "classic" user interface, which has been the interface display on browsers for PeopleSoft end users for well over a decade. The PeopleSoft Fluid User Interface moves away from pixel-perfect page

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	layout and provides greater flexibility with the enhanced use of cascading style sheets (CSS3), HTML5, and JavaScript (if needed).
Attach Tree	Used to attache a PeopleSoft Tree to an Axis to display hierarchical information for that Axis.
Detach Tree	Used to remove a PeopleSoft Tree that is attached to an Axis.

High-Level Overview and Flow Diagram for PeopleSoft Pivot Grid

PeopleSoft Pivot Grid provides the overall functionality of storing Pivot Grid metadata, generating queries at runtime, and rendering displays of the pivot grid and chart. Pivot Grid uses PSQuery and component as the data source, with Pivot Grids and PeopleSoft charts as the visualization options. Pivot Grid can pivot and filter data, which enables business analysts to see different views of the same data. PeopleSoft charts provide a different visual representation of the same data. If users select the display option *Pivot Grid and Chart,* the chart data is always a subset of the data in the grid, and the

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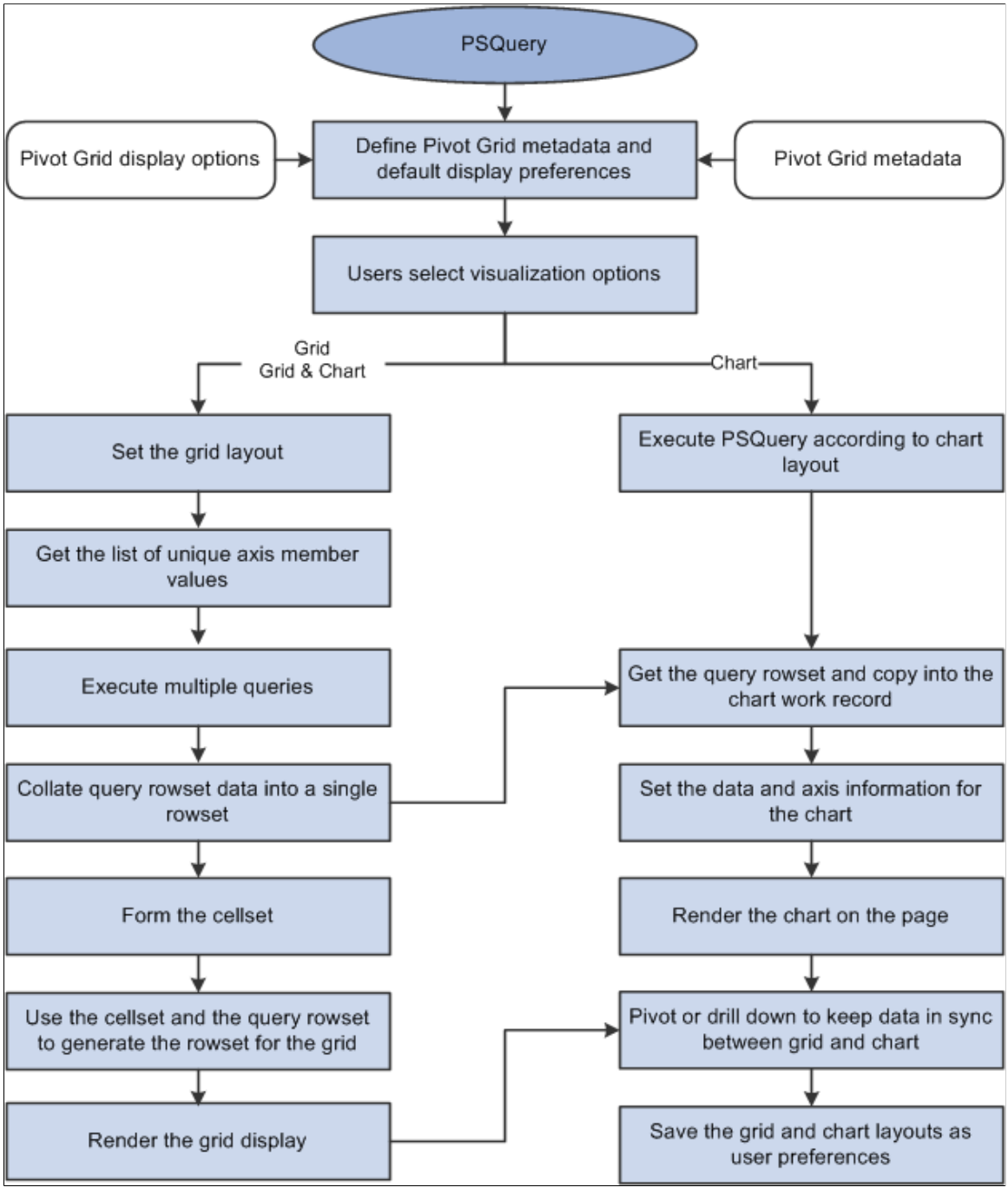
synchronization between the grid and the chart is unidirectional only. Users' actions on the grid change the chart visualization as well.

Image: High-level flow diagram for PeopleSoft Pivot Grid

This diagram illustrates the high-level flow for PeopleSoft Pivot Grid.



When using Pivot Grid, note that:

- PeopleSoft Pivot Grid supports PSQuery and component as the data source.
- All user actions on the Pivot Grid grid and the chart are driven through PSQuery and component settings. No data is cached for viewing. Every user action that requires fresh data will result in a new

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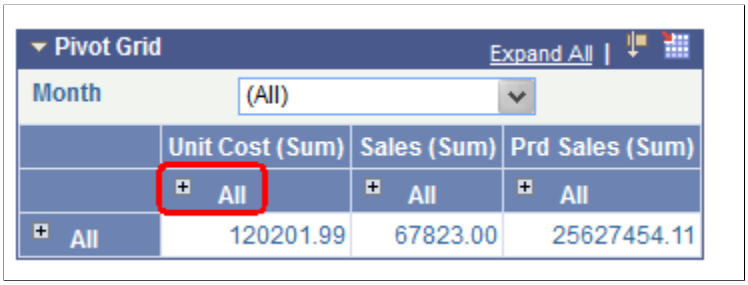
set of PSQuery modifications at runtime, and the ad hoc set of modified PSQuery is run against the database to fetch data.

- Supported aggregate functions—MAX, MIN, COUNT, AVG, and SUM—are computed at the database level, and the results appear in grids and charts. In addition, an All (Total) attribute can be defined for axis members that calculates subtotals based on the aggregate function defined for the Values.

Note: Only a single level of subtotal (that is, the innermost level) is supported in PeopleSoft Pivot Grid.

Image: Example of supporting subtotal for the axis immediately above the innermost Value

If the Values are at the innermost level, then subtotal is also supported for the axis immediately above the innermost Value level, as shown in this example.



- If users select the *Pivot Grid and Chart* display option, then the filtering operation in the grid (changing the report filter values) filters on the chart as well.
- If an All attribute is defined for the axis members, then a drill-down operation on the grid indicates the user's action of clicking the + icon associated with the label.

  If users select the *Pivot Grid and Chart* display option, then the drill-down operation on the grid drills down on the chart as well.
- If users select the *Chart Only* display option, then the drill-down operation for a chart indicates the user's action of clicking the chart to display a detailed level of data.
- To drill down on the Pivot Grid charts, you must enter an authentication domain either when you set up the PeopleSoft Pure Internet Architecture or in the Web Profile page.

  See the Configuring General Portal Properties section in "Configuring Web Profiles" (PeopleTools 8.54: Portal Technology).
- Pivot Grid supports all PeopleSoft chart types that are related to bar, pie, and line charts.
- Pivot Grid assigns one field from the Grid Row Axis to the X axis and one field from the column axis to the Y axis of the chart. In addition, you can select an overlay field and a data series (to display one level of drill down) for the chart.

Note: If the display option is *Chart Only*, you are able to select the series and overlay values for the charts. If the display option is *Pivot Grid and Chart*, series values are automatically calculated based on the grid layout, but overlay is not supported.

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For example, a query was built on a record that stores the number of product units sold and product sales for a set of regions and products by month:

Unit Cost	*Product Sales*	*Region (Key)*	*Product (Key)*	*Month (Key)*	*No. of Units Sold*
-	-	-	-	-	-

If Region were selected on the X axis and Product Sales were selected on the Y axis, then a user could select No. of Units Sold as an overlay field.

1. If No. of Units Sold were selected as an overlay field, then two separate charts would be plotted, one chart with Product Sales on the Y axis and the other with No. of Units Sold on the Y axis. One chart would be superimposed over the other chart. For overlay fields, the supported chart type is Line Chart.
2. If Product were selected as a data series, then the chart would group the sales for each product for each region and then plot the data.

- The synchronization between the chart and the grid is unidirectional and is always driven by a user action on the grid.
- To support unidirectional synchronization between a chart and a grid, which is always driven by an action performed on the grid, the data in the chart must always be a subset of the data shown in the grid.
- Logging is available; by enabling the log application, developers or customer developers can analyze errors or debug any products they build using this technology.

Pivot Grid Components

This topic provides an overview of Pivot Grid components and discusses:

- Pivot Grid data source engine component.
- Pivot Grid user interface component.
- Grid-display component.
- Chart-display component.

Pivot Grid Components Overview

Pivot Grid has these main components:

- Pivot Grid Data Source Engine component.

  This component is the back-end component of Pivot Grid. It provides the necessary framework support for runtime manipulation and generation of PSQueries to render the grid and chart display. This component also provides interfaces that can be used by the Pivot Grid User Interface component,

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the Grid-display component, and the Chart-display component to perform the required PSQuery manipulations for rendering the controls on the Pure Internet Architecture page.

- Pivot Grid User Interface component.

  You use this component to create and update Pivot Grid models using the Pivot Grid wizard, to view the Pivot Grid models in the Pivot Grid Viewer, and to create different views for the same Pivot Grid model.

- Grid-display component.

  This component is primarily responsible for rendering data in the Pivot Grid grids. Its functionality *understands* the current grid layout and invokes the interfaces of the Data Source Engine component to run queries. It also interprets various actions in the grid and subsequently invokes the engine component for running the PSQuery again.

- Chart-display component.

  This component is primarily responsible for rendering data in the Pivot Grid chart. Its functionality *understands* the current chart layout and invokes the interfaces of the Data Source Engine component to run queries. It also interprets various actions in the chart and subsequently invokes the engine component for running the PSQuery again.

Pivot Grid Data Source Engine Component

The Pivot Grid Data Source Engine component is responsible for runtime PSQuery manipulation to retrieve the data required for a grid and chart. Any events in the grid and chart will result in a PSQuery modification and its being rerun, which are handled by the data source engine. The Pivot Grid Data Source Engine component enables you to:

- Set Pivot Grid metadata.

  Pivot Grid metadata includes axis members, Value members, total attribute, total name, column label, tree name, tree node, aggregate functions for Value members, and Pivot Grid viewing options.

- Retrieve Pivot Grid metadata from the database.

- Return a result set for a chart, a result set for a grid, unique values for axis members, unique values for filters, and drill-down values for detailed view.

Pivot Grid User Interface Component

The Pivot Grid User Interface component enables you to create new Pivot Grid models and to update existing Pivot Grid models. This component is a step-by-step wizard with a user-friendly mechanism for creating and updating Pivot Grid models. The last step of the wizard enables you to preview the models that you created.

You can define two parts of a Pivot Grid model using the Pivot Grid User Interface component:

- Pivot Grid core.

  Based on the PSQuery definition, this core defines which PSQuery columns and aggregation functions are used and which totals and subtotals appear. You cannot change the Pivot Grid core at runtime.

  See Pivot Grid Wizard Overview.

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- Pivot Grid model default view options.

  This part displays the Pivot Grid model and defines the default values for the runtime prompts that are associated with PSQuery data source, grid and chart axis information, grid and chart display preferences, and so on. One set of default view options is associated with the Pivot Grid model whenever it is created. These view options are the preferences used to render the display when the Pivot Grid appears initially. You can customize the display and save your personalizations for the Pivot Grid model. These preferences take precedence when the system displays a Pivot Grid model for you.

  See Pivot Grid Viewer Overview.

Grid-Display Component

The Pivot Grid Grid-display component is based on the existing PeopleSoft analytic grid. This component enables users to leverage the different functionality of the analytic grid, like multi-level display and the drag-and-drop operation. However, unlike the analytic grid, the grid in a Pivot Grid does not require the analytic server to run; it can function as a standalone Pure Internet Architecture component. As with the analytic grid, the grid in a Pivot Grid has three axes—row, column, and filter. You can place the axis and value members on any of these axes to provide different views of the same data.

The Grid-display component provides the following functionality:

- Uses the Pivot Grid Data Source Engine interfaces to execute the PSQuery at runtime to render data in a grid. The grid does not cache any data. Any layout modification will result in a new PSQuery running to retrieve the data.

  Note: Query modifications are not saved; Pivot Grid runs the query in an ad hoc way to retrieve information.

- Responses to users' filtering, pivoting, and drill-down actions from within the grid. Each of these actions will result in the PSQuery being modified and rerun to retrieve the rowsets again.

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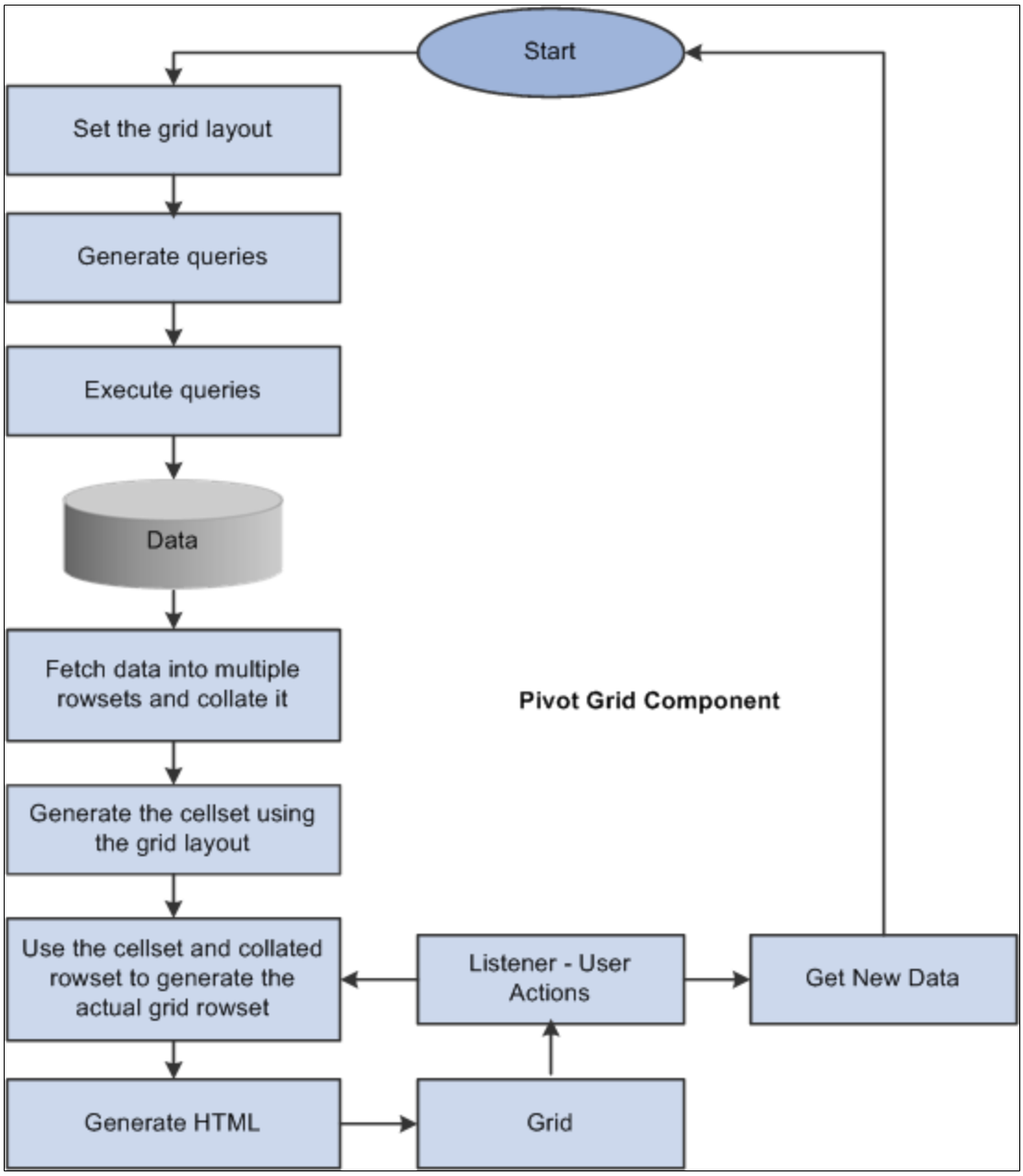
- Exports the current slice of data visible in the grid to Microsoft Excel.

Image: Process flow of the Grid-display component

This diagram illustrates the process flow of the Grid-display component.



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Note: While you are dragging and dropping values, a move icon with a visible label indicates axis and values that can be dragged, and the droppable locations are indicated with a grey background for labels.

Image: Visible Labels in Grid Display component

This example illustrates the axis value that is labeled Product and the drop zone that is labeled Unit Cost (Sum).

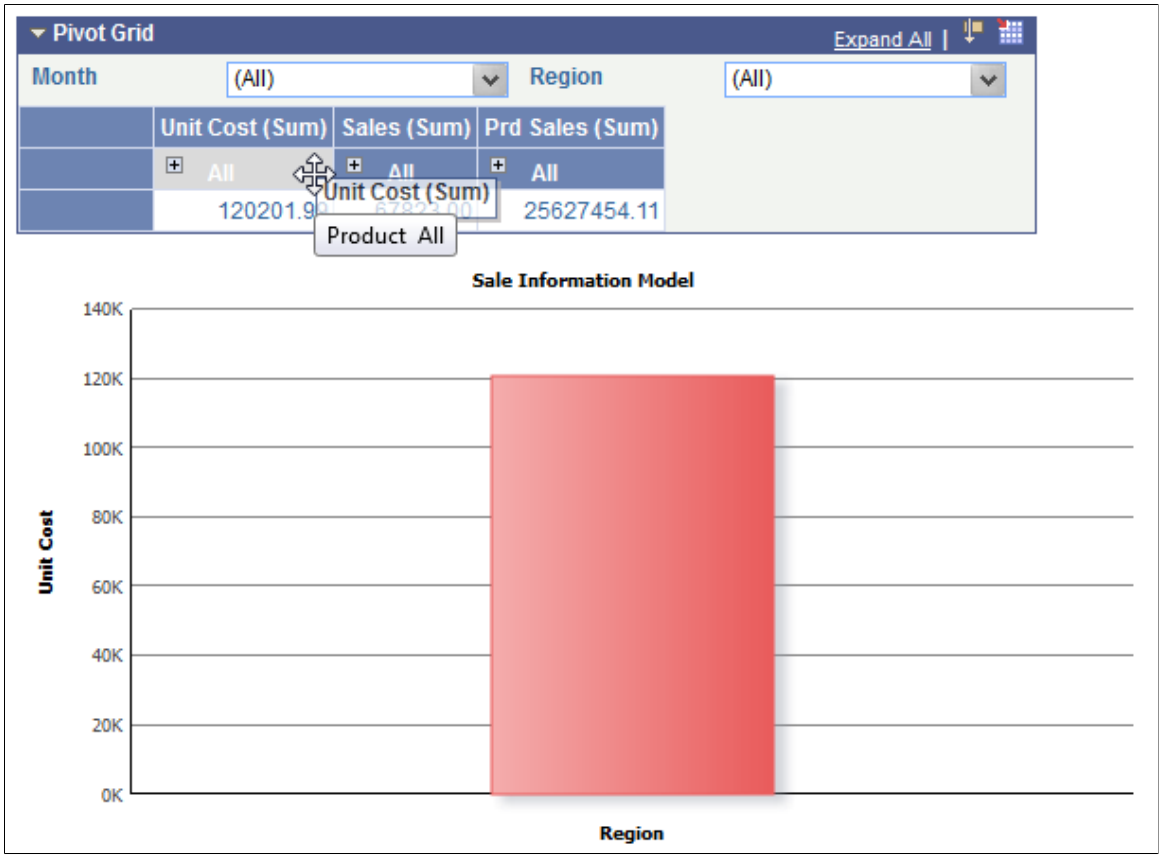

Chart-Display Component

The Pivot Grid Chart-display component also uses the Pivot Grid Data Source Engine component to retrieve PSQuery data. It provides the following functionality:

- Invokes the Pivot Grid Data Source Engine interfaces to modify the PSQuery at runtime to retrieve data.

  If the display option is *Chart Only,* a single PSQuery modification and run suffices for retrieving the relevant charting data; extra modifications are required to get filter values. If the display option is *Pivot Grid and Chart,* Pivot Grid uses the result set that was retrieved when populating the grid for chart display.

- Calls the appropriate PeopleCode charting APIs for generating and rendering the chart control on the page.

- If the display option is *Chart Only,* users can drill down on the chart by clicking the data points of the chart to display details.

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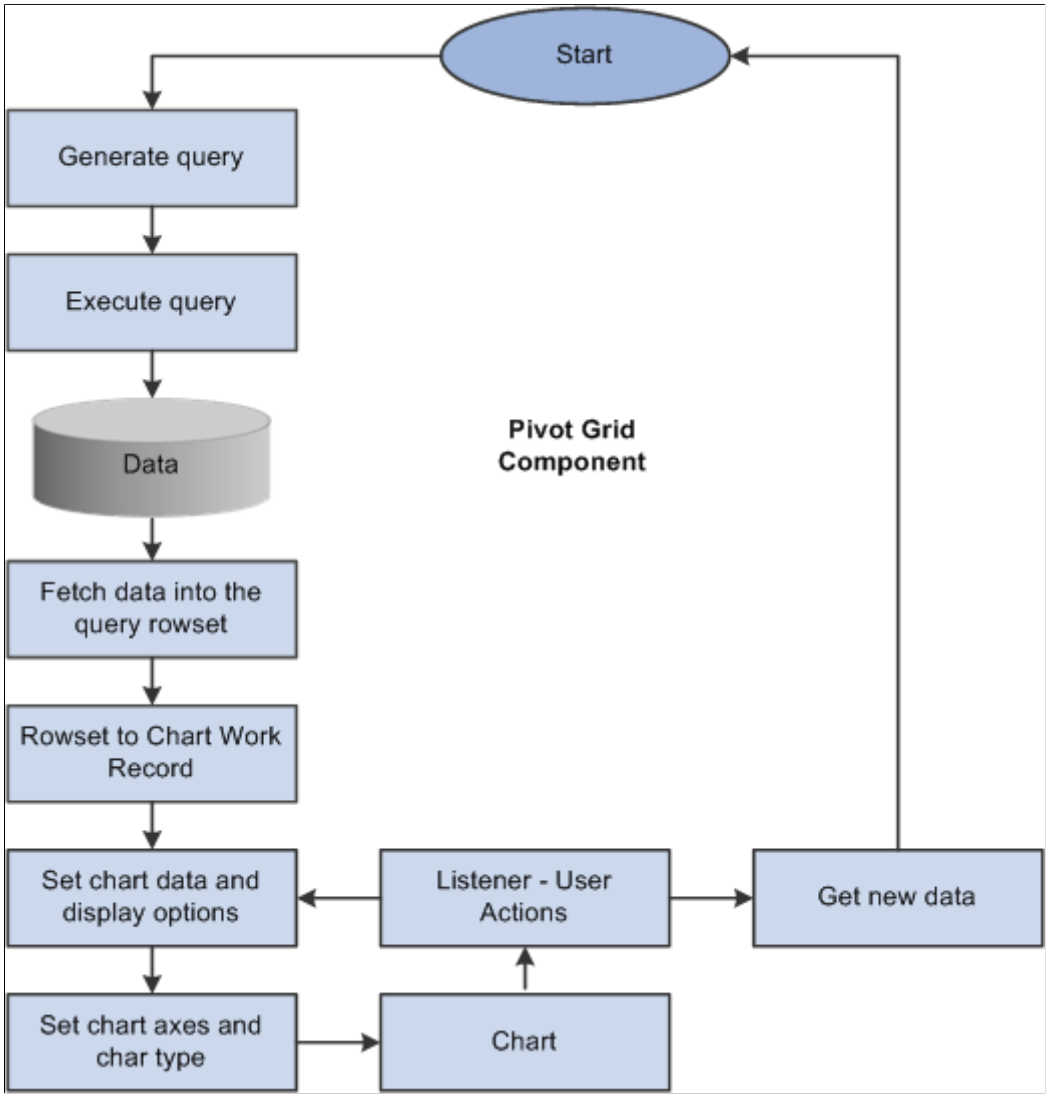
After drilling down, a drill-out option is available as a locator link at the top of the chart. Clicking the drill-out link restores the chart to its earlier state.

Note: The number of drill downs that can be performed on a chart-only view has no limitations. If you perform the fifth drill down, Pivot Grid resets the drill-down links and restarts from the first position.

- All the pivoting, drilling down, and filtering operations on the grid result in an appropriate synchronization action on the chart if the display option is *Pivot Grid and Chart.*

Image: Process flow of the Chart-display component

This diagram shows the processes of the Pivot Grid Chart-display component.



Pivot Grid Security

Various layers of security are available for users who access Pivot Grid:

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- Query security is the first layer.

  If a user has access to run and modify a query, that user can create a new Pivot Grid model or view an existing Pivot Grid model based on the selected query data source.

- Pivot Grid model type security is the second layer.

  Any Pivot Grid model can be published as a private or public model. Private Pivot Grid models are available only to the user or users who created the models. Public models are available to administrators and power users for updates.

- Pivot Grid roles is the third layer.

  Three primary roles are available for Pivot Grid users. PeopleSoft delivers the roles PivotGridAdmin and PivotGridSuperUser. Users not assigned to one of these roles will be Pivot Grid end users.

Pivot Grid Administrator Role

Users with the role PivotGridAdmin are granted access to:

- Use the Pivot Grid wizard to create new Pivot Grid models or update existing Pivot Grid models.
- Update and view all models that were created by all other users.
- Define how a Pivot Grid will be viewed by end users by specifying the axes and values.
- Select the aggregate functions for values and All members of the axes members.
- Select the initial PSQuery prompt values for the PSQuery runtime prompts.
- Define the initial view layout, which includes view options for the grid and the chart.
- Publish the Pivot Grid models as public or private.
- Define whether the selected model is valid.
- Use the Pivot Grid Administration component to administer Pivot Grid models, views, and user personalization.

Pivot Grid Super User Role

Users with the role PivotGridSuperUser are granted access to:

- Use the Pivot Grid wizard to create new models or update existing public Pivot Grid models.

  For the models that are accessible to super users, the tasks are the same as for the Pivot Grid administrator.

- View all public Pivot Grid models and perform pivoting, filtering, or dicing on the initial view to set their own user preferences.

  Note: Users can save these preferences.

Pivot Grid End User Role

Users with the role Pivot Grid end user are granted access to:

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- Create new Pivot Grid models and publish them as public or private.

  For models created by a Pivot Grid end user, the tasks are the same as for the Pivot Grid administrator.

  Note: Pivot Grid end users cannot update Pivot Grid models created by other users.

- View public Pivot Grid models that were created by other users and perform all operations on accessible models.
- Save public models as user preferences.

Setting the Limit of the Pivot Grid Result Rows

You use the Max Rows in Pivot Grids field in the PeopleTools options page (PeopleTools, Utilities, Administration, PeopleTools Options) to set the number of rows returned in detail or list view in

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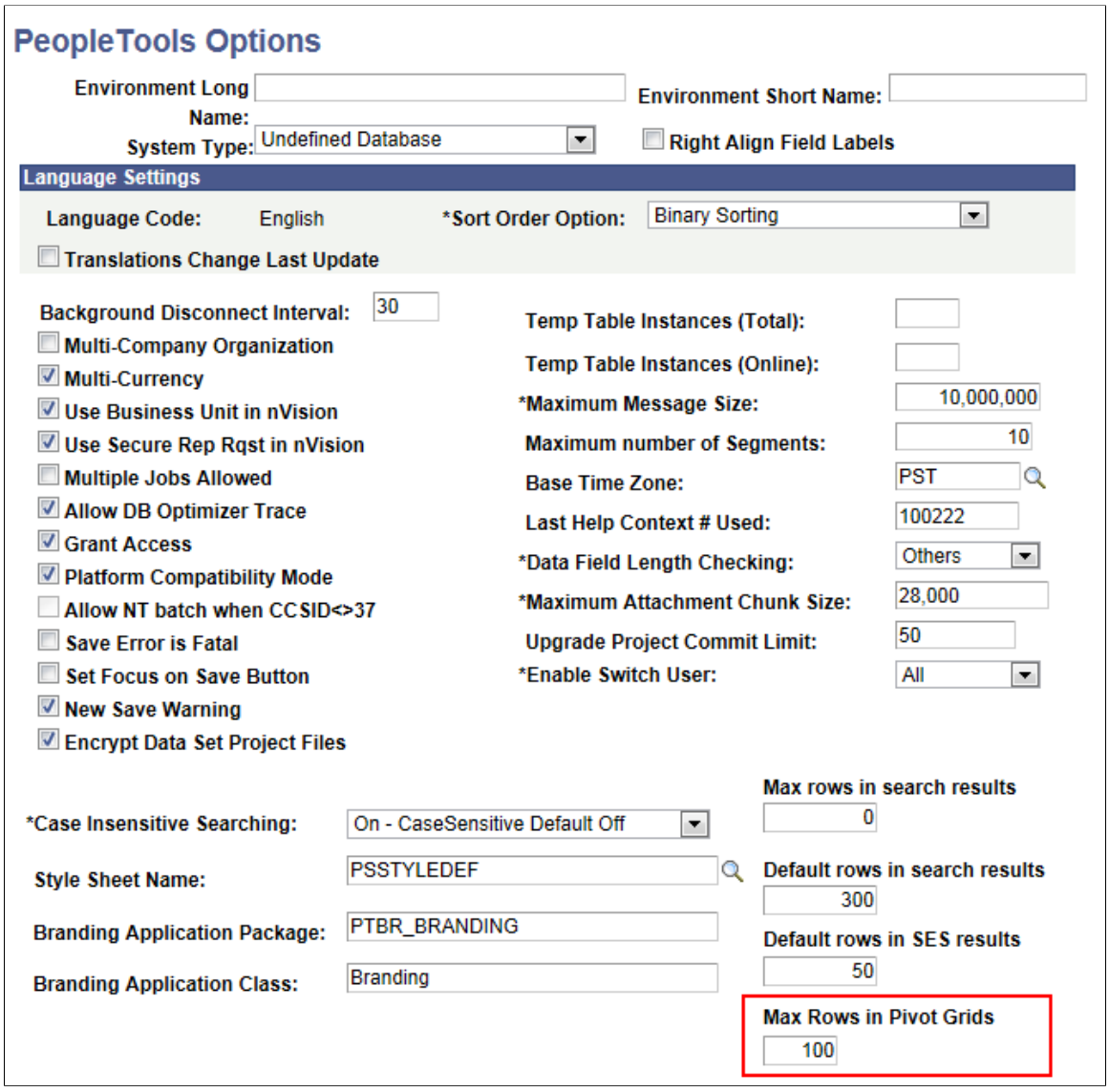
search (that is obtained by executing the query). The default setting is 100. This setting is applying for component real time search view, Fluid Mode Detail View, and Classic Pivot Grid Detail View.

Image: PeopleTools Options page

This example illustrates the fields and controls on the PeopleTools Options page. The Max Rows in Pivot Grids option is highlighted.



Related Links

"Fluid User Interface Overview" (PeopleTools 8.54: Fluid User Interface Developer's Guide)

Limitations of PeopleSoft Chart and PeopleSoft Pivot Grid

This topic discusses:

- PeopleSoft Chart limitations.

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- PeopleSoft Pivot Grid limitations.

PeopleSoft Chart Limitations

PeopleSoft Chart has these limitations:

- Users can only assign Value fields to the Y axis because they are numerical.
- If users select *Chart Only* as a display option, then only one level of detail can appear in the chart, and users can have one field on the X axis and one field as a data series to group the data.

  If users drill down on the chart, they can select an overlay field to display two fields on the Y axis. If an overlay field is selected, then two charts are plotted, and one is superimposed over the other.

  Note: From PeopleTools 8.53, the Chart Only view does not limit the number of filters.

- If users select *Pivot Grid and Chart* as a display option, then the chart can use one Y axis for plotting one of the Value members, and all the other axes are automatically determined based on the current grid layout.

  Note: In PeopleSoft Pivot Grid, overlay fields for a *Pivot Grid and Chart* display option are not supported.

PeopleSoft Pivot Grid Limitations

PeopleSoft Pivot Grid has these limitations:

- It does not have a vertical scroll bar for viewing data, but it displays all possible rows based on the current layout.
- Pagination is not available.
- Pivot Grid supports up to 75 axes and values; the character limit for each is 30.

Related Links

"Understanding WSRP" (PeopleTools 8.54: Portal Technology)

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Chapter 3

Using PSQuery as a Data Source for Pivot Grid

Pivot Grid Model Overview

The grid and chart event listener captures grid events and constructs an appropriate PSQuery using the row and column labels and filters. Each user action results in an appropriate event for the chart, so that both the chart and the grid are synchronized. Pivot Grid enables users to move the fields among the row, the column, and the report filter. Each of these actions results in a different view of the same data.

The chart event listener captures chart events and constructs an appropriate PSQuery using the chart axis and filter information.

Data Synchronization Between the Grid and the Chart

If users select *Pivot Grid and Chart* as the display option, the data that appears in the controls is synchronized. Synchronization is achieved using the following two mechanisms:

- Unidirectional synchronization.

  The flow between the chart and the grid is maintained in a single channel, unidirectionally. Only an event or a user action in the grid will result in the chart being regenerated.

- Semi-intelligent chart axis.

  Pivot Grid determines the chart axis information intelligently based on the grid layout and maintains synchronized data between the grid and the chart. Therefore; the data in the chart is always a subset of the data in the grid.

Pivot Grid is able to set the chart axis information correctly so that the chart always displays a subset of the grid data. Pivot Grid always sets the field at the highest level on the row axis of the grid as the X axis for the chart. When you change the grid layout, the X axis for the chart keeps changing based on the grid layout. You can choose the Y axis in all scenarios except when any values are dragged to the filter axis on the grid. In this case, the value selected on the filter of the grid will be the Y axis for the chart as well.

This table describes various actions you can perform on the grid, and the corresponding actions on the chart that maintain synchronization.

Action in Grid	***Action in Chart***
Drilling down in the grid by clicking the plus (+) icon on the row axis **Note:** In PeopleSoft Pivot Grid, this action is available only at the lowest level of the row axis in the grid.	This grid action will result in a drill down in the chart as well. Earlier, the chart would have displayed the All member for the axis field, but now the chart also shows the relevant details. The Y axis does not change.

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Action in Grid	*Action in Chart*
Moving a row to the report filter	This grid action will result in: • The filter also being added to the chart. • The highest level field on the row axis being selected as the X axis for the chart. • All of the lower levels on the row axis of the grid also being part of the X axis. • The Y axis of chart not changing except when the Value columns are on the filter axis.
Moving a row to the column	This grid action will result in: • A series (grouping) field being added to the chart. • The highest level field on the row axis being selected as the X axis. All of the lower levels on the row axis of the grid also being part of the X axis. • The Y axis of the chart not changing.
Moving a column to the report filter	This grid action will result in: • The filter also being added to the chart. • The X axis remaining the same. • The Y axis of the chart not changing except when the Value columns are on the filter axis.
Moving a column to the row	This grid action will result in: • The highest level field on the row axis being selected as the X axis. • All of the lower levels on the row axis of the grid also being part of the X axis. • The Y axis of the chart not changing.
Moving values to the report filter	This grid action will result in: • The highest level field on the row axis being selected as the X axis. • All of the lower levels on the row axis of the grid also being part of the X axis. • The value selected on the report filter of the grid becoming the Y axis for the grid.
Moving values to the row axis	This grid action is essentially the same representation of data as comparing values on the column axis except that the data view is vertical rather than horizontal. Therefore, no change will appear in the chart.

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Using Query Drilling URLs in the Pivot Grid Model

PSQuery supports drilling URLs that enable you to navigate to either a PeopleSoft Pure Internet Architecture page, another query result page, or an external page. These drilling URLs can contain context-sensitive bind values obtained from the query result row. For example, a drilling URL enables you to navigate to a component by taking key values from the row where you click a cell. You use PeopleSoft Query - Query Manager to define drilling URLs.

See "Drilling URL in PeopleSoft Query" (PeopleTools 8.54: Query).

Pivot Grid supports the following drilling URL types:

- Component URL
- Query URL
- External URL
- Free Form URL

Note: The Attachment URL type in PSQuery is designed for Search Framework and is not available to any other subproducts, including PeopleSoft Pivot Grids.
To use the drilling URLs in Pivot Grid, the Content URI Text and Portal URI Text fields in the Portal page of the default local node (for example, QE_LOCAL) must have the valid values. To access the Portal page, select PeopleTools, Integration Broker, Integration Setup, Nodes, Portal. See "Defining Portal Nodes" (PeopleTools 8.54: Portal Technology)

In this example of component drilling URL settings, the target component has keys INV_ITEM_ID and SETID mapped to the Key Value from the query field. At runtime, the values from the A.INV_ITEM_ID and A.SETID fields are passed as component keys. In the detailed view of the Pivot Grid, the mapped

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fields are shown as links. Clicking the URL links on the Detailed View enables you to access the target component.

Image: Select a Component page

This example shows a component drilling URL. The target component has keys INV_ITEM_ID and SETID which are mapped to the Key Value from the query field.

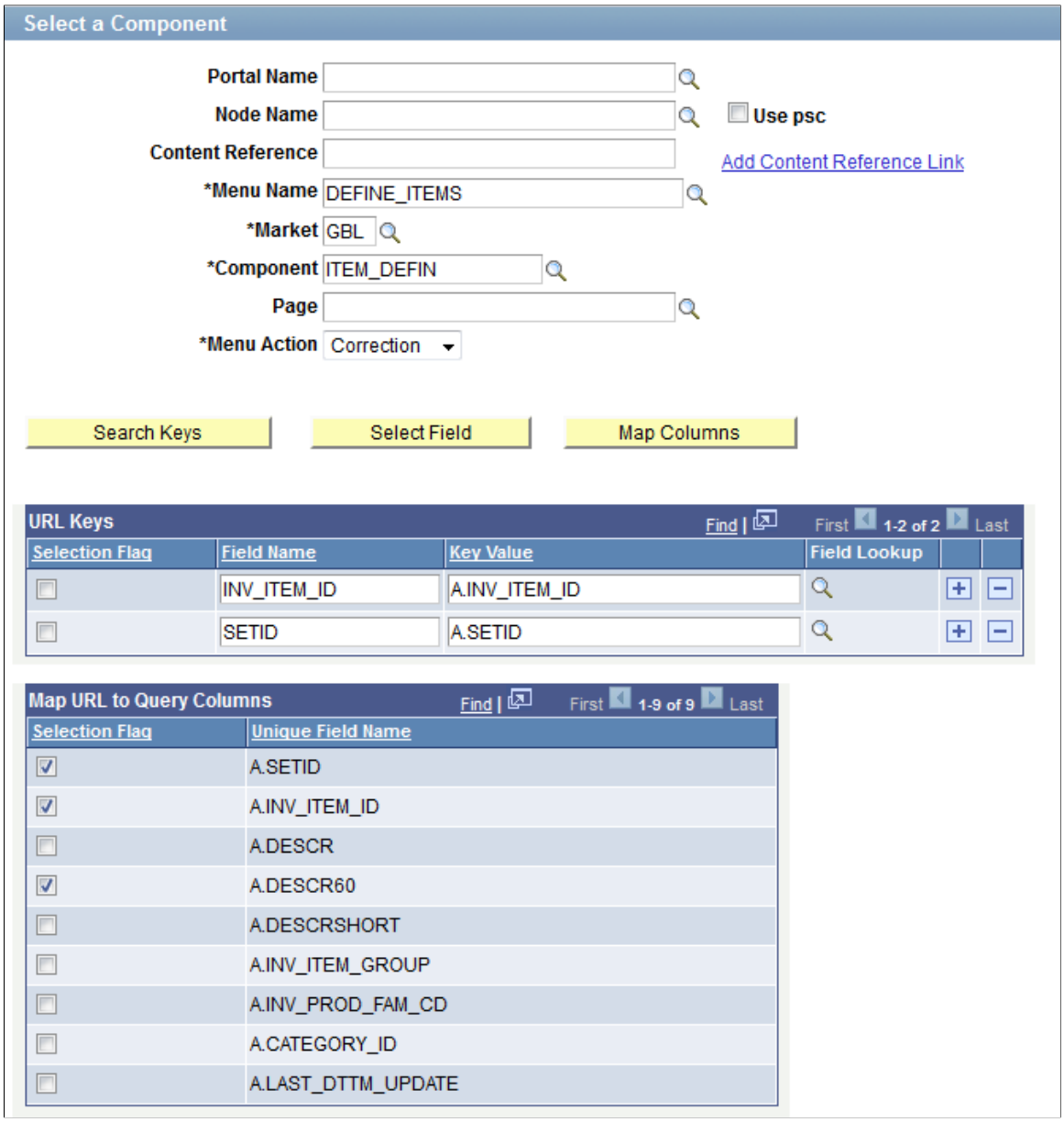

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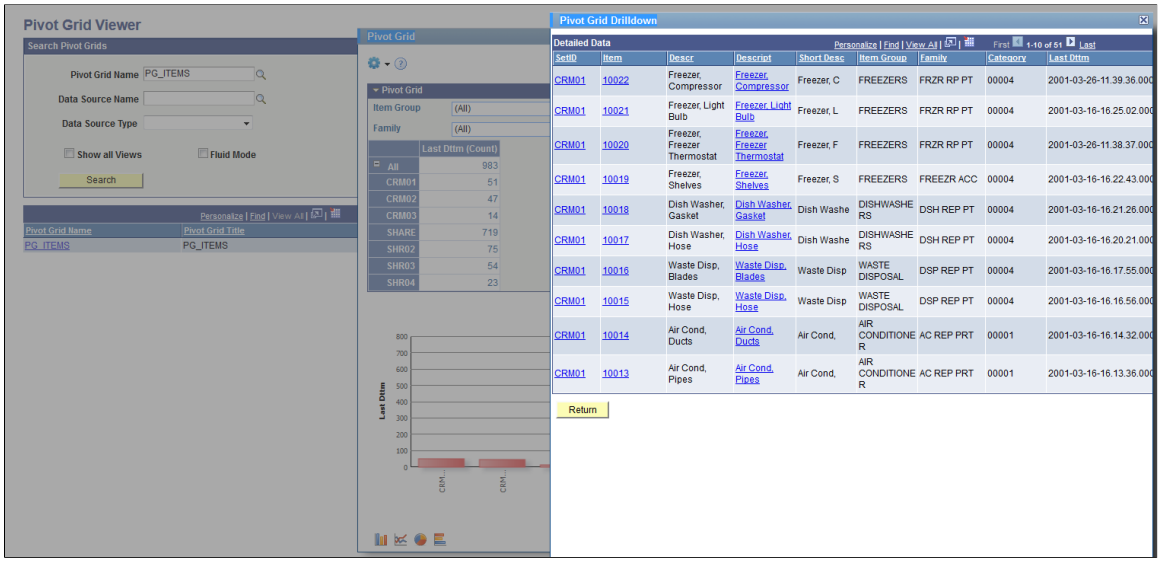
Image: Pivot Grid Detailed View

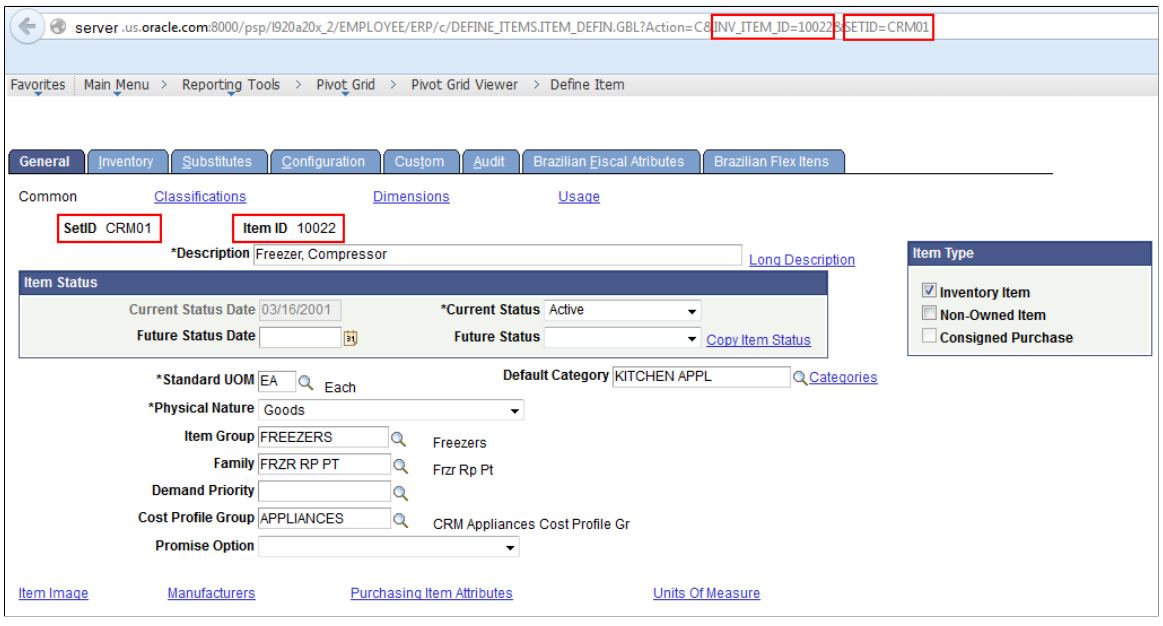
This example shows the detailed view of the Pivot Grid, including 51 items that have the SetID value of CRM01. Note that the mapped fields - SetID, Item, and Item Description - appear as links.



Note: The Pivot Grid Wizard does not have any configuration for drilling URLs. If a drilling URL is defined in PeopleSoft Query - Query Manager, then it is available in the detailed view in the mapped columns. Using PeopleSoft Query - Query Manager, you can include the drilling URL as a field. If you include a drilling URL as a field, the drilling URL column should be set as a display-only column type in the Pivot Grid Wizard – Specify Data Model Values page.

Image: Target Component

This example shows the target component after you click the link in the detailed view. The context values for SetID and Item ID are passed from the detail view row.



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In the following examples, the drilling URL is set to Query URL type, and the message set number from the detailed view is passed as a prompt (MESSAGE_SET_NBR) to the target query MESSAGES_FOR_MSGSET and run.

Image: Select a Query page

This example shows the Select a Query page after you set the drilling URL to the Query URL type:

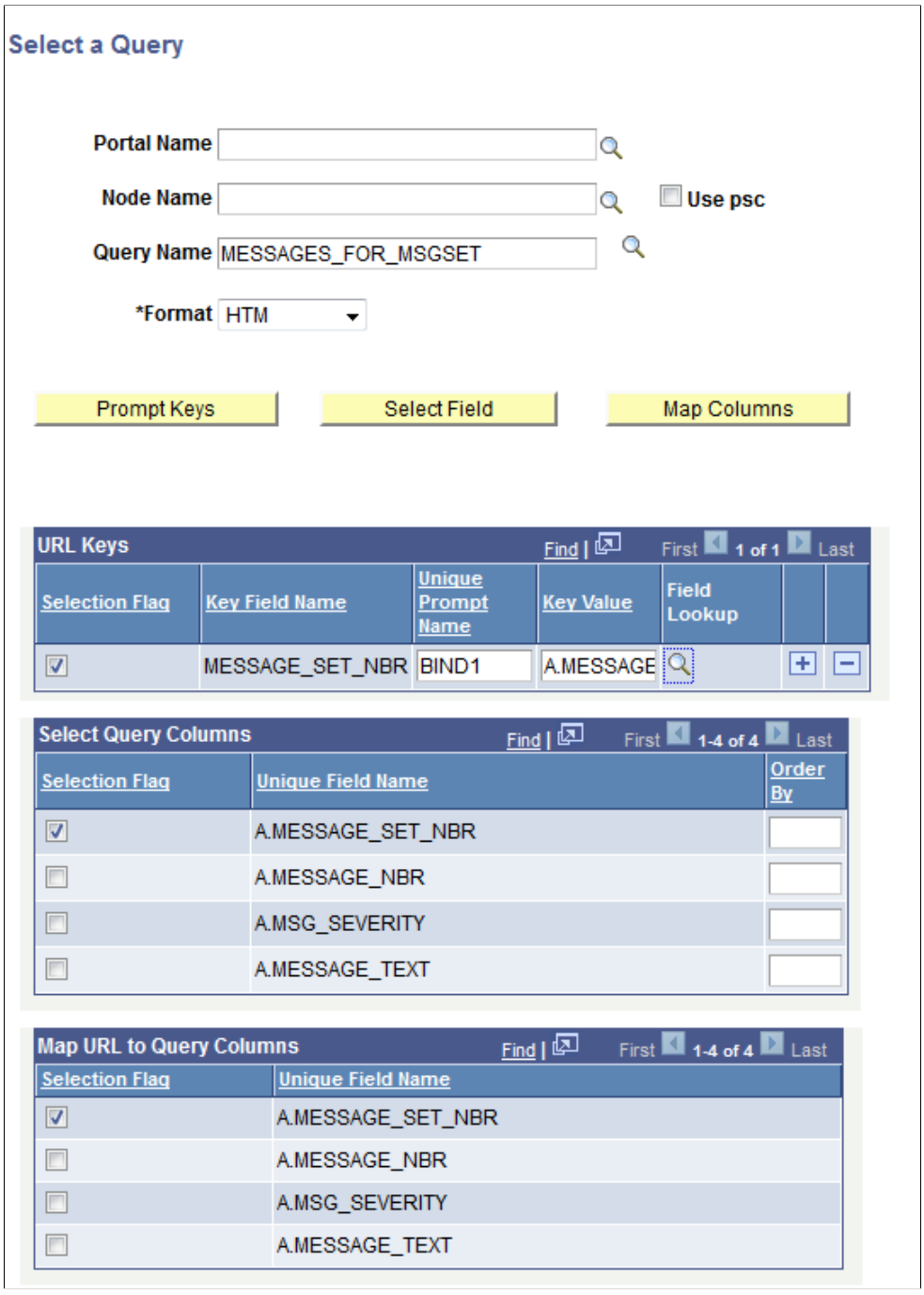

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Image: Pivot Grid Drilldown - Detailed Data page

This example shows the Pivot Grid Drilldown - Detailed Data in Pivot Grid model. Note that the Pivot Grid model uses the MESSAGES_FOR_MSGSET query, and the default prompt value is set to 20051. There are 43 messages that have the Set value of 20051.

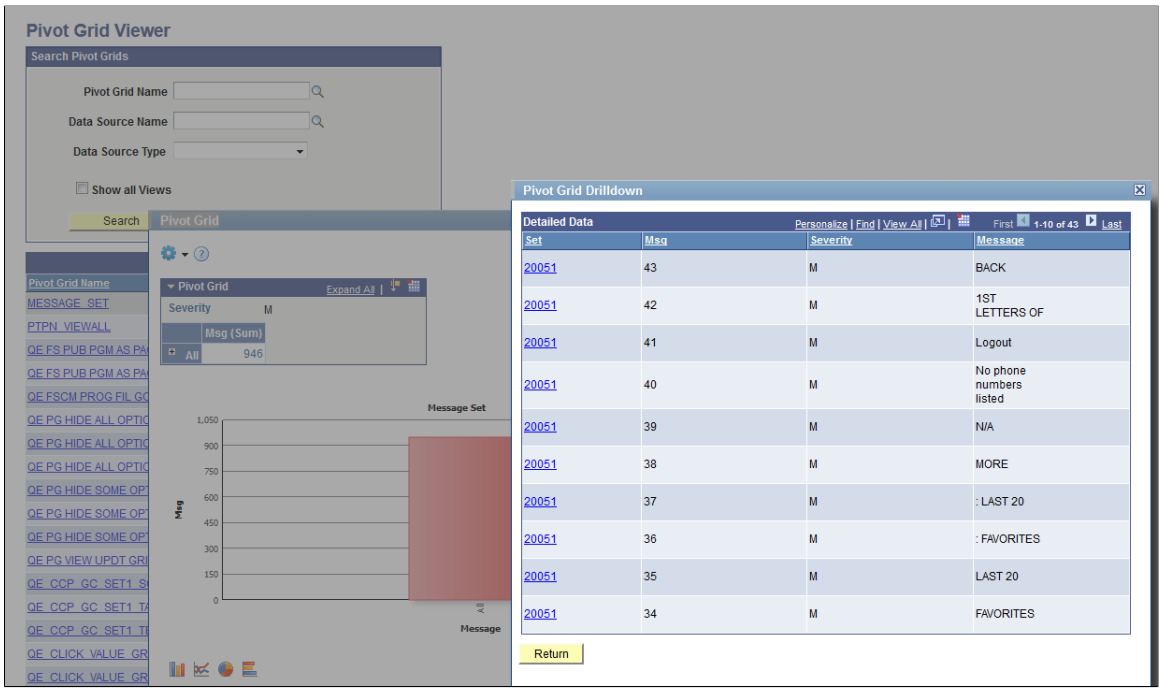
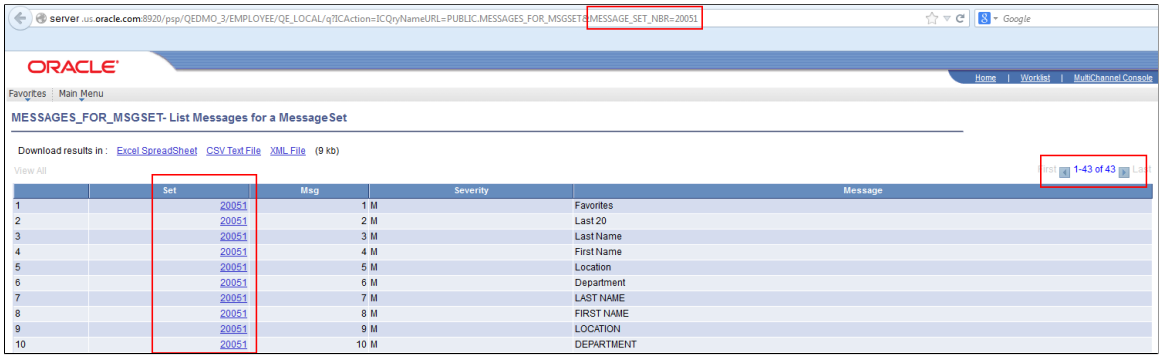


Image: Detailed view, data is drilled to run the query with prompt passed from detail view row

After you click the 20051 link in the Detailed View, data is drilled into to run the query with a prompt passed from the detail view row (Set).



Drilling URLs in the Fluid View

Drilling URLs are available in the detail grid and list views (the results view). The results grid columns that are mapped to query drilling URL are displayed as links. Note that in the Fluid viewer, the target page

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is always opened in a new window when you click the URL link. The drilling URLs is also available in the detail view that you open by clicking the grid data point.

Image: Fluid mode, drilling URLs in the Chart Only view

This example shows the drilling URLs in the *Chart Only* view that is displayed in the Fluid mode. The results grid columns Descr and Family are displayed as links.

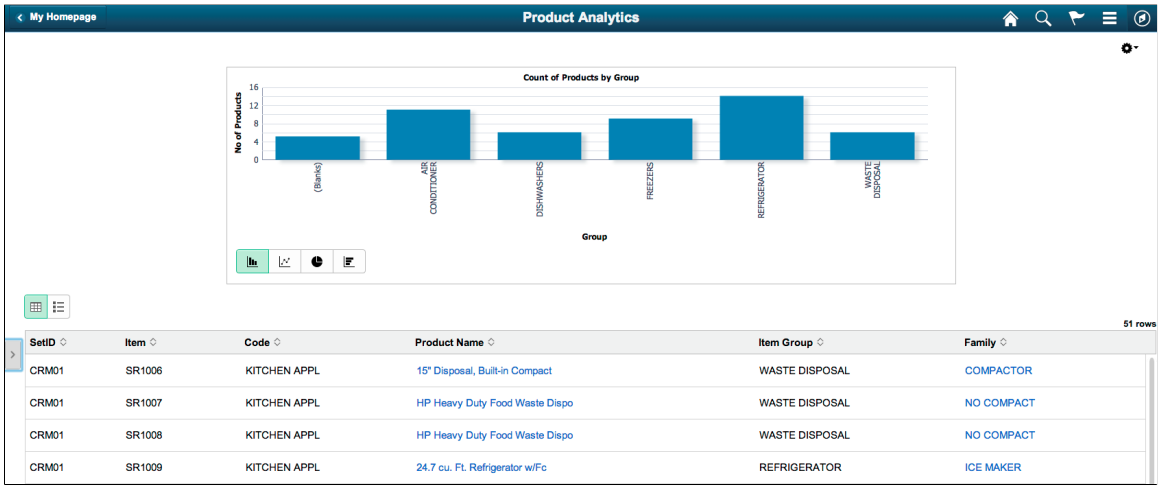
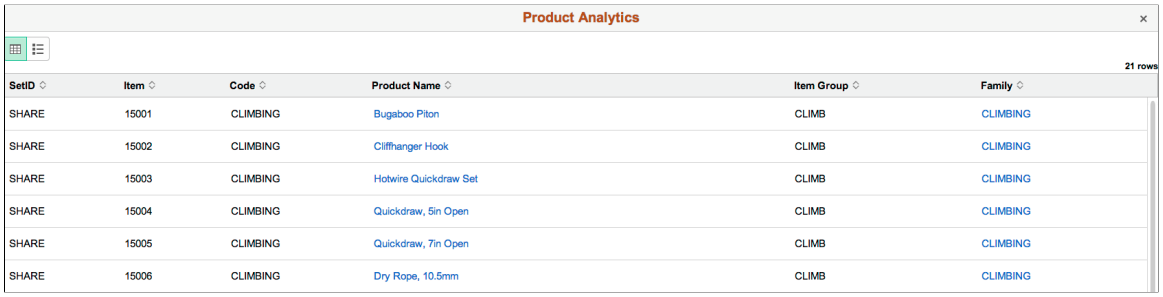


Image: Fluid mode, drilling URLs in the Pivot Grid Only or Pivot Grid and Chart view

This example shows the drilling URLs in the Fluid detailed view when the Pivot Grid model is set to *Pivot Grid Only* or *Pivot Grid and Chart*. The results grid columns Descr and Family are displayed as links.



Note: Drilling URLs are not available in the list view.

Saving Grid and Chart Layouts as User Preferences

Based on the associated security level, you can perform various actions on grids and charts. On a grid, you can slice and dice to have different data representations. On a chart, you can select different chart types, chart axes, and display options. You can also select different PSQuery runtime prompt values.

You can save grid and chart layouts as user preferences, which you can then apply to Pivot Grid views (grid and chart) the next time you open the saved model. You can apply these preferences per model per view.

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Query Design Considerations

When you create a query to use with a pivot grid, keep in mind that:

- Any prompt values for the query will be used for the Pivot Grid filter.
- A number of PSQueries may be run to render data in the grid and the chart, so you should consider these two points when constructing a PSQuery for a Pivot Grid model:
  - PSQuery should be conducive to manipulation.
  - PSQuery performance should be efficient enough to render quickly in the grid and in the chart.

For example, you want to plot organization data attributes, such as Employee Information, Department Information, Location Information, Country Information, and so on, in a pivot grid. The base database table for this information contains the codes EMPLID, DEPT_ID, LOCATION_ID, and so on, but the descriptions for all these attributes are in different tables. When a PSQuery is created, all these tables are joined. Additionally, the related language tables, security records, effective date, and so on are relevant. As a result, the PSQuery is complex and its performance may not be efficient. This kind of PSQuery is not suitable for creating a Pivot Grid model. In this case, when table indexes are not defined properly, you have two options:

- Define a fact table that contains all the data and use it to create a Pivot Grid model.
- Define a SQL view that joins all these tables and provides a simple view of the data.

  You can then use this view as a source for the PSQuery. However, creating a SQL View on top of multiple tables using joins might degrade performance.

For both options, you should consider effective date criteria, related language tables, and security records.

Note: If the query used in the Pivot Grid model is changed after the Pivot Grid model is created, you need to modify and save the Pivot Grid model to ensure all changes are properly displayed in the Pivot Grid Viewer and Pivot Grid pagelets.

Query Limitation for Pivot Grid

Pivot Grid uses PSQuery as the data source, and the aggregated results of the query appear in a grid and chart. While displaying the results, Pivot Grid does an ad hoc runtime manipulation of the query to get the desired results. Pivot Grid executes different types of queries at runtime for various uses.

For example, Pivot Grid executes a:

- Query with a GROUP BY clause and multiple fields to retrieve a unique list of values for the filters and axis fields.
- Query with a GROUP BY clause, ROLLUP clause, GROUPING clause, and multiple fields to retrieve data to be displayed in a grid in Pivot Grid.
- Query with a GROUP BY clause and the chart axis fields to retrieve the data to be displayed in a chart in Pivot Grid.

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- Query with a DISTINCT clause and a single field to retrieve a unique list of values for a primary filter that was last saved by the user.

Given these manipulations being done by Pivot Grid on the query and the complexity of PSQuery itself, the query that is used as a data source for Pivot Grid has limitations, which are:

1. Query with the UNION clauses.

   Query with the UNION clauses are not supported in Pivot Grid. Pivot Grid does runtime manipulation on the SELECT field list in the query, and this will not work properly with queries containing UNION clauses.

2. Query with the JOINS on the value (fact) fields.

   Query with the JOINS on the value (fact) fields receive an error in Pivot Grid because Pivot Grid performs aggregation on the value fields, and the same aggregation is used for the JOIN field. This will cause the query to fail syntactically while executing on the database.

   For example, consider a query where the resulting SQL looks like this:

```
SELECT TO_CHAR(A.ST_DT,'YYYY-MM-DD'),
  A.ST_ID_NUM,
  A.CRSPD_CUST_ID,
  A.REMIT_ADDRESS1,
  A.REMIT_ADDRESS2,
  A.CUST_ID
FROM PS_AR32001_TMP A,
  PS_RUN_CNTL_AR B,
  PS_COUNTRY_TBL C,
  PS_COUNTRY_TBL D,
  PS_CUSTOMER E,
  PS_STATE_TBL F
WHERE (B.OPRID = 'VP1'
  AND (A.ST_ID_TYPE = 'O'
  AND A.DRAFT_FLG <> 'Y'
  AND A.ST_ID_NUM = B.ST_ID_NUM
  AND B.RUN_CNTL_ID = :1
  AND B.OPRID = :2
  AND A.AG_PRINT_FLAG <> 'Y'
  AND C.COUNTRY = A.COUNTRY
  AND D.COUNTRY = A.REMIT_COUNTRY
  AND A.CRSPD_SETID = E.CRSPD_SETID
  AND A.CRSPD_CUST_ID = E.CRSPD_CUST_ID
  AND A.CUST_ID = E.CUST_ID
  AND A.CUST_ID LIKE :3
  AND F.COUNTRY = A.COUNTRY
  AND F.STATE = A.STATE ) )
ORDER BY 3, 50, 36, 35, 57, 37, 38, 54, 52 DESC, 51
```

   Note: `A.CUST_ID` is in the SELECT statement, and `A.CUST_ID = E.CUST_ID` is in the WHERE statement.

   Suppose that a Pivot Grid model is built using this query and the field `A.CUST_ID` is selected as a value type of field in the Pivot Grid model with an aggregation function of COUNT. This SQL will fail at runtime because the aggregation COUNT will be applied to both the SELECT field and the JOIN criterion.

   In this case, you should use separate fields as the SELECT fields and the JOIN criterion.

3. Query with underlying Record Views selecting the same field.

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A query built on an underlying view that selects the same field more than once will fail when used as a data source for Pivot Grid if these fields are used as the axis columns in the Pivot Grid model. The query will fail because the Pivot Grid uses a GROUP BY clause for the axis fields, and the database fails to perform a GROUP BY comment on the same field more than once.

For example, consider a view that has the following SQL:

```
SELECT A.HRS_PERSON_ID
 , A.HRS_RCMNT_ID
 , A.HRS_PROFILE_SEQ
 , A.OPRID
 , %DatePart(A.HRS_SUBMITTED_DTTM)
 , A.HRS_JOB_OPENING_ID
 , A.POSTING_TITLE
 , A.STATUS_CODE
 , B.DESCR
 , B.DESCR
 , Z.RECRUITER_ID
 , Z.MANAGER_ID
 , Z.JOB_FAMILY
 , Z.BUSINESS_UNIT
 , Z.DEPTID
 , Z.HRS_PRM_LOCATION
 , %DateNull
 , %DateNull
FROM PS_HRS_MY_APP_VW A LEFT OUTER JOIN PS_HRS_JOB_OPENING Z ON A.HRS_JOB_OPEN⇒
ING_ID = Z.HRS_JOB_OPENING_ID, PS_HRS_STS_REC_I B , PS_HRS_RCMNT C
WHERE B.STATUS_CODE = A.STATUS_CODE
  AND B.STATUS_AREA = '3'
  AND A.HRS_PERSON_ID = C.HRS_PERSON_ID
  AND A.HRS_RCMNT_ID = C.HRS_RCMNT_ID
```

In this view, the same field `B.DESCR` is selected twice in exactly the same way. This view was used in a query with both fields in the SELECT list of the query. If a Pivot Grid model was built using this query and again both these fields are selected as the axis type of fields in the Pivot Grid model, then the model will fail and not return the results.

In this case, you should use different fields in the view creation. If the same field has to be used, one of them can be used with functions such as UPPER, TRUNCATE, and so on.

4. Query with *value* fields used as a criterion or a runtime prompt.

   If one of the selected fields in the query is selected as a value column in the Pivot Grid model and the same field is used in a criterion in the query, then the query will fail and the Pivot Grid model will not render. It will fail because when rendering the Pivot Grid model, aggregation functions are applied on the value fields and the same aggregation will be applied on the criterion. This issue does not only result in a wrong criterion, but the query will also fail syntactically because the WHERE clause contains an aggregation and a normal criterion will not work. Note that you need a HAVING clause for the aggregation.

   For example, consider a query such as this:

```
SELECT DISTINCT A.SETID
 , A.VENDOR_ID
 , A.VENDOR_NAME_SHORT
 , A.BUSINESS_UNIT_GL
 , A.NET_BALANCE_AP
 , A.TXN_CURRENCY_CD
 , A.NET_BALANCE_AP * B.RATE_MULT/ B.RATE_DIV, B.TO_CUR
FROM PS_AP_DB_VNDBAL_VW A, PS_RT_DFLT_VW B
WHERE (B.EFFDT =
  (SELECT MAX(B_ED.EFFDT)
```

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```
FROM PS_RT_DFLT_VW B_ED
WHERE B.FROM_CUR = B_ED.FROM_CUR
  AND B.TO_CUR = B_ED.TO_CUR
  AND B.RT_TYPE = B_ED.RT_TYPE
  AND B_ED.EFFDT <= SYSDATE)
  AND B.RT_TYPE = 'CRRNT'
  AND A.TXN_CURRENCY_CD = B.FROM_CUR
  AND A.SETID = :1
  AND B.TO_CUR = :2
  AND A.NET_BALANCE_AP * B.RATE_MULT/ B.RATE_DIV >= :3 )
```

The expression `A.NET_BALANCE_AP * B.RATE_MULT/ B.RATE_DIV` is used as a value field in the Pivot Grid model. The query after aggregation will apply the aggregation function in the SELECT list as well as in the criterion. These issues cause a failure.

In these cases, you should have two fields, one representing the value column in the Pivot Grid model and another one that is used in the criterion.

5. Query with the expressions that are used as axis fields in the Pivot Grid model.

   If a query has expressions and these expressions are used as the axis fields in a Pivot Grid model, Pivot Grid will display an error while rendering results because query expressions are not supported in the ROLLUP clause in Pivot Grid, which may lead to unpredictable results.

   In this case, you should build a view on top of the query SQL with expressions, and then use this view in the Pivot Grid model.

6. Limitations in Microsoft SQL server.

   Microsoft SQL server database platform supports ROLLUP and CUBE with a compatibility mode of 100 or more. If the compatibility mode in the database is set to a value that is less than 100, then all the queries associated with Pivot Grid models will fail.

This table summarizes the different query scenarios, results, and recommendations.

Query Scenario	***Result***	***Recommendation***
Query with UNION clauses.	An error message appears to indicate that the query execution has failed.	Build a view on top of the query SQL with UNION clauses and then use this view in the Pivot Grid model.
Query with JOINS on value (fact) fields.	An error message appears to indicate that the query execution has failed.	Use separate fields as the SELECT fields and JOIN criterion.
Query with underlying Record Views selecting the same field.	Usually, an error message appears to indicate that the query execution has failed. Occasionally, the Pivot Grid model will display the results incorrectly.	Use different fields in the view creation. If the same field must be used, use one of them with functions such as UPPER, TRUNCATE, and so on.
Query with value fields used as a criterion.	An error message appears to indicate that the query execution has failed.	Use two fields, one as the value column in the Pivot Grid model and the other one in the criterion.
Query with expressions used as the axis fields in Pivot Grid model.	An error message appears to inform users that expressions are not allowed.	Build a view on top of the query SQL with expressions, and then use this view in the Pivot Grid model.

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Query Scenario	*Result*	*Recommendation*
Microsoft SQL server database with a compatibility setting of less than 100.	An error message appears while rendering the Pivot Grid model.	Set the compatibility mode for the Microsoft SQL server database to a value of 100 or greater.

Displaying the Grid in a Chart-Only View

You can display the grid from a chart-only view and then perform various actions—such as pivoting data, dragging and dropping, and slicing and filtering data—to change the grid layout. After the layout is satisfactory, you can synchronize the chart with the grid view.

Because the chart can show a maximum of two values on the X-axis (X-axis value and series) and one value on the Y-axis (Selected Fact), the grid displays various types of mapping, as listed in the following table.

Chart Axis	*Grid Axis (Initial View)*
X-axis value.	Highest level on the row of the grid.
Facts: One of them is selected as a Y-axis.	All the facts are initially plotted on the column of the grid.
Series value.	Highest level on the column of the grid.
Filters on the chart.	Filter values on the grid are the same filter values that were selected on the chart.
All other dimensions that are selected in the model and have a valid grid axis associated with them.	All the dimensions that are selected in the model will be plotted in the row hierarchy.

Note that:

- Because only one X-axis and series can be plotted as dimensions, only the selected X-axis and series can be directly plotted on the grid.
- After the grid appears, you can perform all these usual actions on the grid:
    - Data slicing and filtering.
    - Dragging and dropping to change the layout.
    - Expanding or collapsing values in the rows and columns.

After the grid layout is satisfactory, you can synchronize the chart with the grid view. When the chart is refreshed, the reverse mapping is completed, as listed in the following table.

Grid Axis	*Chart Axis (Initial View)*
Highest level on the row of the grid.	X-axis value.
All the facts (whether in row or column).	Facts: The first fact is selected as the Y-axis.

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Grid Axis	*Chart Axis (Initial View)*
Facts on filter.	The selected fact filter value is selected as the Y-axis.
Highest level in the column of the grid.	Series value.
Filter values in the grid are the same filter values that were selected in the chart.	Filter values in the chart are the same filter values that are selected in the grid.

Note that:

- Because only one X-axis and series is available to be plotted in the chart in the models that have a chart-only mode, only the highest level dimensions in the rows and columns of the grid are plotted in the chart. The remaining dimensions are ignored and are not plotted in the chart.
- The layout change of the grid is temporary; layout can only be used to synchronize the chart and is not saved in the database.

Viewing a Grid with Only X-axis and Y-axis Values in the Chart

To view a grid with only X- and Y-axis values in the chart:

1. Create a Pivot Grid model with a chart-only view.

   The chart has only one X-axis and one Y-axis, and no filter.

2. View the model in the Pivot Grid Viewer.
3. Click the View Grid button.

   The Pivot Grid appears in a modal window. The value on the X-axis of the chart is in the row of the grid. All the facts are in the column axis of the grid. The remaining dimensions are in the row axis of the grid.

4. Change the settings of the grid layout and click the Refresh Chart button.

   The chart refreshes. The highest level dimension in the grid is the X-axis. The Y-axis value remains the same. The grid filters are also maintained as chart filters.

Viewing a Grid with X-axis, Y-axis, and Series Values in the Chart

To view a grid with X-axis, Y-axis, and Series values in the chart:

1. Create a Pivot Grid model with a chart-only view.

   The chart has one X-axis, one series value, and one Y-axis in the chart, and no filters.

2. View the model in the Pivot Grid Viewer.
3. Click the View Grid button.

   The Pivot Grid appears in a modal window. The value on the X-axis of the chart is in the row of the grid. All the facts and the series value are in the column axis of the grid. The remaining dimensions are in the row axis.

4. Change the settings of the grid layout, and click the Refresh Chart button.

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The chart refreshes. The highest level dimension in the grid is the X-axis. The Y-axis value remains the same. The grid filters are also maintained as chart filters.

Example: Using PSQuery as a Data Source for Pivot Grid

Suppose that a PSQuery were built on the PS_QE_BAM_FACT_TBL record that stores Unit Sales, Unit Cost, and Product Sales for a set of regions and products, monthly, as shown in the following table.

Region (Key)	*Product (Key)*	*Month (Key)*	*Unit Sales*	*Unit Cost*	*Product Sales*
QE_BAM_ REGION_FLD	QE_BAM_ PRODUCT_FLD	QE_BAM_ MONTH_FLD	QE_BAM_UNIT_ FLD	QE_BAM_SALES _FLD	QE_BAM_ PRDSALES_FL

Consider a Pivot Grid model built for this PSQuery with the following initial metadata.

- Model:
  - Region, Product, and Month are axis columns.
  - Region and Product have *All* members defined.
  - Unit Cost, Unit Sales, and Product Sales are Value columns.
  - All the Value columns have the aggregate function *Sum* defined for them.
- Grid:
  - Region and Product are on the row axis.
  - Month is on the Filter axis.
  - Values for No. of Units Sold, Unit Cost, and Product Sales are on the column axis.
- Chart:
  - Region is on the X axis.
  - Unit Cost is on the Y axis.
  - Month is on the Filter axis.

This topic discusses:

- User Actions Listener when the display option is Pivot Grid and Chart.
- User Actions Listener when the display option is Chart Only.

User Actions List When the Display Option is Pivot Grid and Chart

This topic discusses how to:

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- Display the grid and chart based on the Pivot Grid model.
- Perform drill down on a grid.
- Move the report filter to the column axis.
- Move the report filter to the row axis.
- Change the level of dimensions.
- Move a row to a column.
- Move a row to the report filter.
- Select a value for the report filter.
- Move a column to the report filter.

Displaying the Grid and Chart Based on the Pivot Grid Model

You perform the following actions on the grid:

- Retrieve the axis information for the selected model.
- Execute the PSQuery to retrieve (1) the unique list of all axis columns values (including Region, Product, and Month) and (2) the Totals of Aggregate values for products for each region for the selected month.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

You perform the following actions on the chart:

- Retrieve axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Units Cost field.

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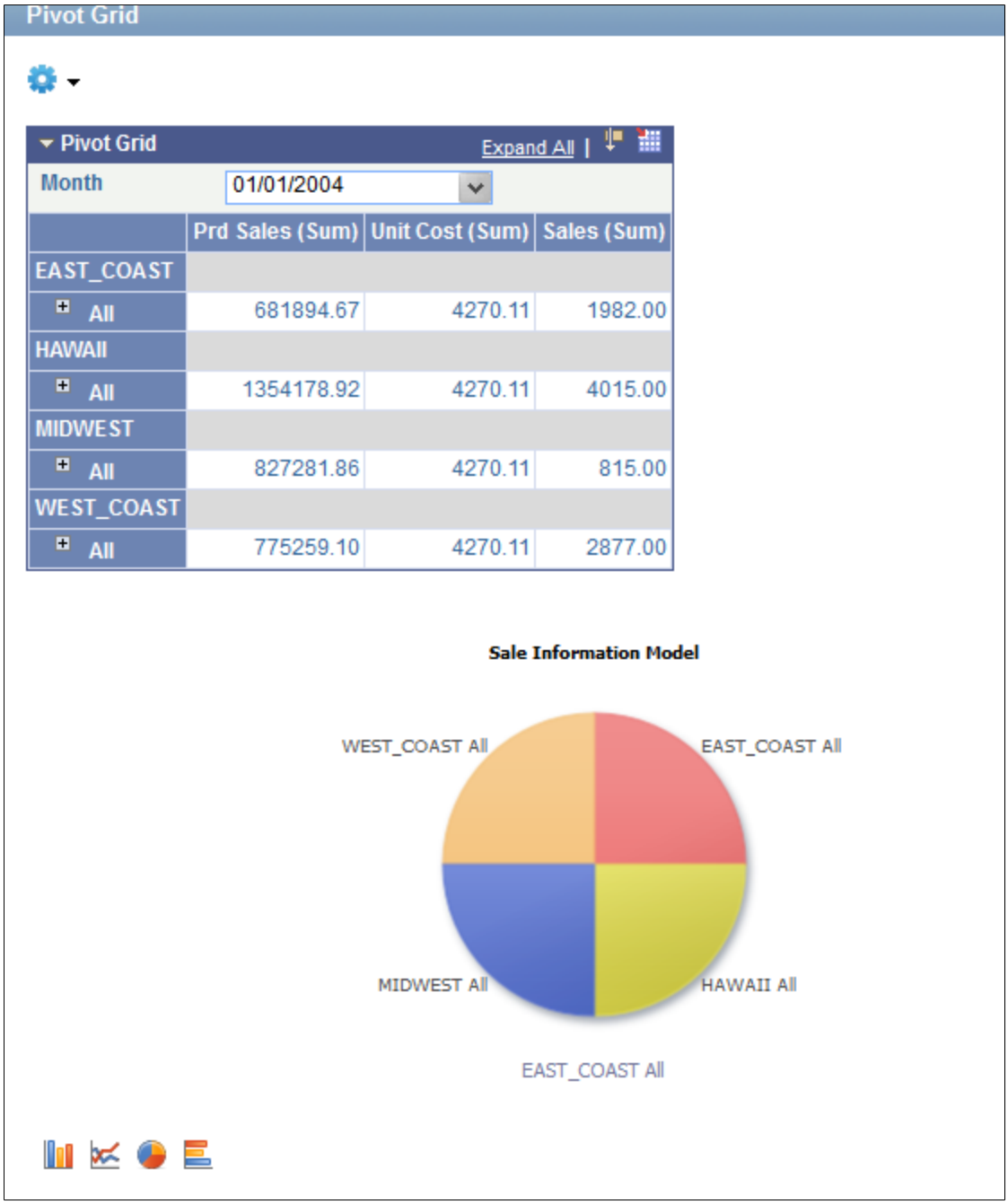
- Plot the chart.

Image: Example of pivot grid and chart based on the Pivot Grid model

This example displays the pivot grid and chart based on the Pivot Grid model.



Performing Drill-Down on a Grid

To drill down on the grid, you click the + (plus) icon. You drill down on the grid based on the row axis members. In this example, the user clicks the + icon under EAST COAST. The following actions are performed:

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- Execute the PSQuery to retrieve (1) the unique list of all the axis columns values (including Region, Product, and Month), (2) the Totals of Aggregate values for products for each region for the selected month, and (3) individual product information for the region that you are drilling down into.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

The following action is performed for the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

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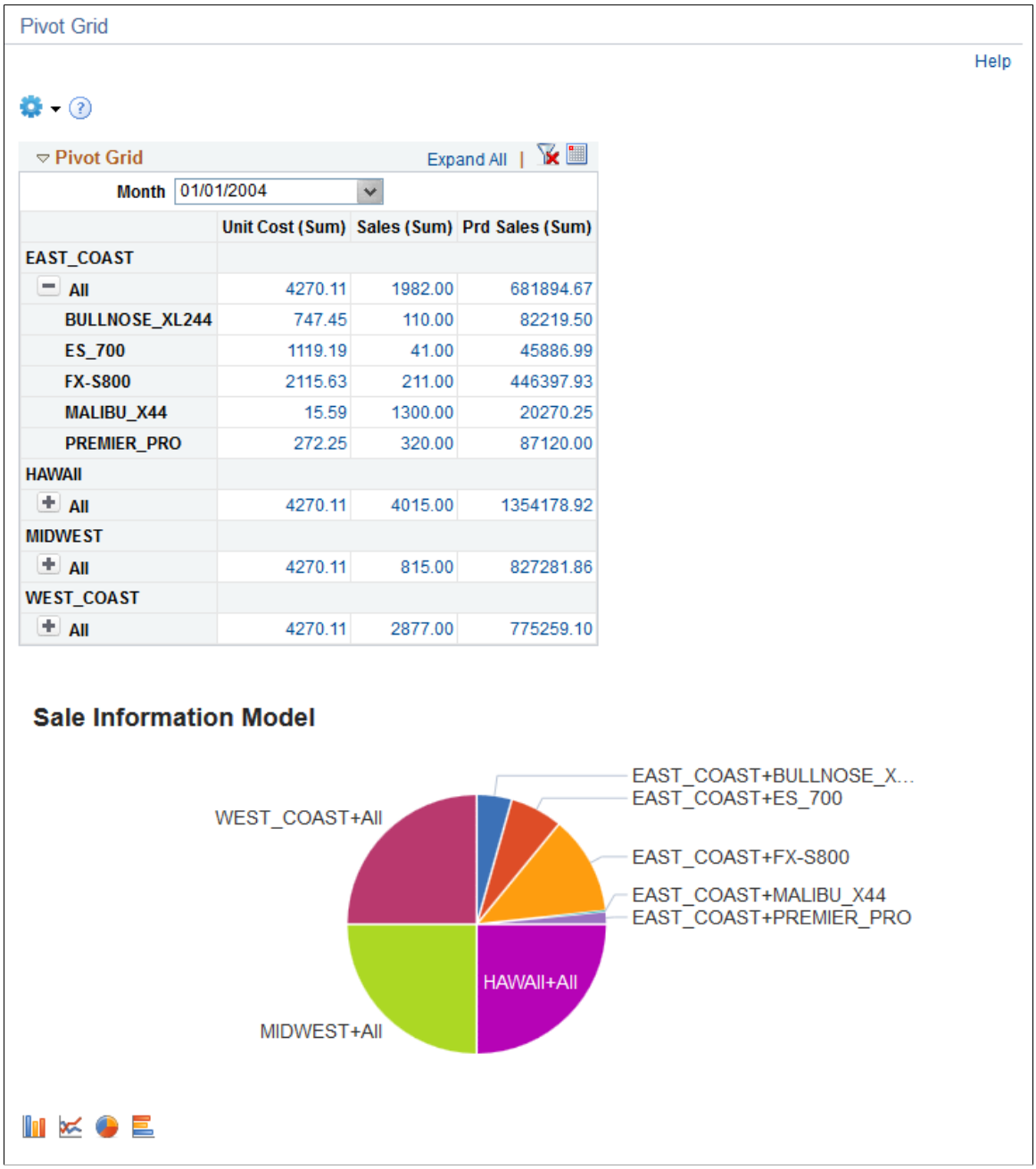
- Plot the chart.

Image: Example of grid and chart after performing drilldown on region EAST COAST

This example displays the grid and chart drill-down based on the Pivot Grid model.



Performing Drill-Down on Aggregate Values

If you view aggregate data—for example, SUM, AVG, COUNT, and so on—you can drill down to view the data that comprise the aggregate value displayed in the grid and chart by clicking a value in the grid or chart.

While performing drill down on the aggregate values, note that:

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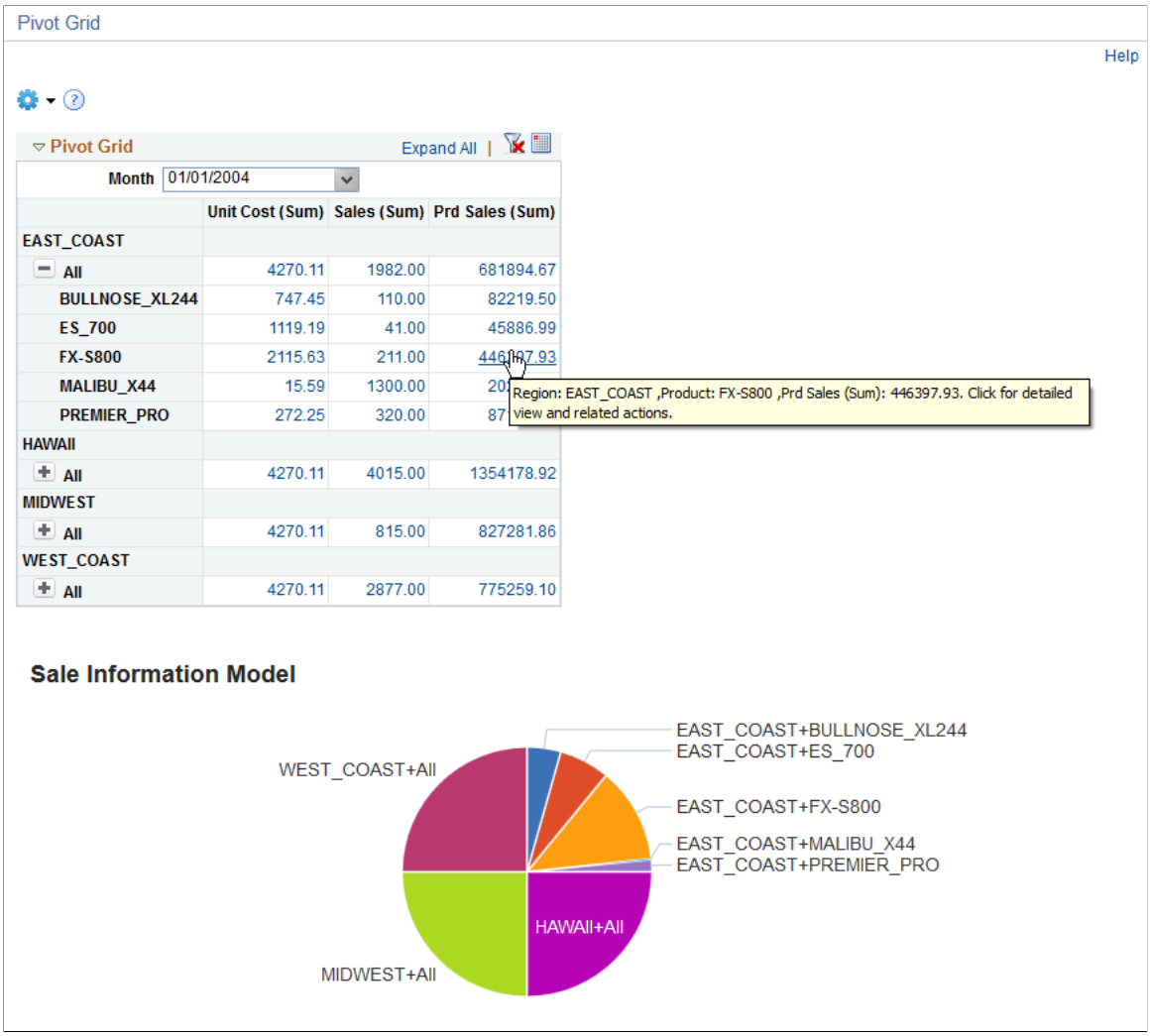
- To drill down on the Pivot Grid charts, you must enter an authentication domain either when you set up the PeopleSoft Pure Internet Architecture or in the Web Profile page. See “Configuring General Portal Properties” in "Configuring Web Profiles" (PeopleTools 8.54: Portal Technology).
- When you move the mouse over the value numbers, they appear as underlined links.

  Image: Example of Drill-Down on Aggregate Values

  In this example, the grid displays the value numbers as links when you move the mouse over the number.



  If there is no data returned for a particular intersection, 0 is displayed as a non-link text and you cannot drill down on that 0.

- You can perform a drilldown on the aggregate values using either the Pivot Grid Viewer page or the Pivot Grid Wizard – Pivot Grid Displays page.

  If related actions are *not* configured for the aggregate view, clicking the value number links on the grid or on the chart enables you to directly access the detailed view.

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- If related actions are configured for the aggregate view, clicking the value number links on the grid or on the chart populates a context menu with two options: *Detailed View* and *Actions*. You can click the *Detailed View* option to access the detailed view.

Image: Drill Down on Aggregate Values – Context Menu

This example shows a populated context menu that appears after you click a value link on the grid when the related actions are configured for the aggregate view.

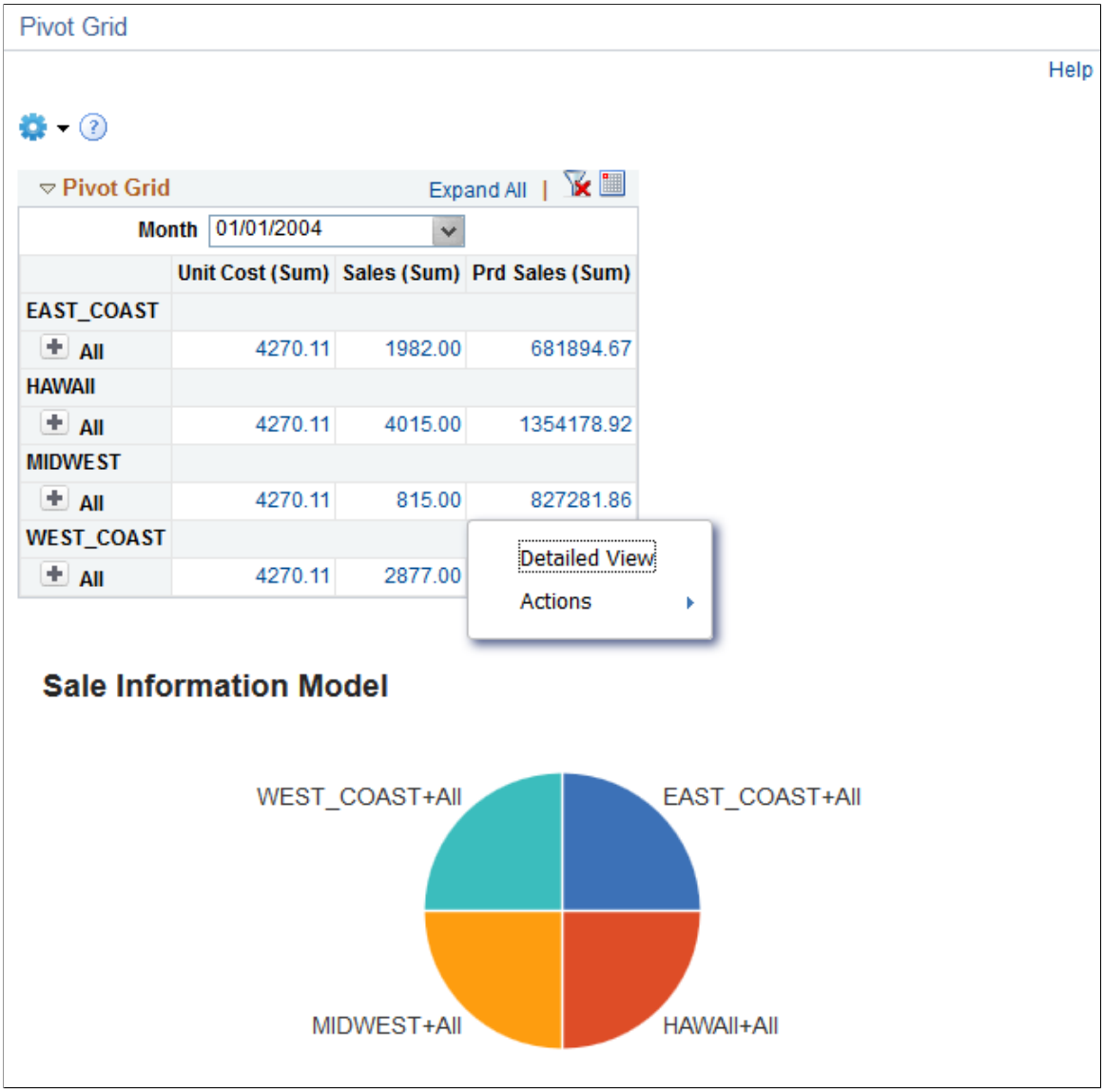

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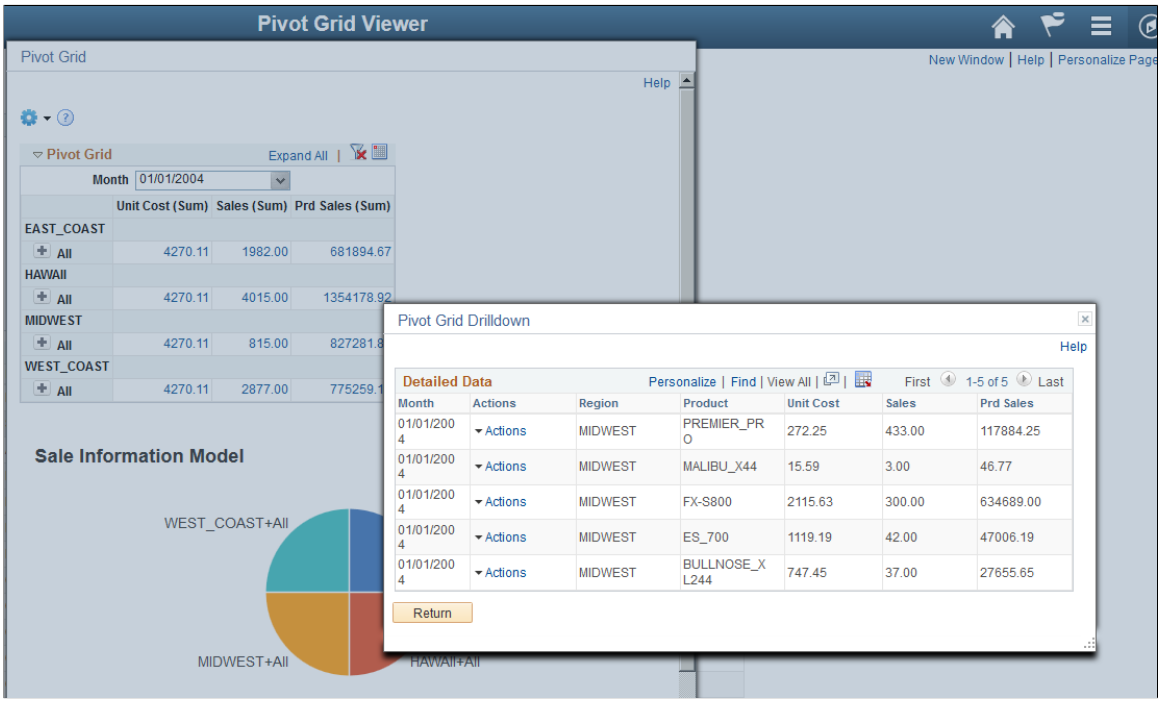
Image: Detailed View - Drill-Down on Aggregate Values

This example shows the results of drilling down on aggregate values.



See Using and Configuring the Related Actions Menu.

To perform a drill-down on aggregate values using the Pivot Grid Viewer page:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Viewer.
2. Search for and open a Pivot Grid model.
3. Hover over number value to convert it to a link.
4. If related actions are configured, click the link to generate a PSQuery.

   In the PSQuery, no aggregation functions are added to the facts. Also, the dimension values corresponding to the fact column are added as a filter to the PSQuery using the WHERE clause.
5. View the result set of the PSQuery in a modal window.

By clicking the data point on the chart, you can also drill down on aggregate values in the chart to view the detailed data that represents the chart data point; for example, a bar, a pie section, a line chart data

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point, and so on. If related actions are configured for the aggregate view, clicking the data point on the charts populates a context menu with three options: *Detailed View*, *Drilldown To*, and *Actions*.

Image: Drilldown To option

This example shows the *Drilldown To* option that enables you to select the axis value used to drill down.

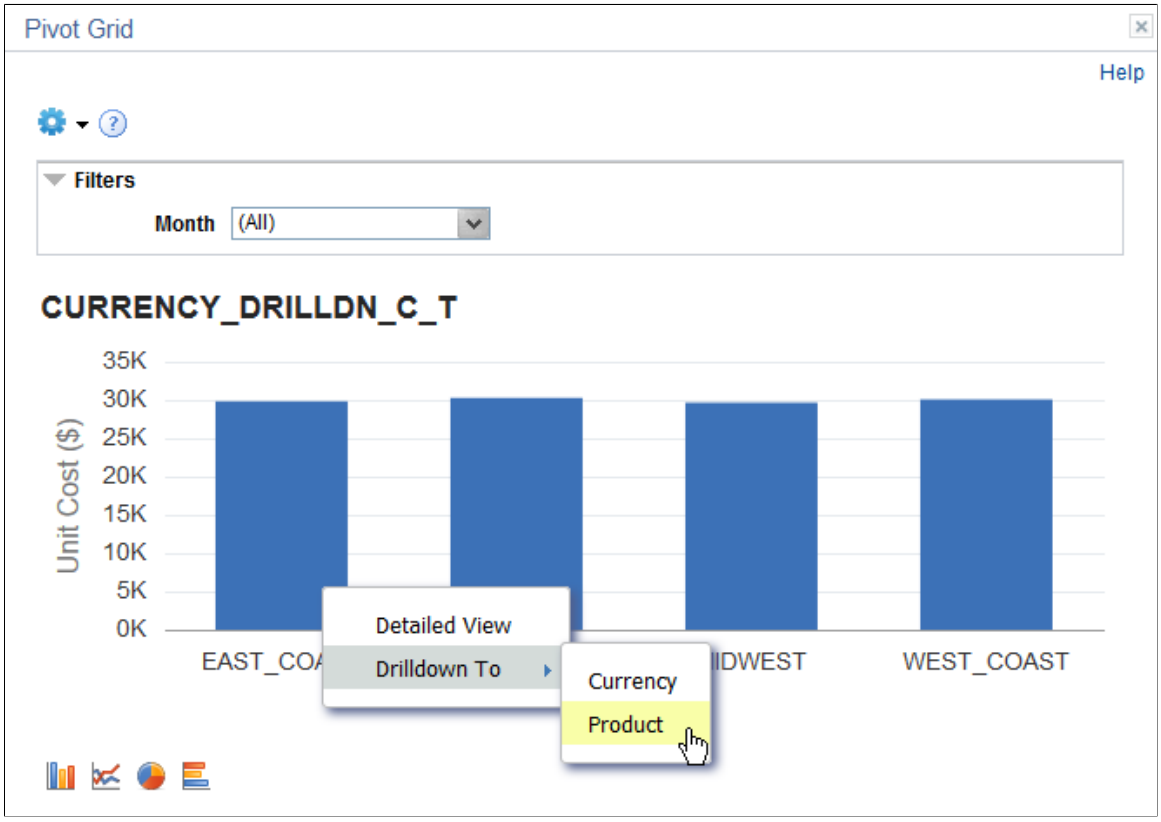

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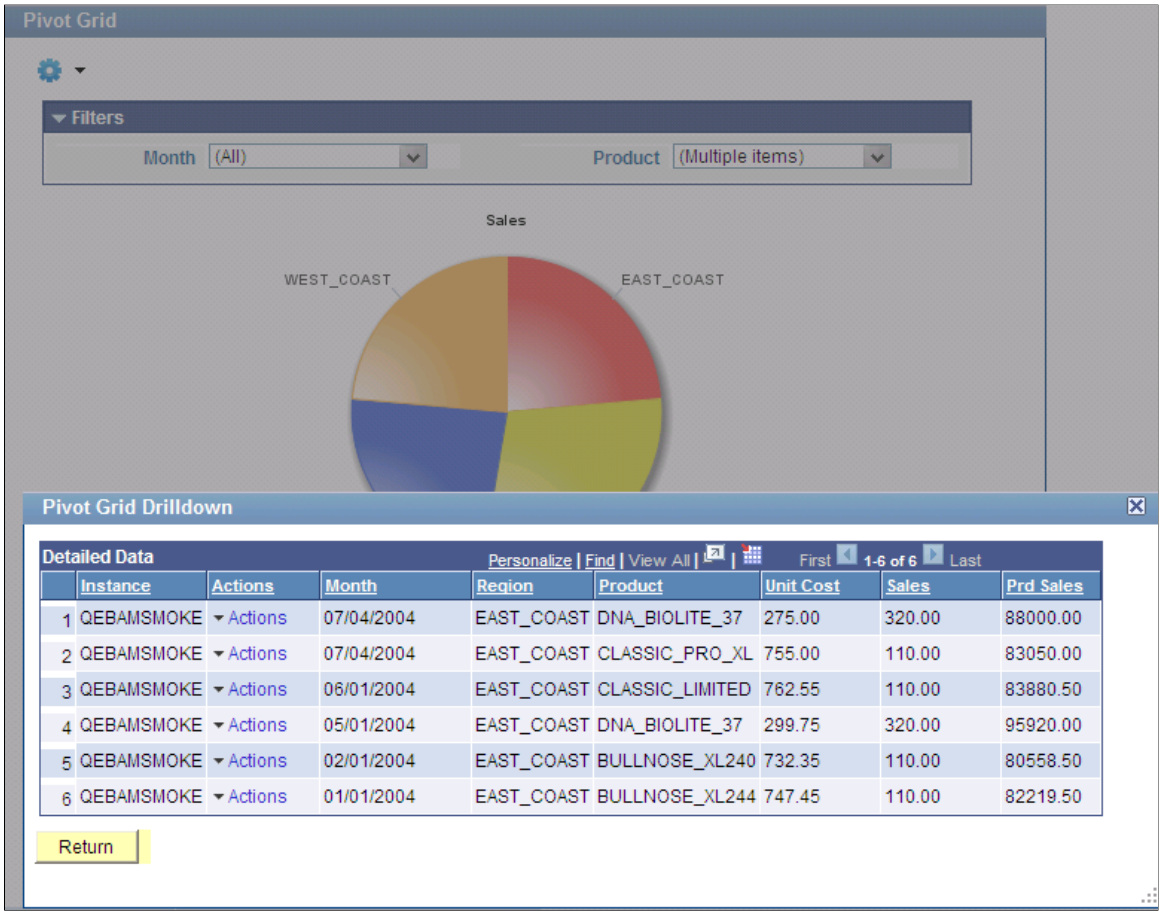
Image: Detailed data of the aggregate values after you select the Detailed View option

This example illustrates the detailed data that represents the aggregate after you select the *Detailed View* option.



To drill down on the aggregate values in a GRID when related actions are *not* configured for the Pivot Grid model:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Viewer.
2. Search for and select a Pivot Grid model to view.
3. Move the mouse over a value number in the grid.

   The value number changes to an underlined link.
4. Click the number value link.

   The grid displays a page showing data that corresponds to the number value link that you clicked.
5. Click the Return button to close the page that contains the grid.

To drill down on the aggregate values in a GRID when related actions are configured for the Pivot Grid model:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Viewer.
2. Search for and select a Pivot Grid model to view.

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3. Move the mouse over a value number in the grid.

   The value number changes to an underlined link.

4. Click the number value link.

   Pivot Grid populates a context menu with two options: Detailed View and Actions.

5. Click the Detailed View option.

   The grid displays a page showing data that corresponds to the number value link that you clicked.

6. Click the Return button to close the page that contains the grid.

To drill down on the aggregate values on a CHART when related actions are configured for the Pivot Grid model:

1. Access either the Pivot Grid Wizard or Pivot Grid Viewer page.
2. Open a Pivot Grid model that has the Chart Only view.
3. Click the chart data point.

   Pivot Grid populates a context menu with three options: Detailed View, Drilldown To, and Actions.

4. Click the Detailed View option.

   A window appears displaying all the values that correspond to the selected aggregation.

To drill down on aggregate values on a CHART when related actions are *not* configured for the pivot grid model:

1. Access either the Pivot Grid Wizard or Pivot Grid Viewer page.
2. Open a Pivot Grid model that has the Chart Only view.
3. Click the chart data point.

   Pivot Grid populates a context menu with two options: Detailed View and Drilldown To.

4. Click the Detailed View option.

   A window appears displaying all the values that correspond to the selected aggregation.

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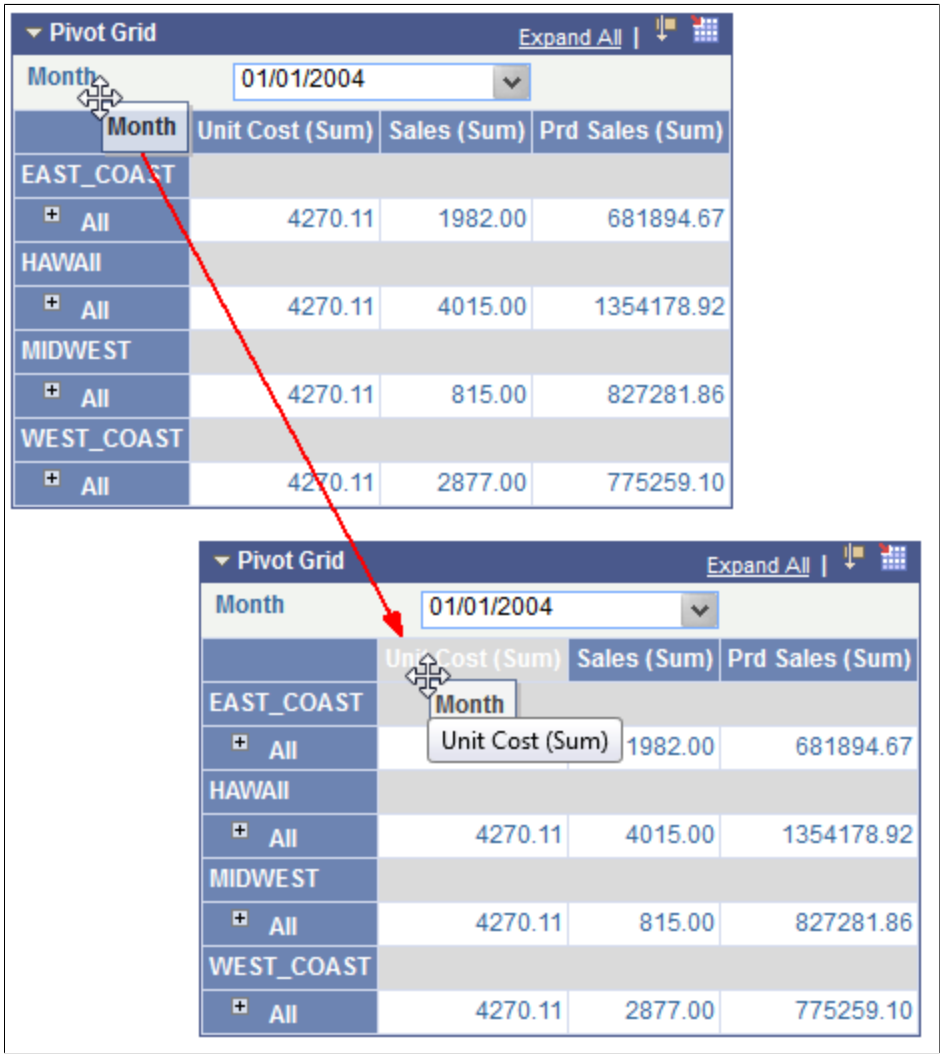
Moving the Report Filter to the Column Axis

Image: Example of dragging the Month filter to column

To move the Month field to the column axis, click the Month and drag it to the column axis.



- Execute the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month) and (2) the Totals of Aggregate values for products for each region for all of the months.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

The following actions are performed on the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

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- Set the chart series axis to the Month field.

Image: Example of report filter on the column axis

This example shows the report filter moved to the column axis.

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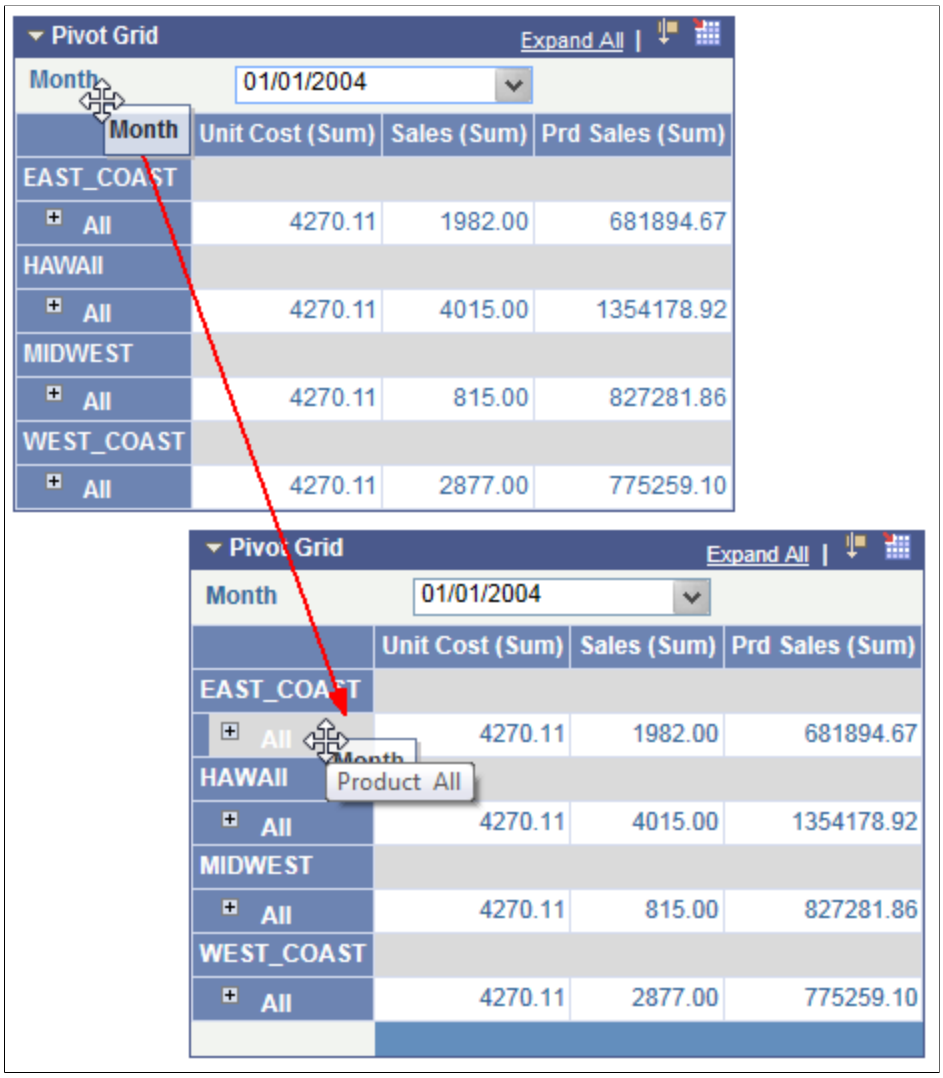
Moving the Report Filter to the Row Axis

Image: Example of dragging a report filter to the row axis

This example shows how to move the Month field to a row axis by clicking the Month and drag it to the X axis.



Because the Month field does not have the *All* member associated with it, the grid plots all the values.

- Execute the PSQuery to retrieve (1) a unique list of all the axis column values (including Region, Product, and Month) and (2) aggregate values for all the region, product, and month values.
- Use the axis information and the rowset to set the initial grid layout.

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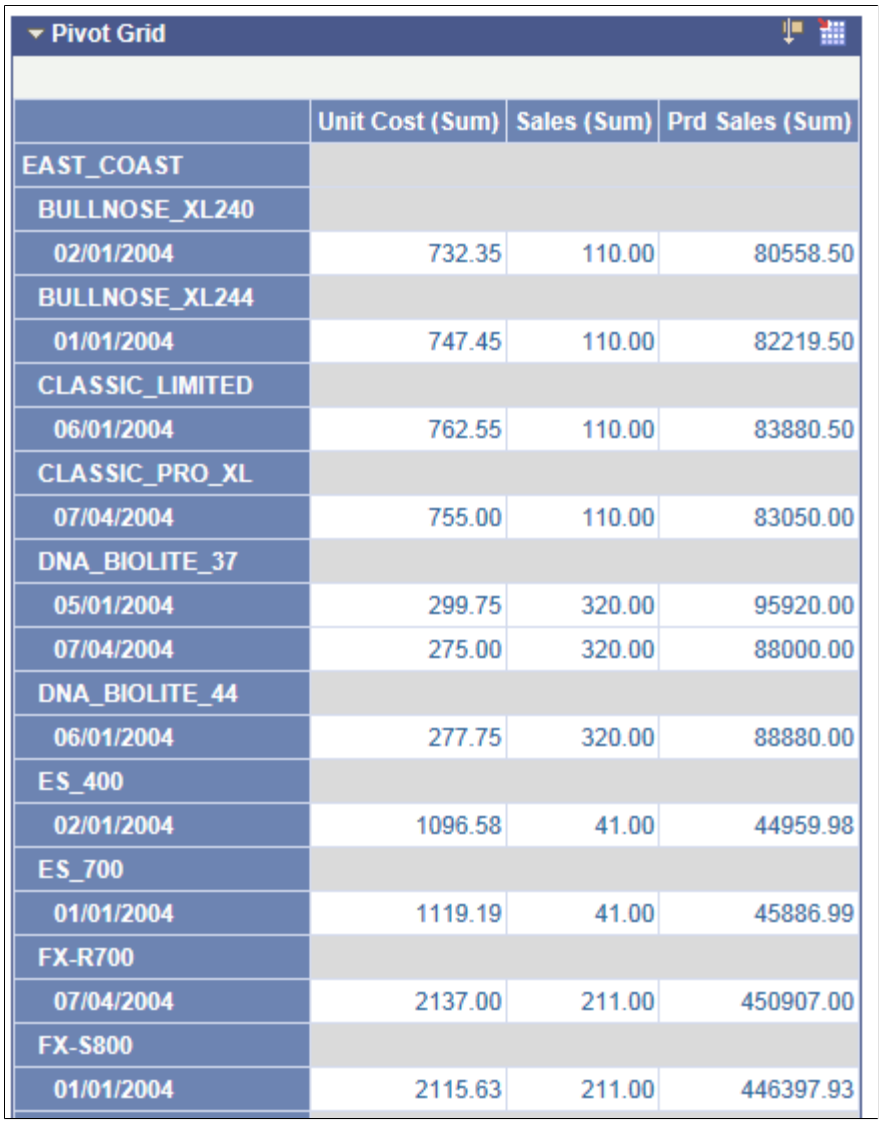
- Use the layout information and the PSQuery output to render the grid.

Image: Example of report filter in a grid moved to the row axis

This example shows a portion of the grid view when the report filter is moved to the row axis.



Pivot Grid

	Unit Cost (Sum)	Sales (Sum)	Prd Sales (Sum)
EAST_COAST			
BULLNOSE_XL240			
02/01/2004	732.35	110.00	80558.50
BULLNOSE_XL244			
01/01/2004	747.45	110.00	82219.50
CLASSIC_LIMITED			
06/01/2004	762.55	110.00	83880.50
CLASSIC_PRO_XL			
07/04/2004	755.00	110.00	83050.00
DNA_BIOLITE_37			
05/01/2004	299.75	320.00	95920.00
07/04/2004	275.00	320.00	88000.00
DNA_BIOLITE_44			
06/01/2004	277.75	320.00	88880.00
ES_400			
02/01/2004	1096.58	41.00	44959.98
ES_700			
01/01/2004	1119.19	41.00	45886.99
FX-R700			
07/04/2004	2137.00	211.00	450907.00
FX-S800			
01/01/2004	2115.63	211.00	446397.93

The following actions are performed for the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.

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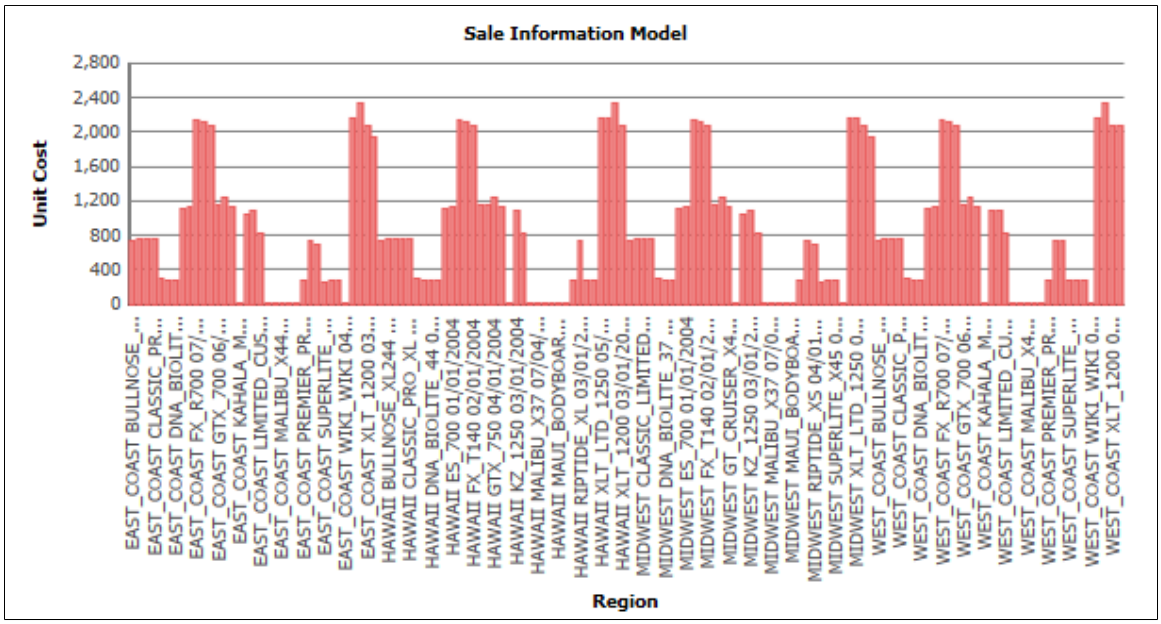
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

Image: Example of the result of moving the report filter in a chart to the row axis

This example shows the result of moving the report filter in a chart to the row axis.



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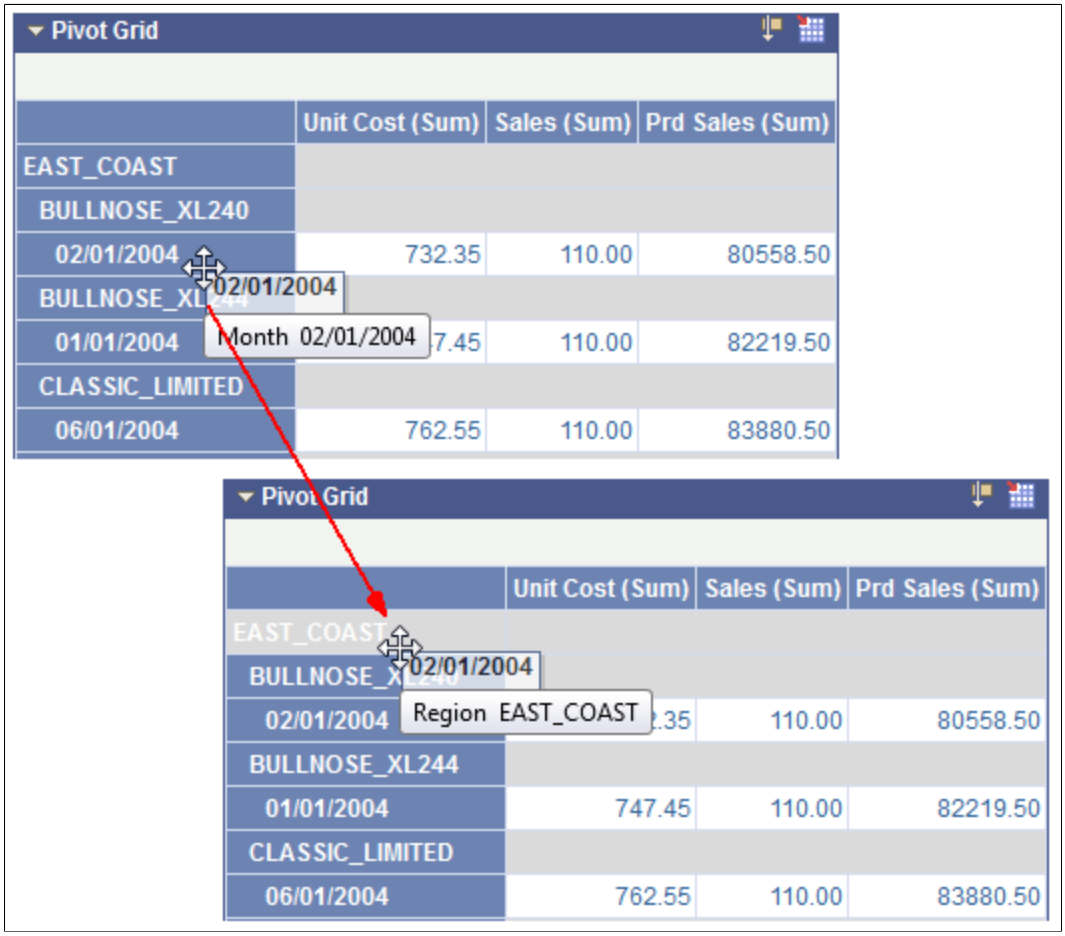
Changing the Level of Dimensions

Image: Example showing how to change the dimension level

In this example, Month is changed to the highest dimension level by dragging the month up on the X axis.



The following actions are performed on the grid:

- Execute the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month); (2) the totals of aggregate values for each month, for all the regions, for all the products because the grid is collapsed initially; and (3) the list of Unit Cost Values for each month and region for all the products, which if the grid is expanded requires an additional PSQuery.
- Use the axis information and the rowset to set the initial grid layout.

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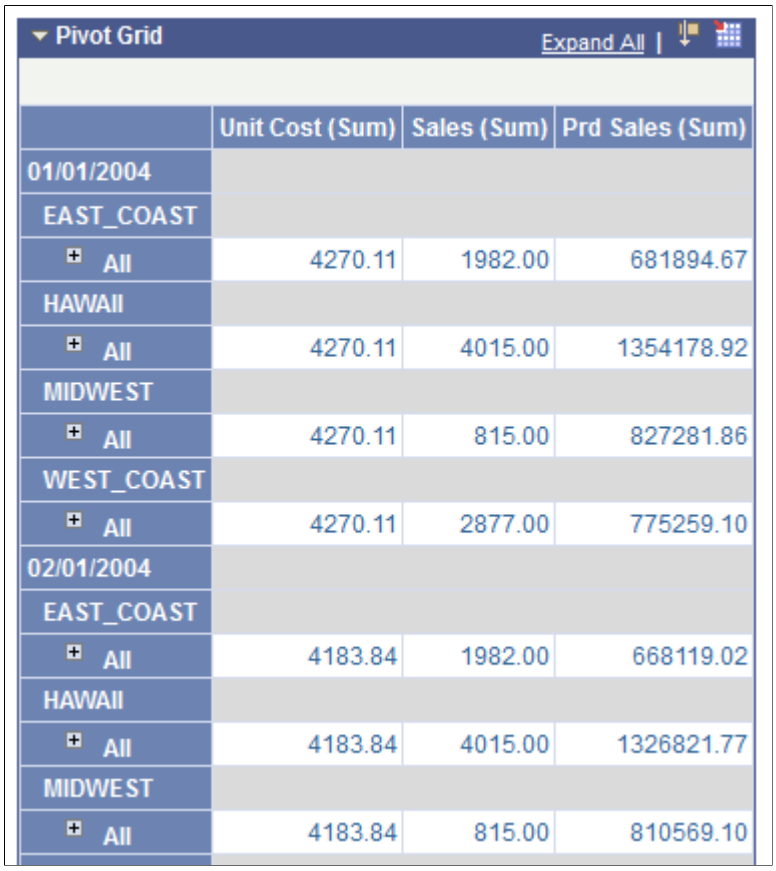
- Use the layout information and the PSQuery output to render the grid.

Image: Example grid displaying new dimensions

This example shows a portion of the grid after changing the dimension level.



	Unit Cost (Sum)	Sales (Sum)	Prd Sales (Sum)
01/01/2004			
EAST_COAST			
All	4270.11	1982.00	681894.67
HAWAII			
All	4270.11	4015.00	1354178.92
MIDWEST			
All	4270.11	815.00	827281.86
WEST_COAST			
All	4270.11	2877.00	775259.10
02/01/2004			
EAST_COAST			
All	4183.84	1982.00	668119.02
HAWAII			
All	4183.84	4015.00	1326821.77
MIDWEST			
All	4183.84	815.00	810569.10

The following actions are performed for the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.

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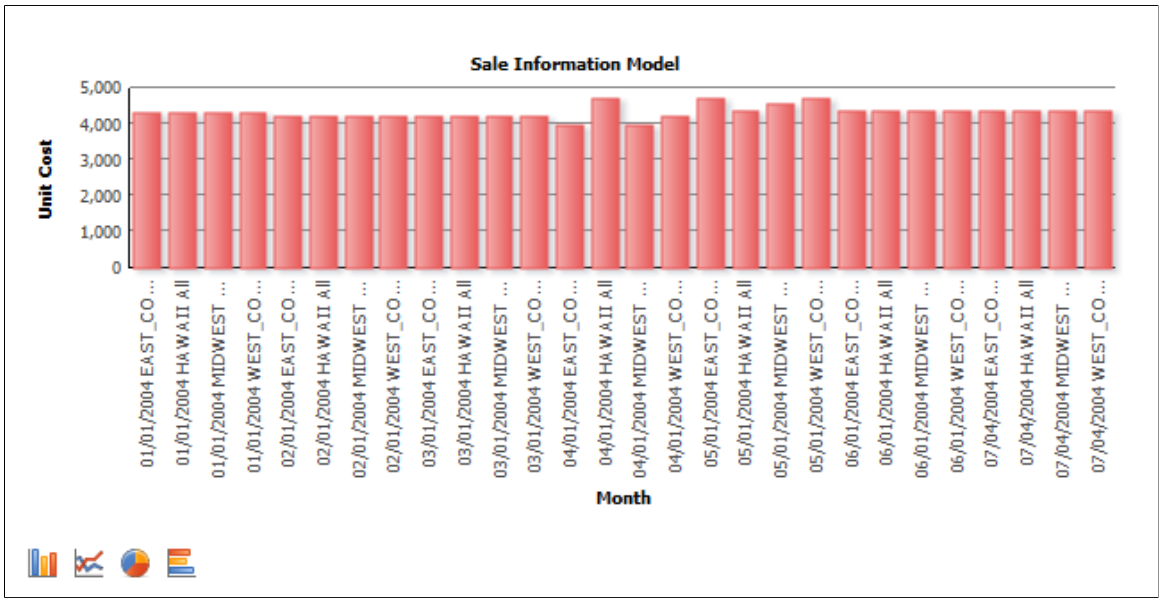
- Set the X axis of the chart to the Month field and the Y axis of the chart to the Unit Cost field.

Image: Example chart display after changing the dimension level

This example shows the entire chart after changing the dimension level.



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Moving a Row to a Column

Image: Example of how to drag rows to columns

In this example, the Region field has All (Total) enabled. The Region field was moved to columns.

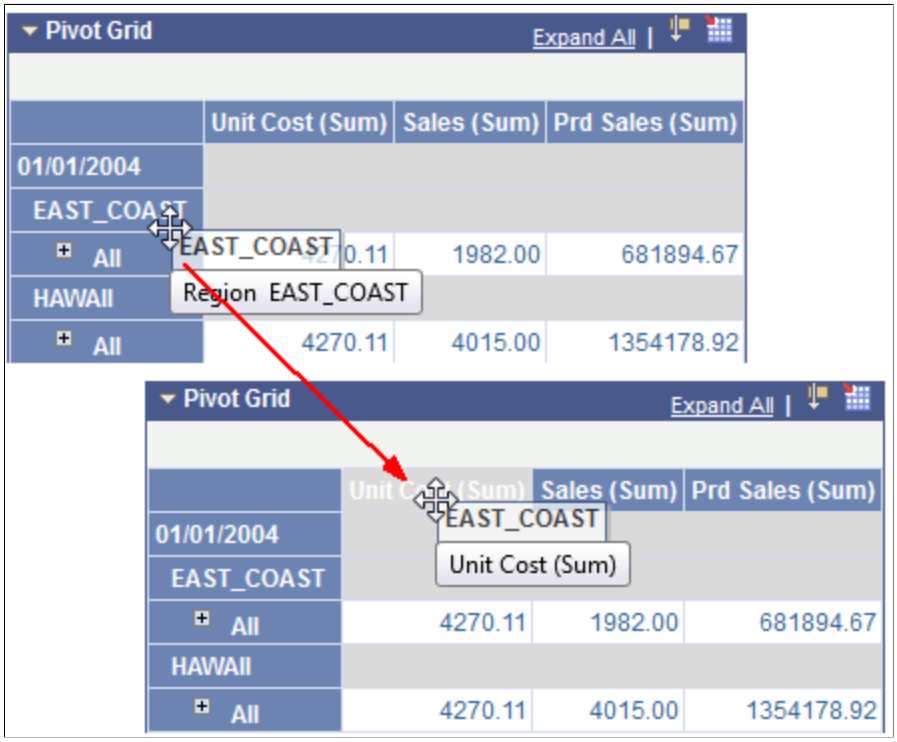
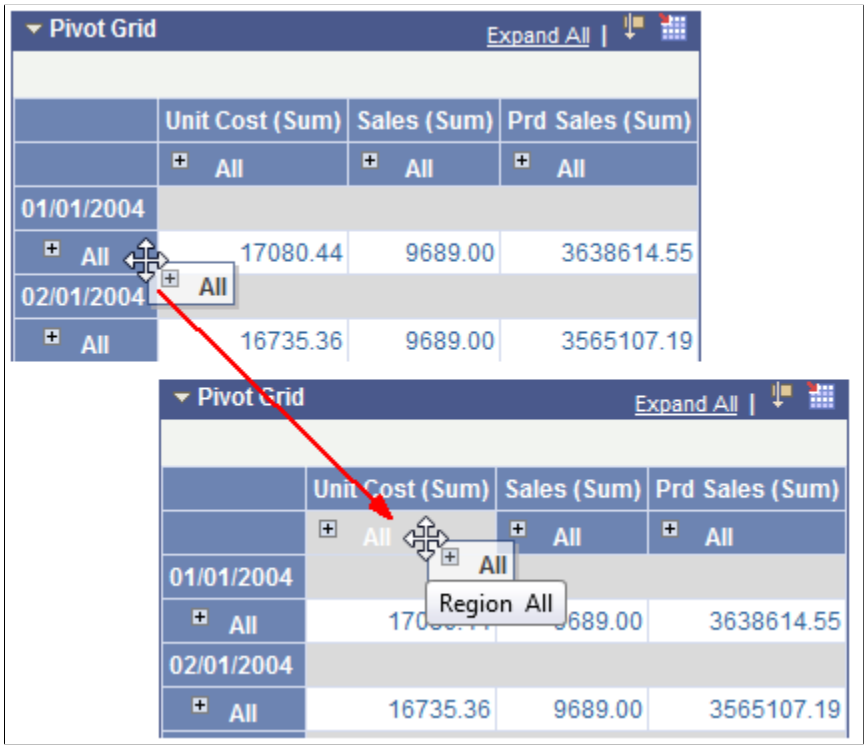


Image: Example of how to drag rows to columns

In this example, the Product field has All (Total) enabled. The Product field was moved to columns.



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- Execute the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month); (2) the totals of aggregate values for each month, for all the regions, for all the products because the grid is collapsed initially; and (3) the list of Unit Cost Values for each month and region for all the products, which requires an additional PSQuery if the grid is expanded.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

The following actions are performed for the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Month field and the Y axis of the chart to the Unit Cost field.

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- Add a combination of the Region and Product fields as a chart series.

Image: Example of grid and chart after moving rows to a column

This example displays the initial grid and chart after moving the rows to a column.

Moving a Row to the Report Filter

In this example, using the initial layout, we move both the Month and the Product fields from a row to the report filter. If the Product and Month fields are moved to the report filter, then data is additionally filtered based on the Product and Month fields.

- Run the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month) and (2) the aggregate values for each region based on the selected month and product values.

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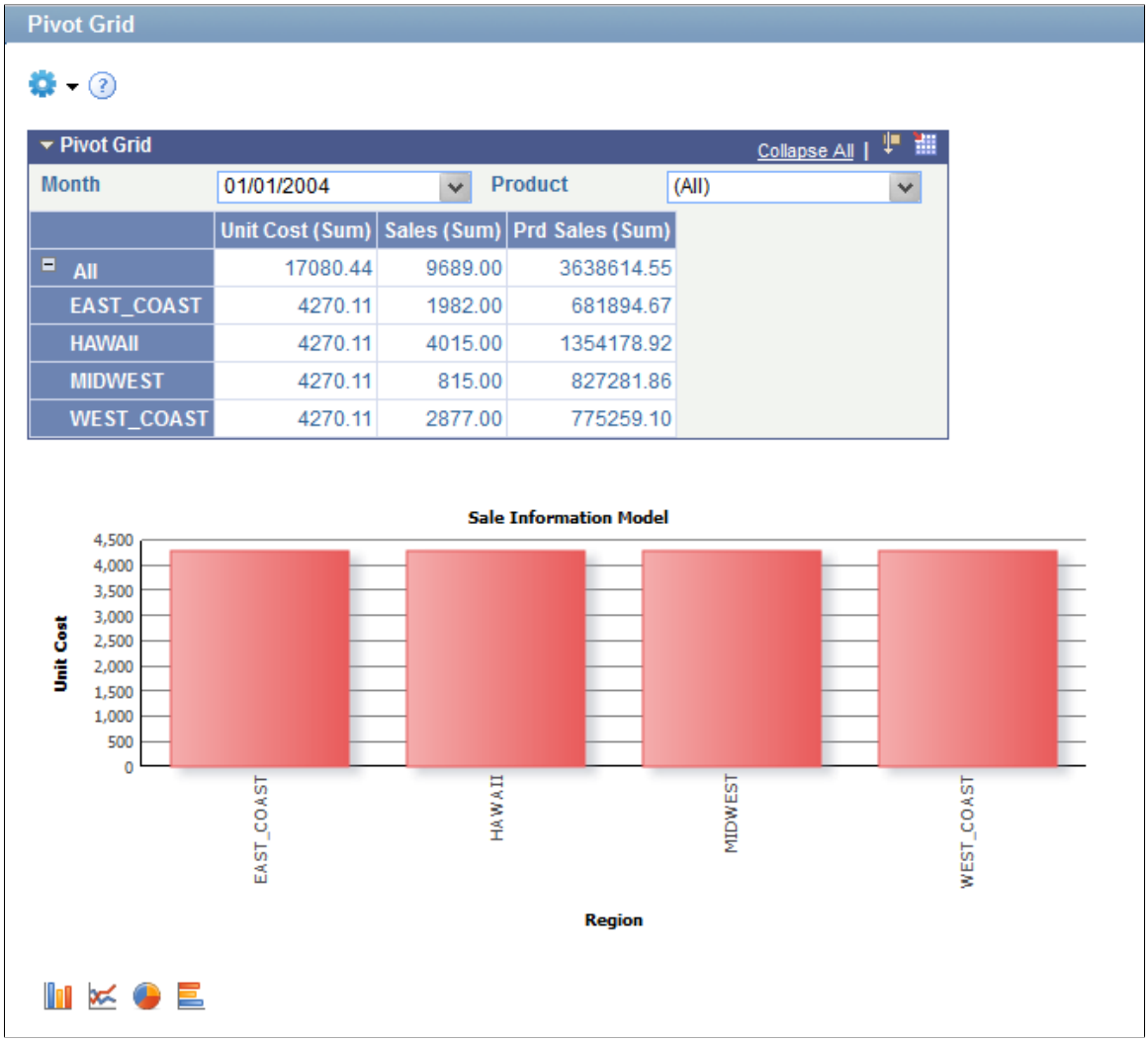
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

The following actions are performed on the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

Image: Example grid and chart based on month and product filters

This example shows the grid and chart with values displayed. The values are based on the grid filter, which is the unit cost for all product for 01/01/2004 by region.



Selecting a Value for the Report Filter

Changing the report filter value will result in filtering of the data in the grid. The following actions are performed for the grid:

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- Execute the PSQuery to retrieve (1) totals of aggregate values for all the products for each region for the selected month and (2) the unique list of all the axis values, including Region, Product, and Month.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

The following actions are performed to display the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.

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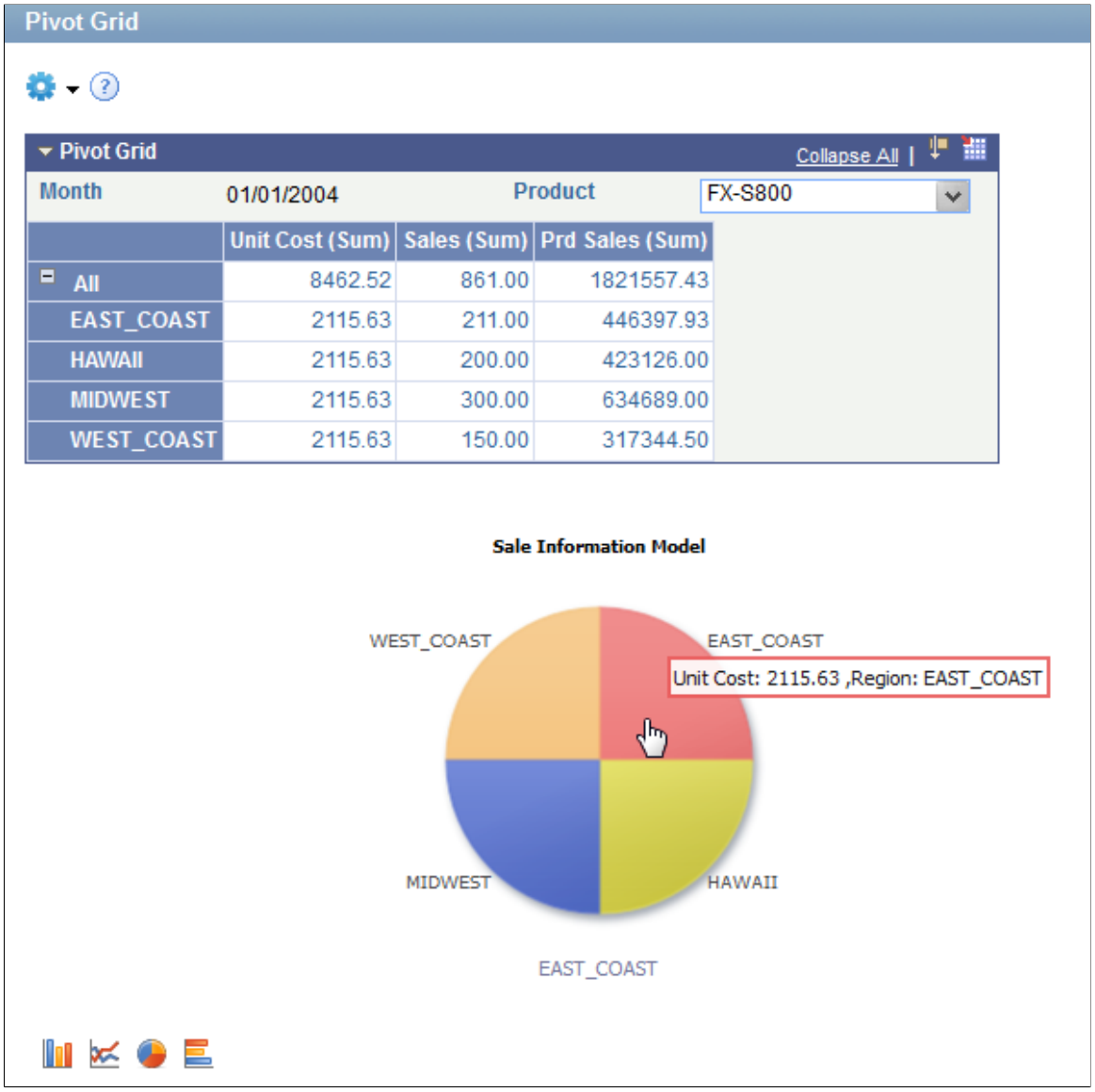
- Set the X axis of the chart to the Region field and the Y axis of the chart is automatically set to the Unit Cost field.

Image: Example grid and chart displayed with new values based on filters

This example displays the grid and chart for the filtered month and product. The Month filter has only one value and appears as a non-selectable value because Progressive Filtering is applied.



Selecting Multiple Filter Options

You are able to select multiple filter values in grids and in charts. Note that:

- If all items in the filter drop-down list are selected, either the *(All)* label or the value in the Total Name column that you specified in the Pivot Grid Wizard - Specify Data Model Values page is shown.
- If some items in the filter drop-down list are selected, the *(Multiple items)* label is shown.
- If only one item in the filter drop-down list is selected, the label of the selected item is shown; for example, *01/01/2004*.

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- If NULL values or empty values are in the table, the *(Blanks)* label is shown.

Image: Multiple filter options in grid

This example illustrates the filter drop-down list in the grid with multiple options.

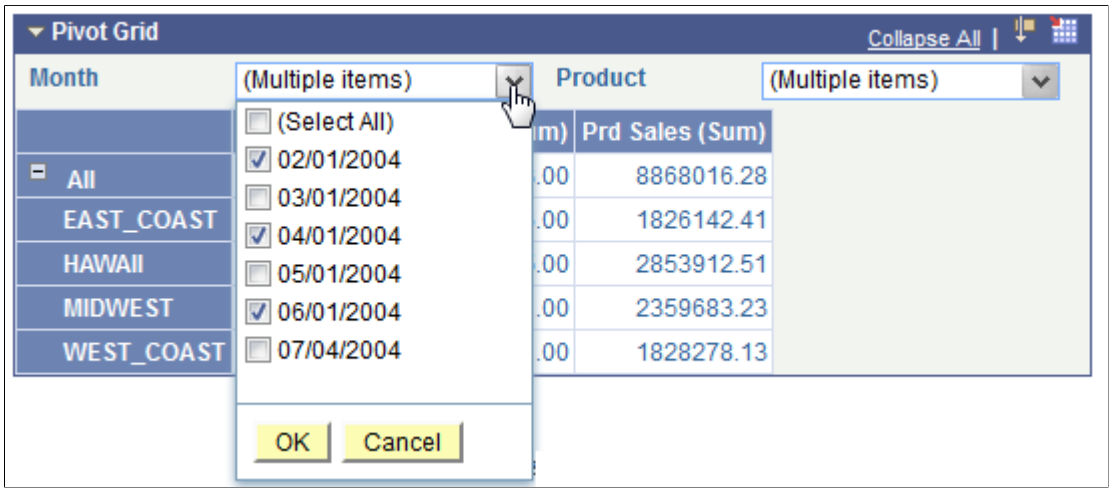
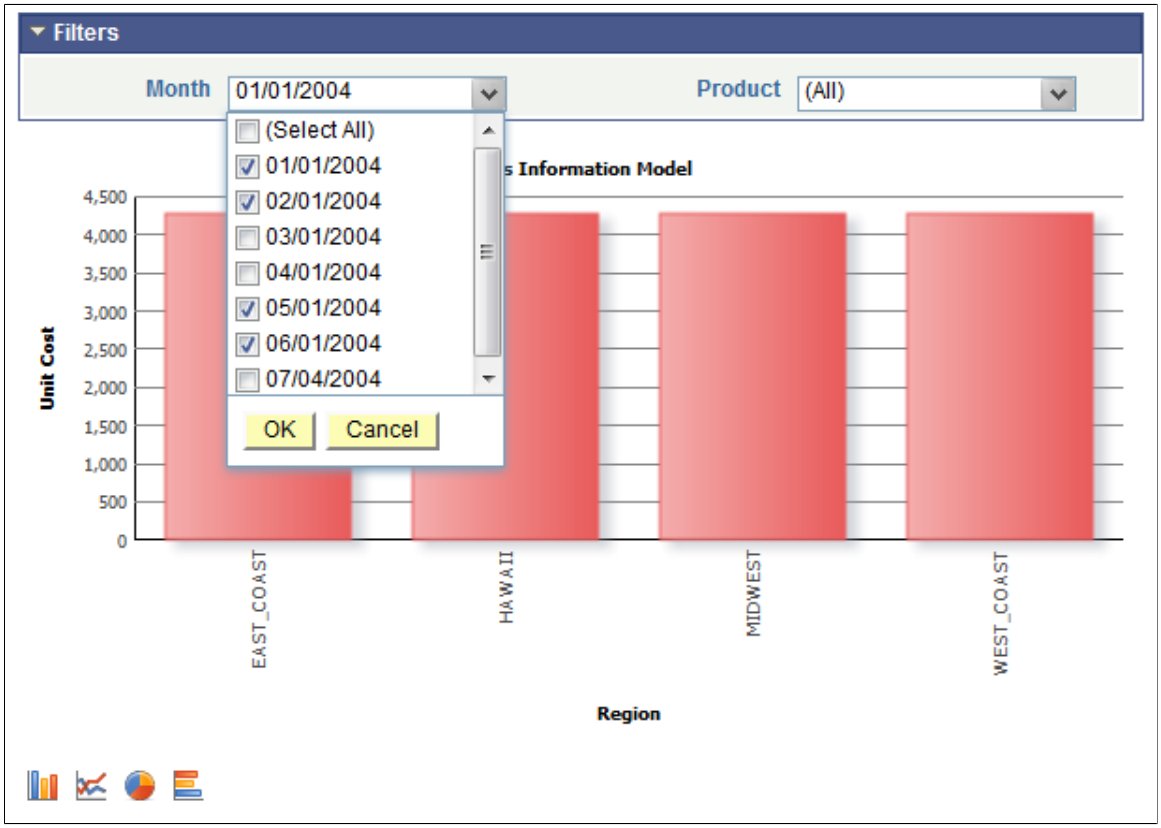


Image: Multiple filter options in chart

This example illustrates the filter drop-down list in the chart showing multiple options.



Note that:

- When the Total option is selected for the Axis Column Type, Select All is listed as the first option in the filter drop-down list and the distinct values for the filter are listed following the Select All option.

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The default selected value when you first use the filter is Select All.

- When the Total option is not selected for the Axis Column Type; Select All is listed as the first option in the filter drop-down list, and the distinct values for the filter are listed after the Select All option.

  The default selected value when you first use the filter is the first value following the Select all option

- The text Multiple Items appears when more than one filter value was previously selected or when the Total—for example, Select All—was previously selected.

  If only one value was previously selected, then that value appears.

- If the selected filter has only one value in the list, then that value is shown in the filter instead of the text Multiple Items. The filter drop-down list is not displayed when only one item is available.

- Selecting the Select All option selects all the values in the filter drop-down list.

  Deselecting the Select All option deselects all the values in the filter drop-down list.

- Clicking the OK button applies all changes that were made in the filter drop-down list and closes it.

  The Pivot Grid is refreshed to indicate the data that corresponds to the selected filter values.

- Clicking the Cancel button cancels all changes that were made in the filter drop-down list and closes it.

  The grid is not refreshed.

- When none of the values is selected in the filter drop-down list, clicking the OK button makes no changes.

- The filter drop-down list in the Pivot Grid Viewer page and the Pivot Grid Wizard - Pivot Grid Display pages behave in a similar fashion.

- The Chart Only view does not limit the number of filters.

- When the filter name or the selected filter value is too long, they are truncated with ellipses.

  You can hover over the filter name or filter value to view the full description as tool tip.

To select multiple filter values in a grid:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Viewer.
2. Search for and select a Pivot Grid model for viewing.
3. Drag and drop a dimension to the filter area in the grid.

   The selected filter text can be *Values* or *Multiple Items* based on your previous selection.

4. Click the filter drop-down list to view the filter values.

   Each of the filter values has a corresponding check box, and each filter has a *Select All* option.

5. Select the *Select All* option to select all distinct items in the filter drop-down list.

   Alternatively, select multiple values in the filter drop-down list.

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6. Click the OK button to apply the filter changes, close the filter drop-down list, and refresh the grid so that it displays the data that corresponds to the selected filter values.

   Alternatively, click the Cancel button to cancel the filter, close the filter drop-down list, and not refresh the data in the grid.

To select multiple filter values in a chart:

1. Access either Pivot Grid Wizard or Pivot Grid Viewer.
2. Open a Pivot Grid model that has the Chart Only view and one or more filter values.
3. Click the filter drop-down list and select the filter values.
4. Click the OK button to enable Pivot Grid to run the data.

   The system renders the chart, which displays data based on the selected filter values.

Applying Progressive Filter Option

Pivot Grid Progressive Filtering is functionality provided in the Pivot Grid where the selected filter values are updated in the list of values available for the filters after each filter is applied. When you perform filtering on a pivot grid or chart, the list of available filter values are progressively filtered based on your selections. This feature enables you to retrieve only relevant values for the filters so that they can be selected appropriately. For example, a selection of a particular geographical location filter value returns departments that are valid only for that location. Selecting a department will then return the list of employees that are valid for that department only.

Salient features of the Progressive Filter option are:

- The filter values are progressively filtered, resulting in valid values for each filter that you can select.
- The user-selected filter values are almost never changed, except when prompts are altered, resulting in a consistent user experience.
- The filtering is consistent irrespective of whether totals are defined for the filter fields.
- The behavior of Progressive Filtering is the same in the grid and in the chart.

The Progressive Filtering is reset when:

- The Pivot Grid model is displayed for the first time without any user personalization.
- Users change the prompt values or the prompt values are changed using IWC.

The following examples show the process of applying progressive filtering in drilling down on a chart:

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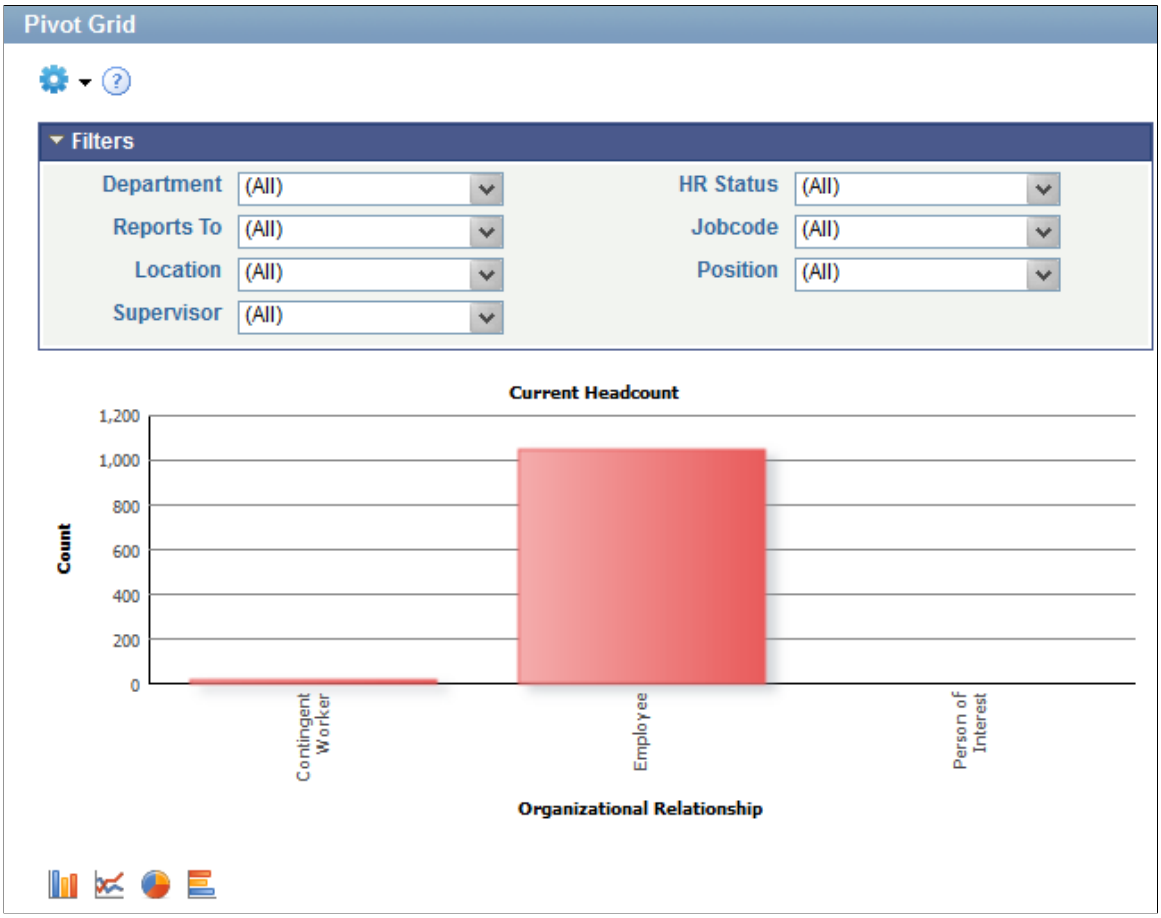
1. Open the Current Headcount model in Pivot Grid Viewer or Pivot Grid Wizard.

   Image: Initial view of the Current Headcount model

   This example shows the initial view of the Current Headcount model.



2. Select the *California Location* option in the Location filter.

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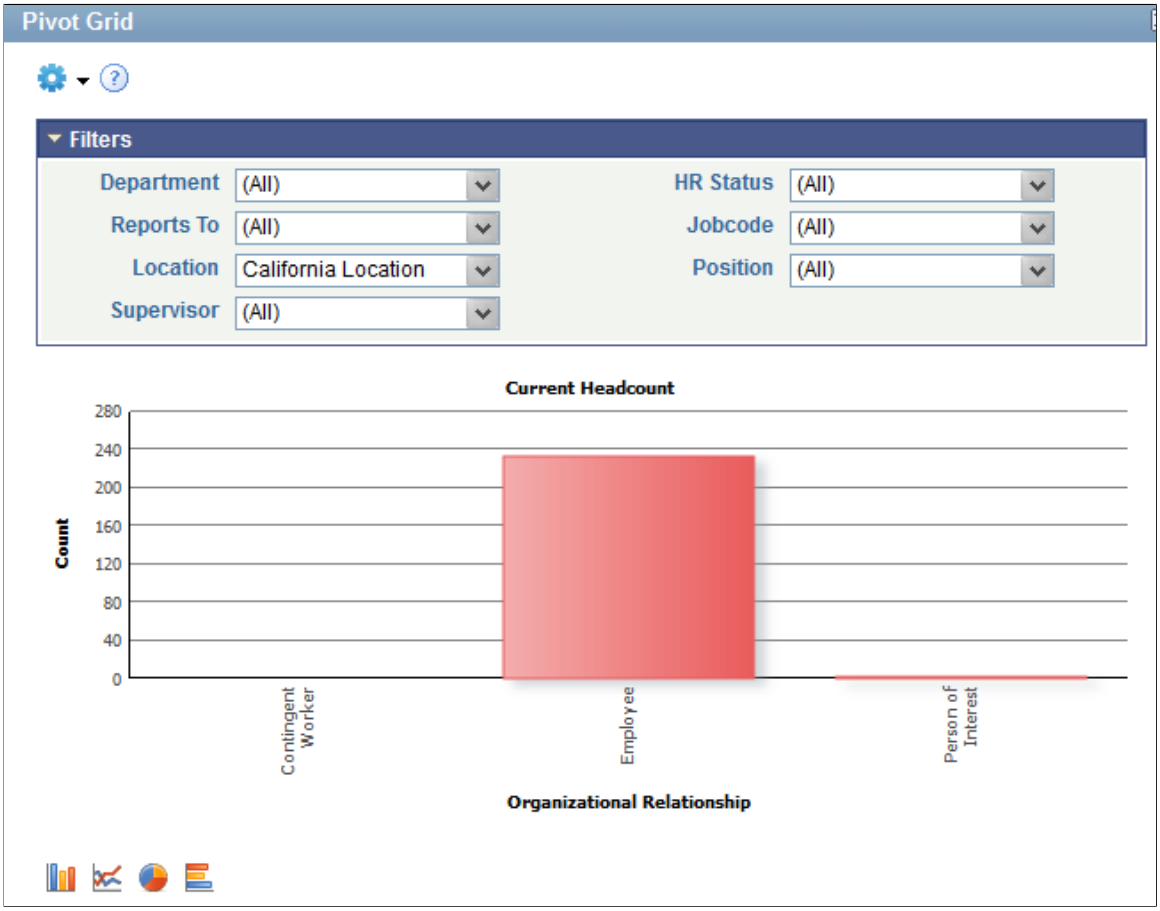
All other filters are refreshed and the data are fetched based on the selected location.

Image: Filter option is applied

In this example, the Current Headcount chart displays the data based on the selected location, *California Location*.



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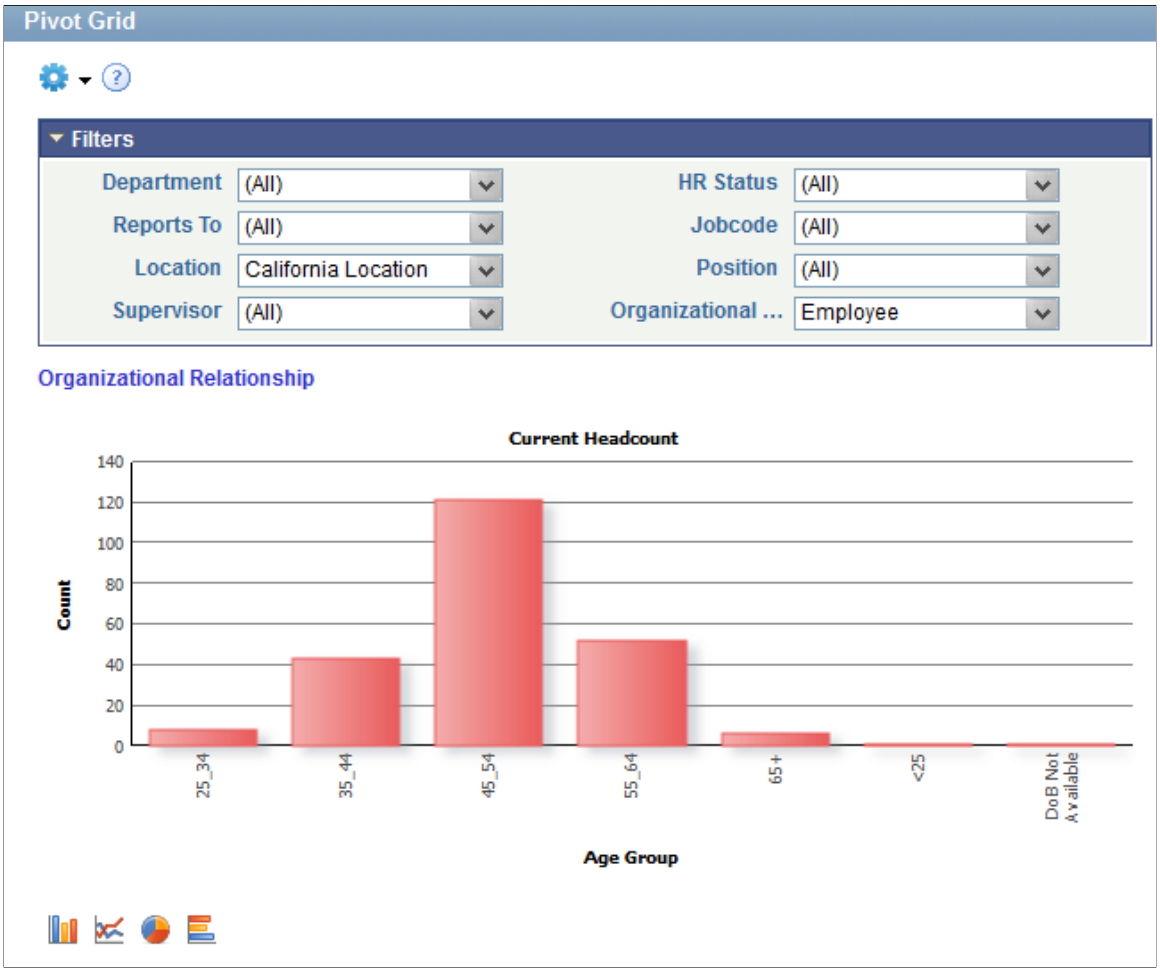
3. Click the Hire bar, select the Drill To option, and select the *Age Group* option.

Image: Results of drilling down on the field *Age Group* from the Employee bar

This example shows the results of drilling down on the field *Age Group* from the Employee bar.



The following table lists various use cases, expected behaviors, and exception scenarios for the Progressive Filtering feature.

Use Case	***Expected Behavior***	***Exception Scenarios***
Grid is rendered with no user personalization.	Filter values are retrieved as is. No primary filter criteria are applied.	None
Grid is rendered with user personalization. (User has saved the layout.)	Filter values are retrieved based on the primary filter value that is saved by the user. The primary filter values are retrieved using a separate query.	If the primary filter value, which is saved by the user, is invalid, the primary filter is ignored and the value is retrieved, assuming no primary filters are in place.

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Use Case	*Expected Behavior*	*Exception Scenarios*
User changes filter value in the grid.	The changed filter value becomes the primary filter. All other filter values are retrieved based on the primary filter values.	None
User changes an additional filter value in the grid.	The previous primary filter value is discarded. The current filter becomes the primary filter. User-selected filter values are retained. The list of selectable filter values are retrieved based on all user-selected filter values, including the primary filter.	None
User changes prompt values.	The current primary filter, if any, is discarded and the filter values are retrieved as is. No primary filter criteria are applied.	None
User changes chart options to add new settings (for example, dimensions, filters, and so on) in a chart.	The current primary filter, if any, is discarded only if it is removed or if it is added as an axis. The filter values are retrieved as is. No primary filter criteria are applied.	None
User drags and drops dimensions on the grid.	If the primary filter is moved from the filter to the row or column, it is discarded. Otherwise, the primary filter criteria are used to retrieve the other filter values.	None
User saves the layout.	The primary filter value is the last selected filter and is saved.	If the user performed an action that discarded the primary filter (for example, changing prompts or dragging the primary filter to the row or column), then the primary filter is not saved.
Grid is rendered using Related Actions.	The primary filter value, if any, is discarded (because user provided multiple filters using bind parameters as related action parameters, thus complicating the process of determining a primary filter).	None

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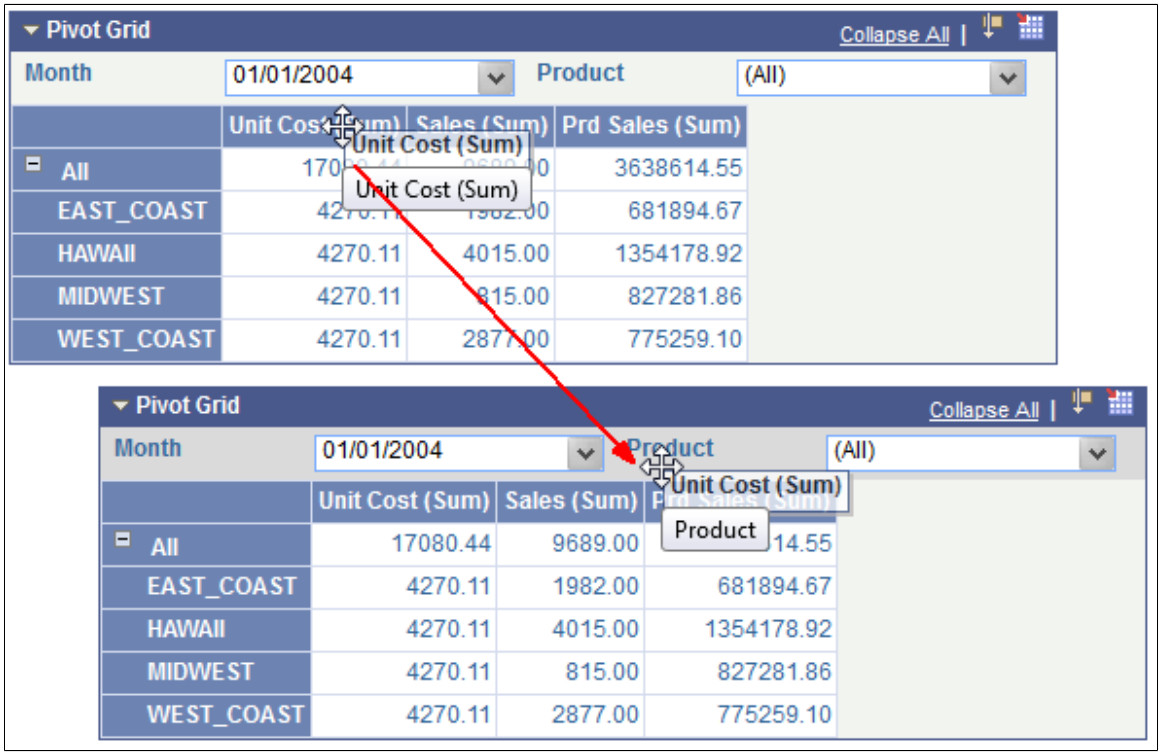
Use Case	*Expected Behavior*	*Exception Scenarios*
Grid filter values are changed using Inter Window Communication (IWC).	Similar to a filter change, the current filter being changed by IWC becomes the primary filter and other filter values are retrieved using the current primary filter value.	If the user previously used the grid to perform different filter actions (because the current filter value comes from IWC is invalid), then the filter value is ignored.
Pivot Grid prompt values are changed using IWC.	The current primary filter, if any, is discarded and the filter values is retrieved as is. No primary filter criteria are applied.	None

Moving a Column to the Report Filter

If you make a value field a filter, then you need to select the value that appears in the grid. This example uses the Unit Sales field as the selected value.

Image: Example of dragging a column to a report filter

This example illustrates dragging a column to a report filter.



- Execute the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month) and (2) aggregate values for each region for all the products based on the selected month values.
- Use the axis information and the rowset to set the initial grid layout.
- Use the layout information and the PSQuery output to render the grid.

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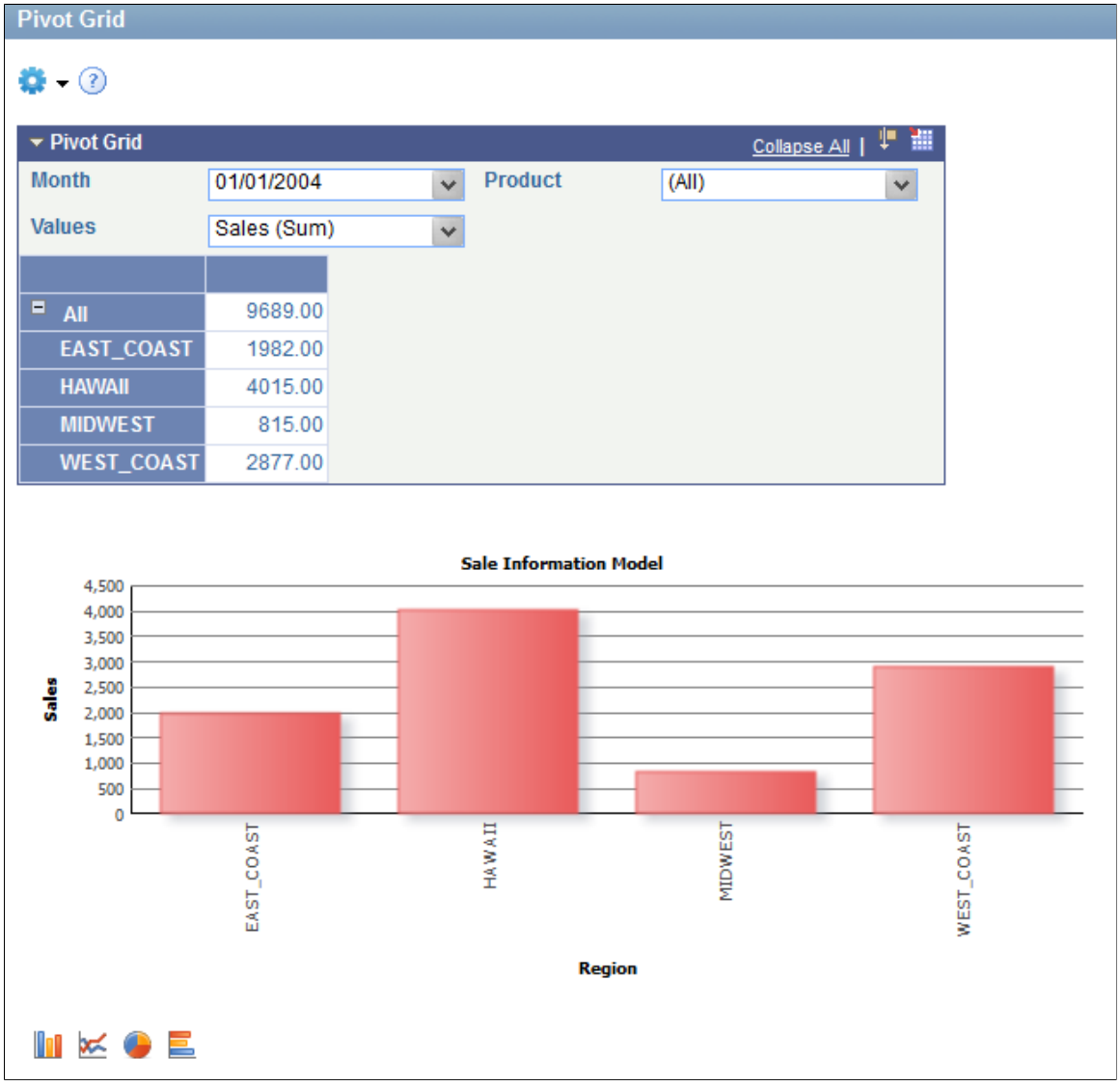
The following actions are performed to produce the chart:

- Retrieve the axis information for the selected model.
- Use the output data from running the grid PSQuery.
- Set the X axis of the chart to the Region field and the Y axis of the chart is automatically set to the Unit Sales field.

Image: Example grid and chart displaying unit sales

This example shows the grid and chart for unit sales.



User Actions List When the Display Option is Chart Only

This topic discusses how to:

- Display a chart based on the initial chart layout.
- Drill down in a chart.

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- Drill out in a chart.
- Add a series to the chart.
- Add an overlay option to the chart.
- Add a chart filter to the chart.
- Display a chart in Scatter or Bubble chart type.

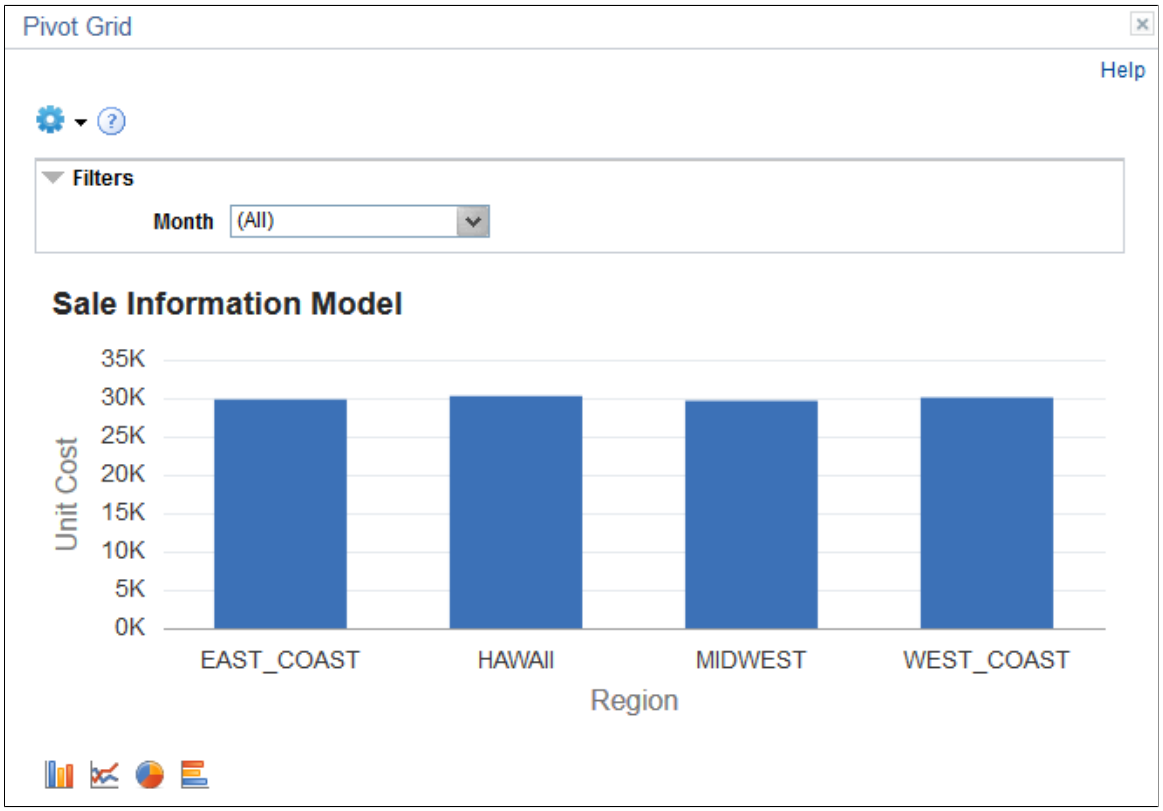
Displaying a Chart Based on the Initial Chart Layout

When you create a Pivot Grid model, you also define its initial layout. The initial layout used in the following example is based on the layout described at the beginning of this topic. The following actions are performed:

- Retrieve axis information for the selected model.
- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Cost member for each region for the selected month and (2) the unique list of all the Filter Values - Month.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.
- Plot the chart.

Image: Example chart using initial layout

This example displays the chart using the initial layout.



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Drilling Down on a Chart

In the following example, you drill down on the Region, and the Drilldown Field selected is *Product*. The following actions are performed:

- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Cost member for each product for the selected region and month and (2) the unique list of all the Filter Values - Month and Region.
- Set the X axis of the chart to the Product field and the Y axis of the chart to the Unit Cost field.
- Plot the chart.

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- The chart includes locator links from the drill-down.

Image: Drilldown To menu

When you click the bar, the Drilldown To menu appears, as shown in this example.

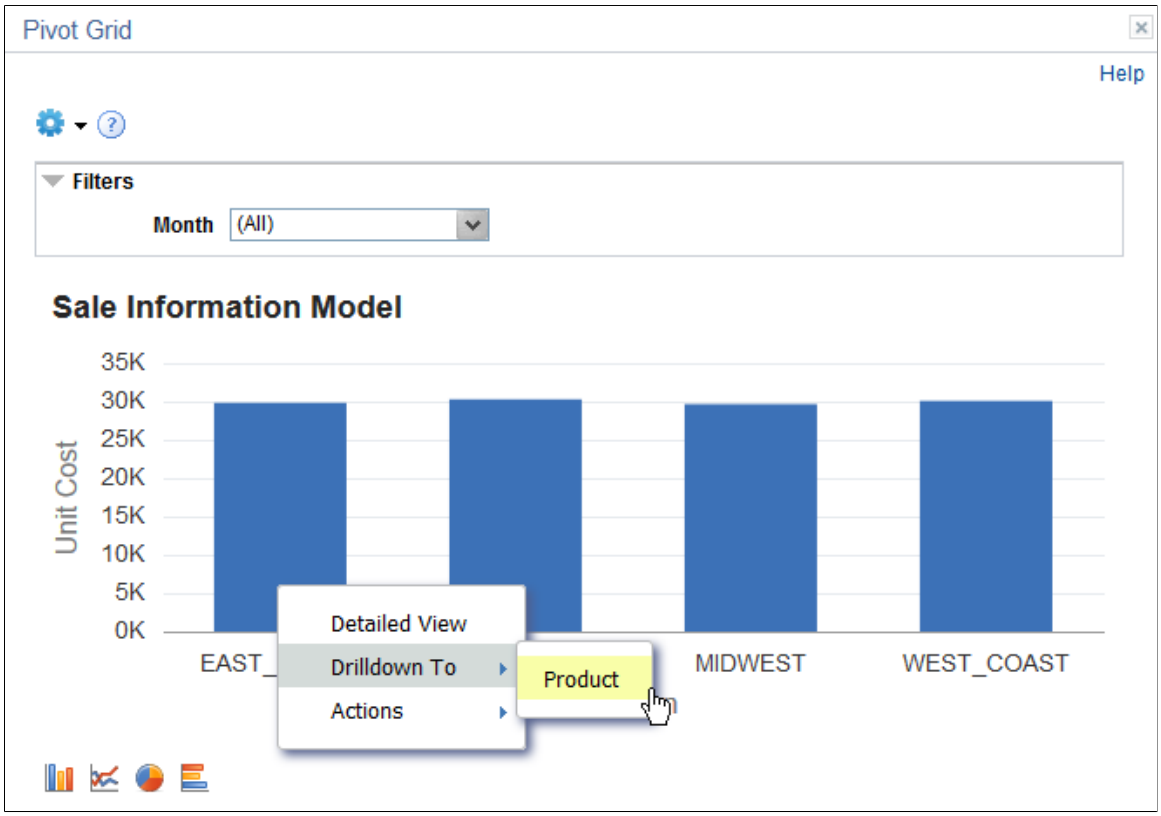

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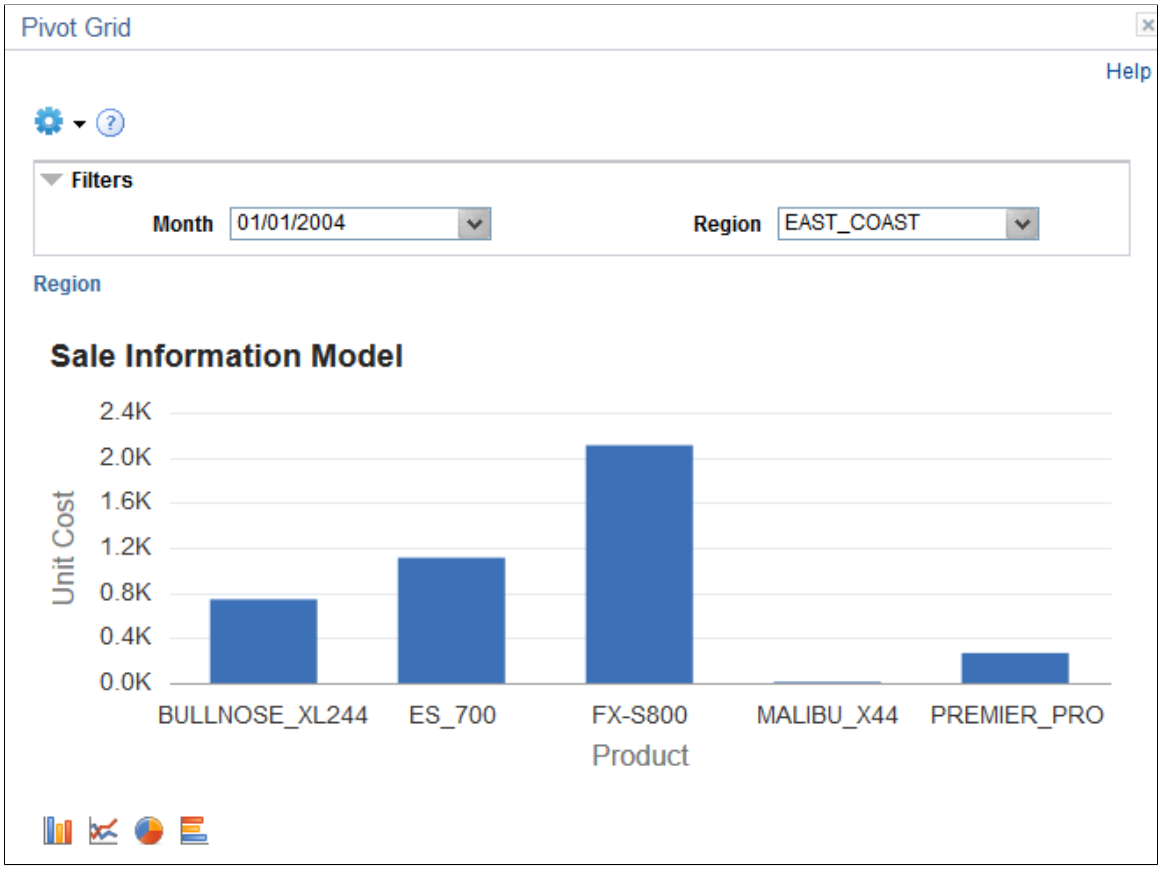
Image: Chart showing drilldown on Product

When you select a value in the Drilldown Field drop-down list, the drilldown appears with locator links (Region) to drill out.



Drilling Out on a Chart

To drill out, you click the locator links at the top left of the chart. In this example, drillout is performed by clicking on the locator link Region above the chart. The following actions are performed:

- Retrieve the axis information for the selected model.
- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Cost member for each product for the month and (2) the unique list of all the Filter Values - Month.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

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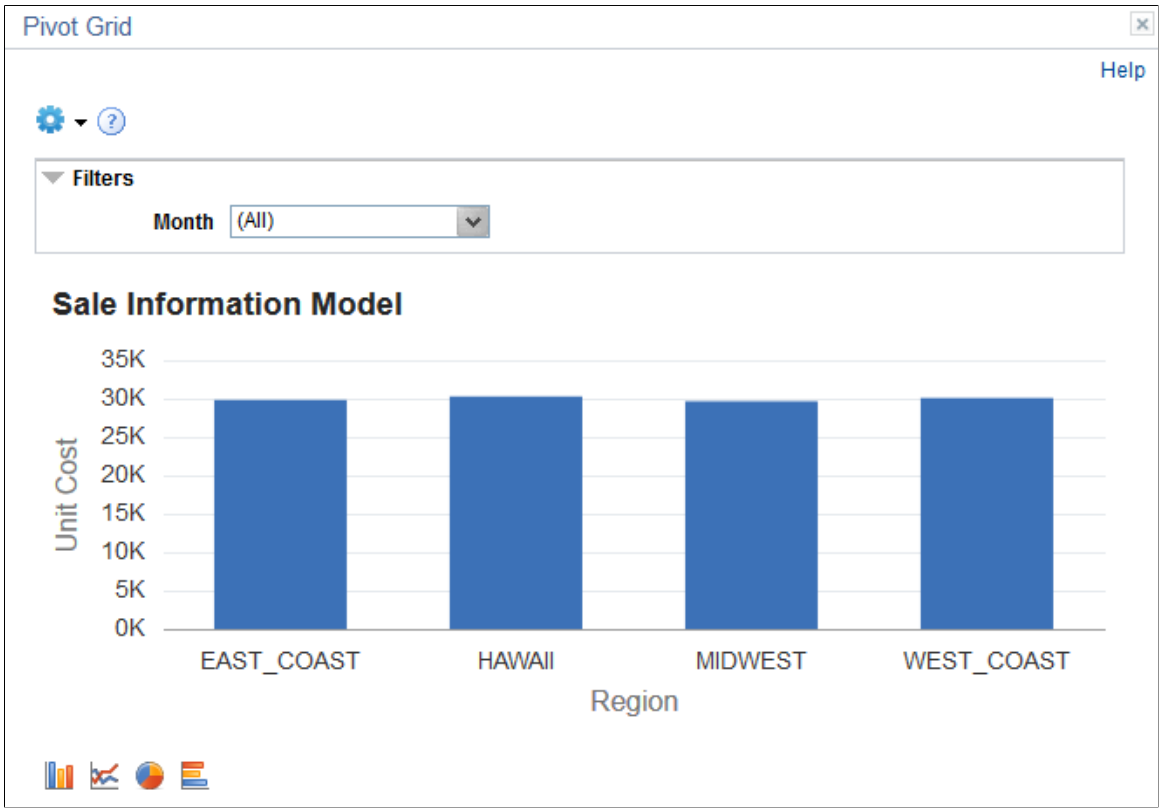
- Plot the chart.

Image: Chart returned to initial state after drilling out

This chart is restored to the original display.



Adding a Series to the Chart

In this example, the Product field is defined as a Series in the data model. The following actions are performed:

- Retrieve the axis information for the selected model.
- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Cost member for each region and product for the selected month and (2) the unique list of all the filter values for Month.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

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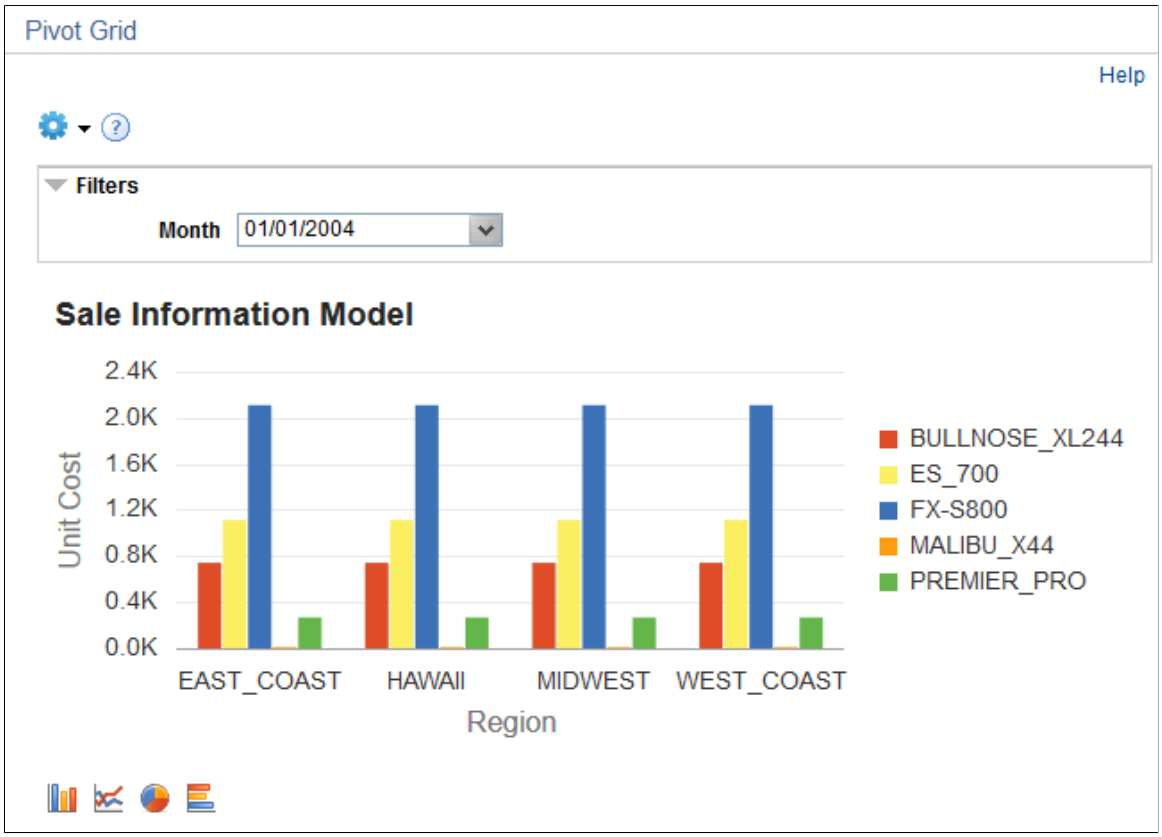
- Plot the chart.

Image: Chart displaying Product as a series

This example illustrates a chart with Product as a series.



Adding an Overlay Option to the Chart

In this example, the Unit Sales field is defined as an Overlay in the data model. The following actions are performed:

- Retrieve the axis information for the selected model.
- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Sales member for each region for the selected month, (2) totals of aggregate values for the Unit Cost member for each region for the selected month for overlay, and (3) the unique list of all the filter values for Month.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Sales field.

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- Plot the chart.

Image: Example chart with Unit Cost as an overlay

This example displays a chart with Unit Cost as an overlay.

Note: Overlay fields are only supported for the bar charts. All other chart types do not work properly if overlay fields are selected.

Adding a Chart Filter to the Chart

In this example, Product is added as a second filter in the data model. The following actions are performed:

- Retrieve the axis information for the selected model.
- Execute the PSQuery to retrieve (1) totals of aggregate values for the Unit Cost member for each region for the selected month and product and (2) the unique list of all the filter values - Month and Product.
- Set the X axis of the chart to the Region field and the Y axis of the chart to the Unit Cost field.

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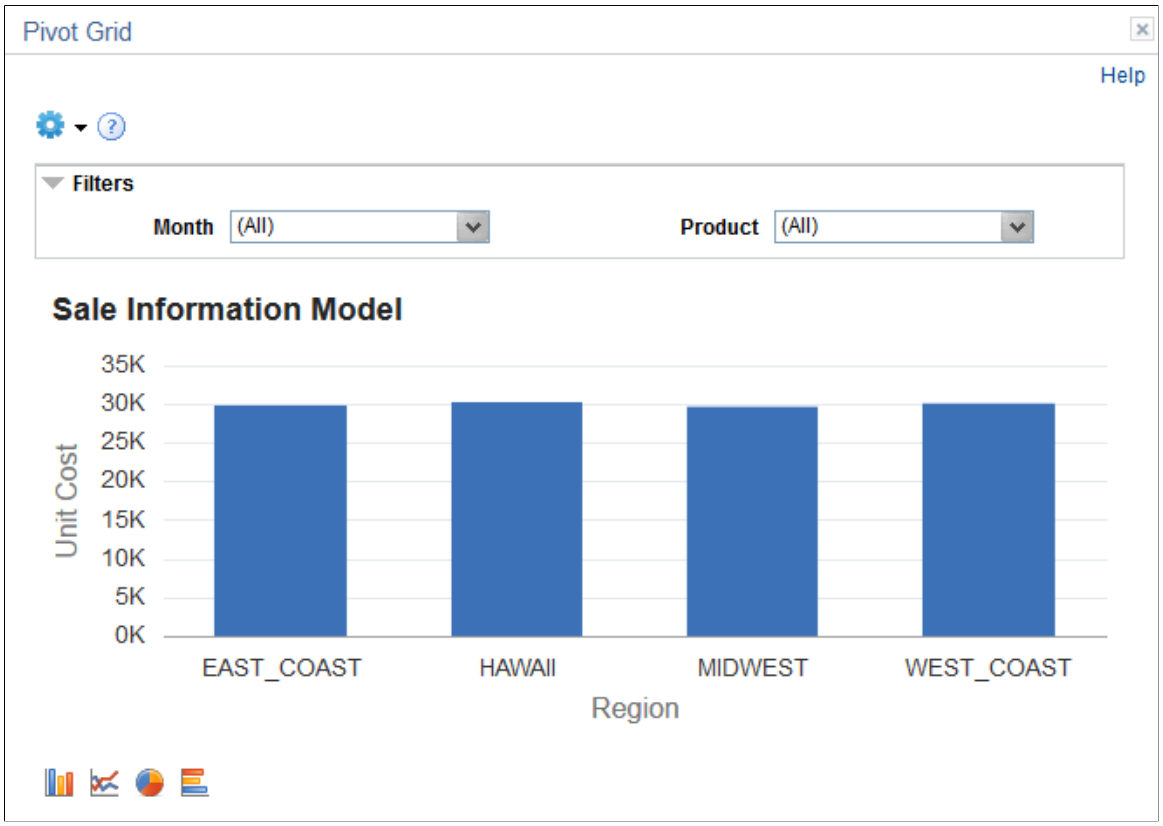
- Plot the chart.

Image: Example chart with filters on Month and Product

This example displays a chart with two filters.



Displaying a Chart in the Scatter or Bubble Chart Types

The Scatter and Bubble chart types are available for the Chart Only models. These chart types apply for the classic Pivot Grid Viewer, Pivot Grid Fluid Viewer, and search pages. You can select the chart types at the model level or at the view level. In addition, end users can set this chart type using the chart options.

When you set the chart type as Scatter or Bubble, note that:

- Only a numeric dimension is available for the x-axis of the chart.
- Bubble charts require an overlay in the Pivot Grid model.

  The overlay determines the weight of the bubble. That is, the overlay dimension determines the diameter of the bubbles.
- If no Series is available in the Pivot Grid model, the scatter or bubble chart enables you to drill to only numeric dimension. When a Series is available, the drill to dimension on the scatter or bubble chart behaves as any other chart type.
- Pivot Grid Wizard displays an error message in the following cases:
  - When the chart x-axis is non-numeric with the chart type set to Scatter Chart or Bubble Chart.
  - When the chart type is set to Bubble Chart with no overlay set.

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- When the chart has an overlay, but the chart type is not Bar or Bubble Chart type.

Image: Specify Data Model Options page, the Type field is set to Bubble Chart

In this example of the Specify Data Model Options page, the Type field in the Chart Options section is set to Bubble Chart.

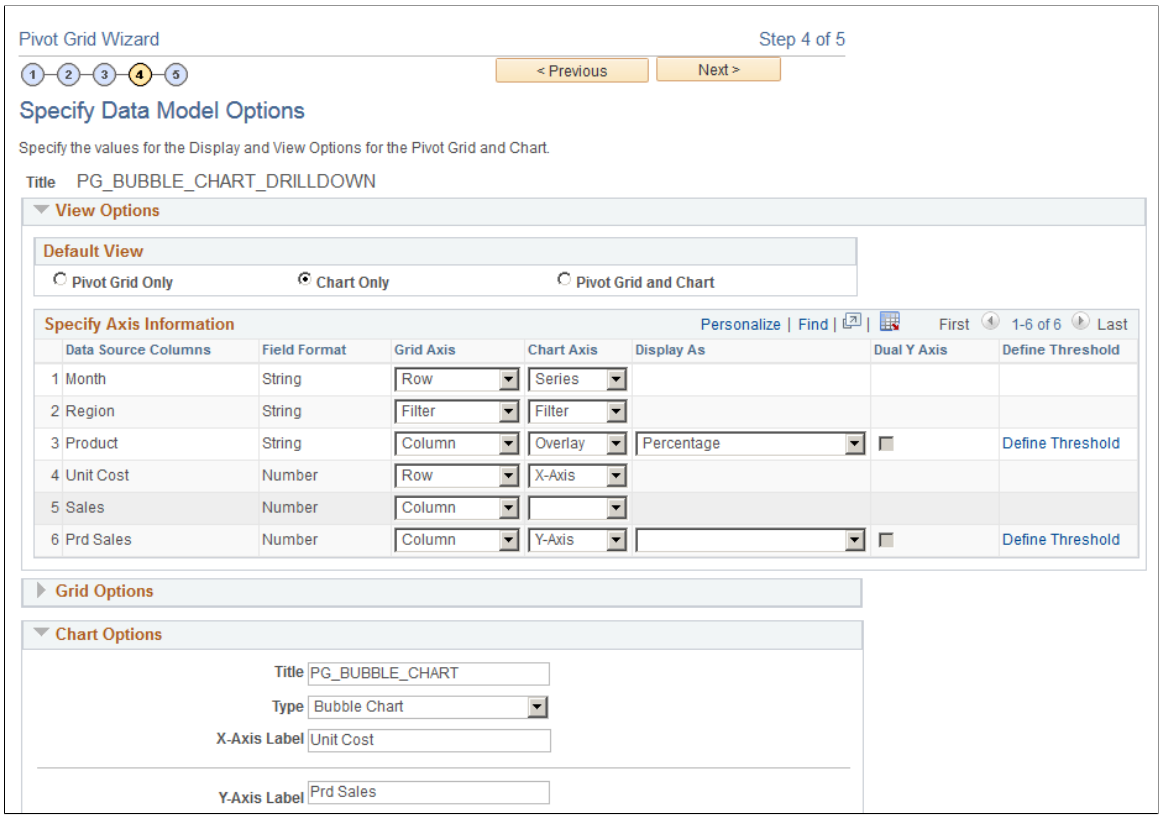

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Image: Pivot Grid Display page, the chart shown is the Bubble chart type

In this example of the Pivot Grid Display page, the chart shown is the Bubble chart type.

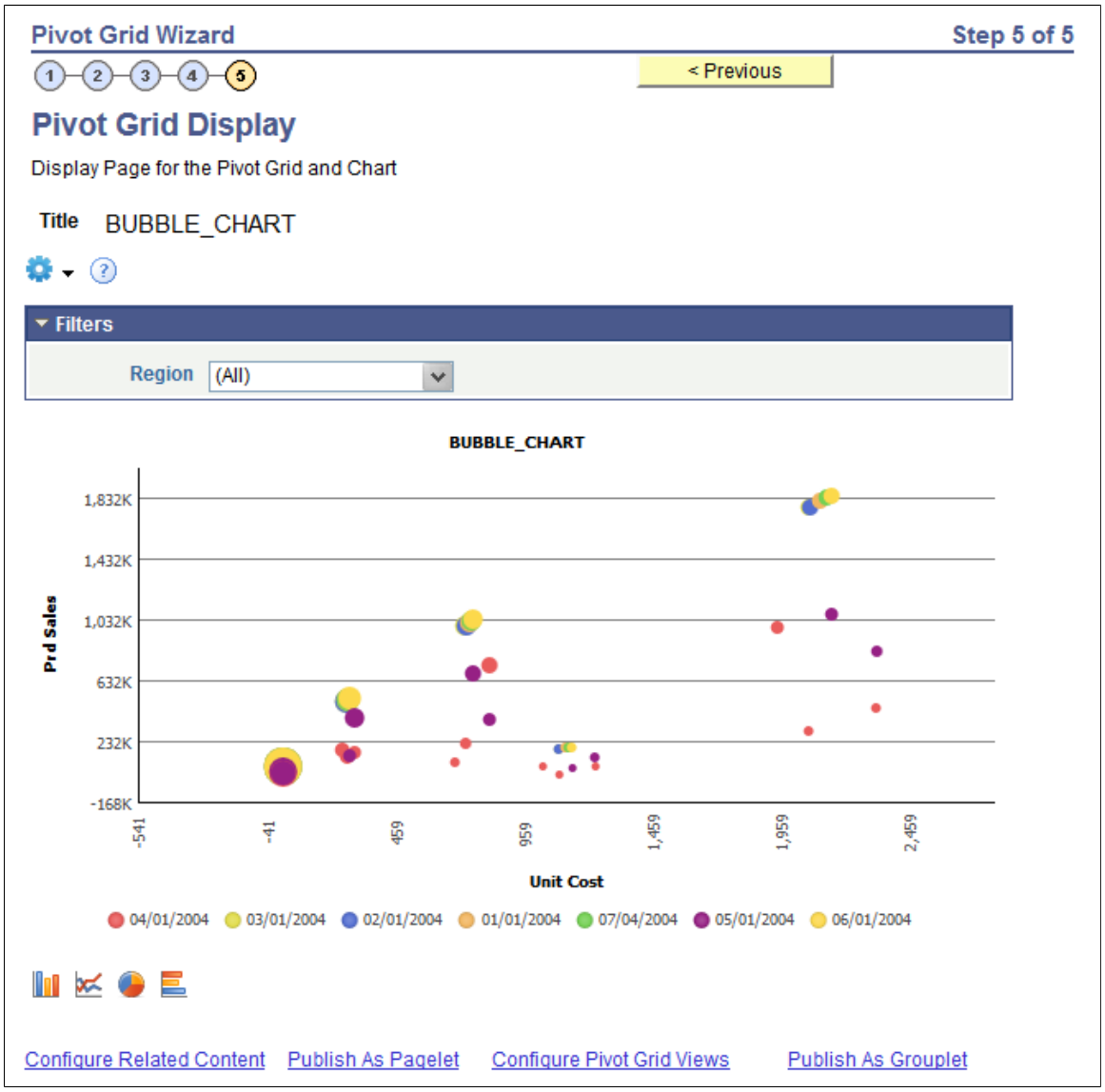

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Image: Specify Data Model Options page, the Type field is set to Scatter Chart

In this example of the Specify Data Model Options page, the Type field in the Chart Options section is set to Scatter Chart.

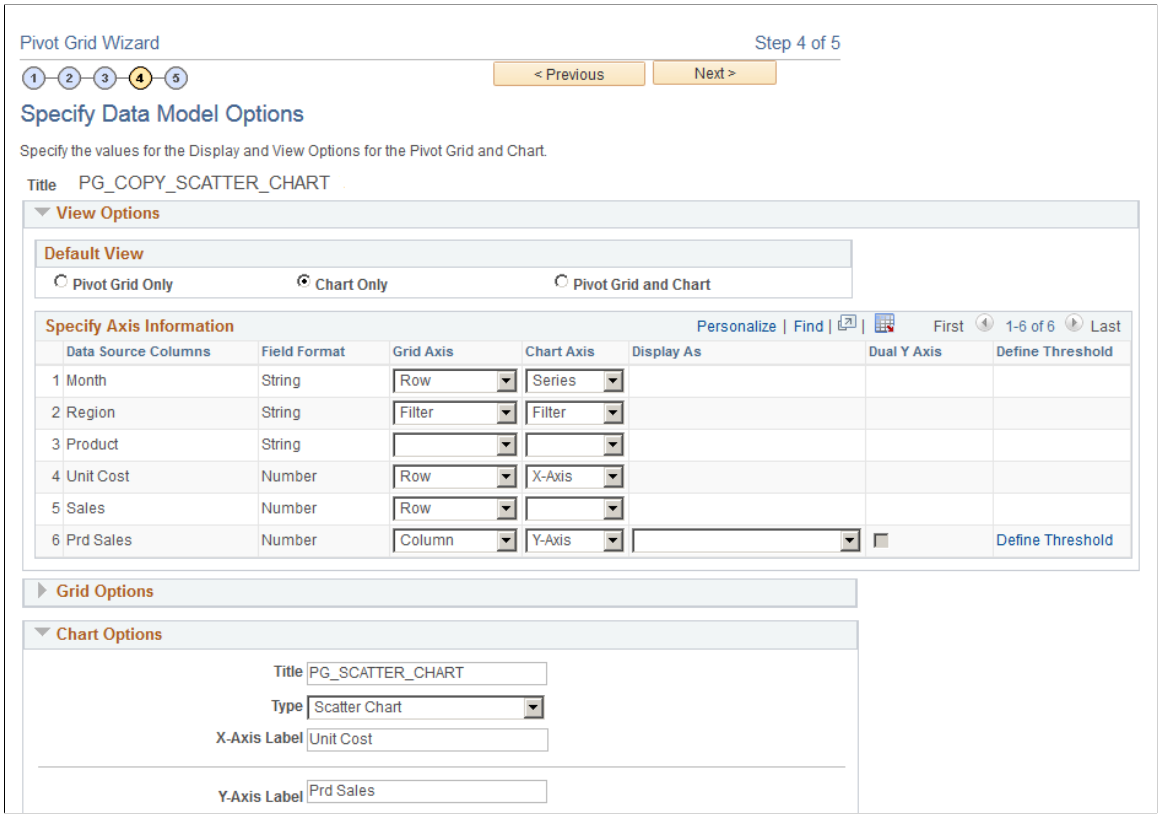

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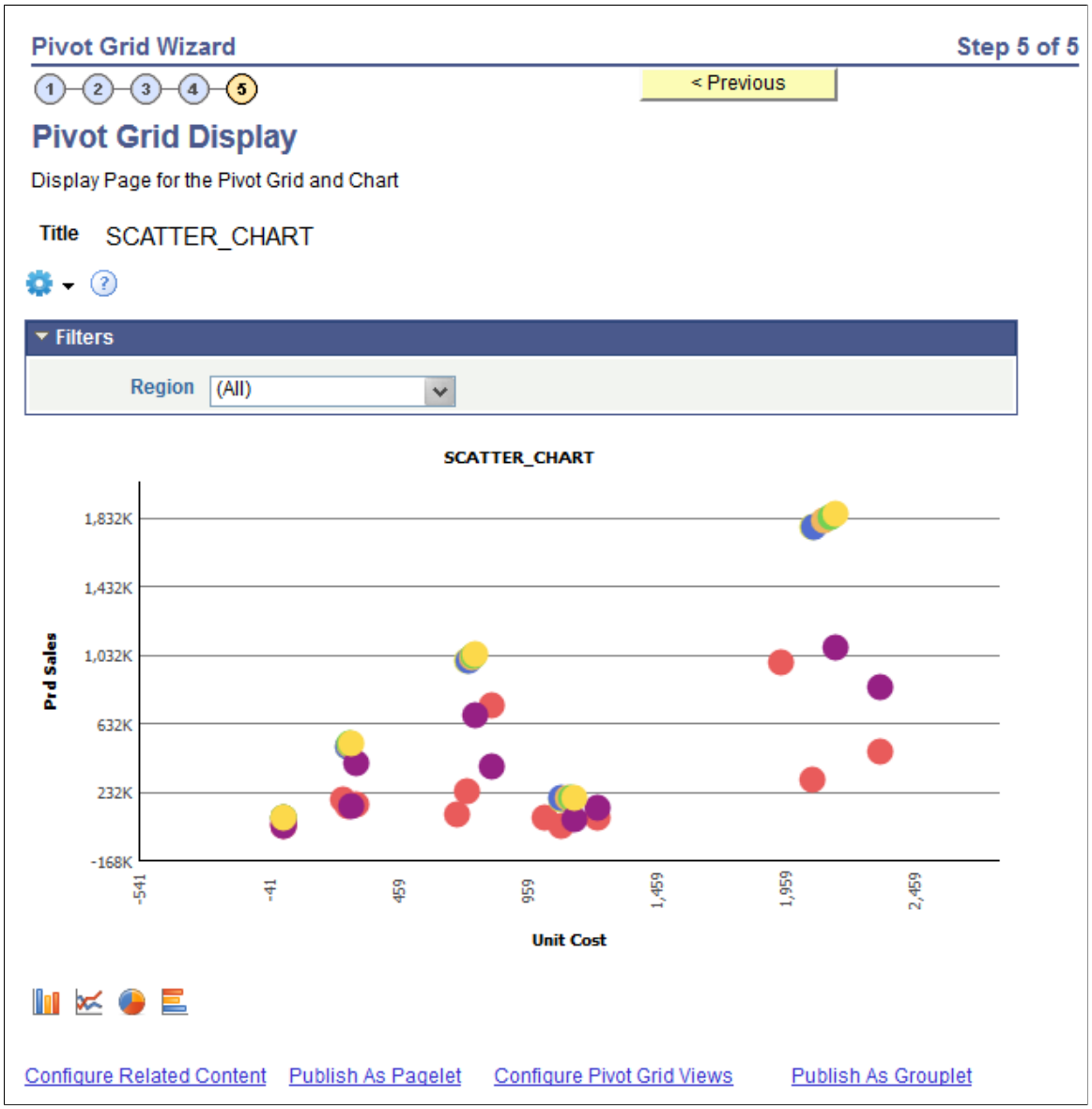
Image: Pivot Grid Display page, the chart shown is the Scatter Chart type

In this example of the Pivot Grid Display page, the chart shown is the Scatter Chart type.



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Chapter 4

Using Pivot Grid Wizard

Pivot Grid Wizard Overview

You use the Pivot Grid wizard to create and maintain Pivot Grid models. The wizard consists of five steps that lead you through the process of defining the core of the grid (data, values, and axes) and initial

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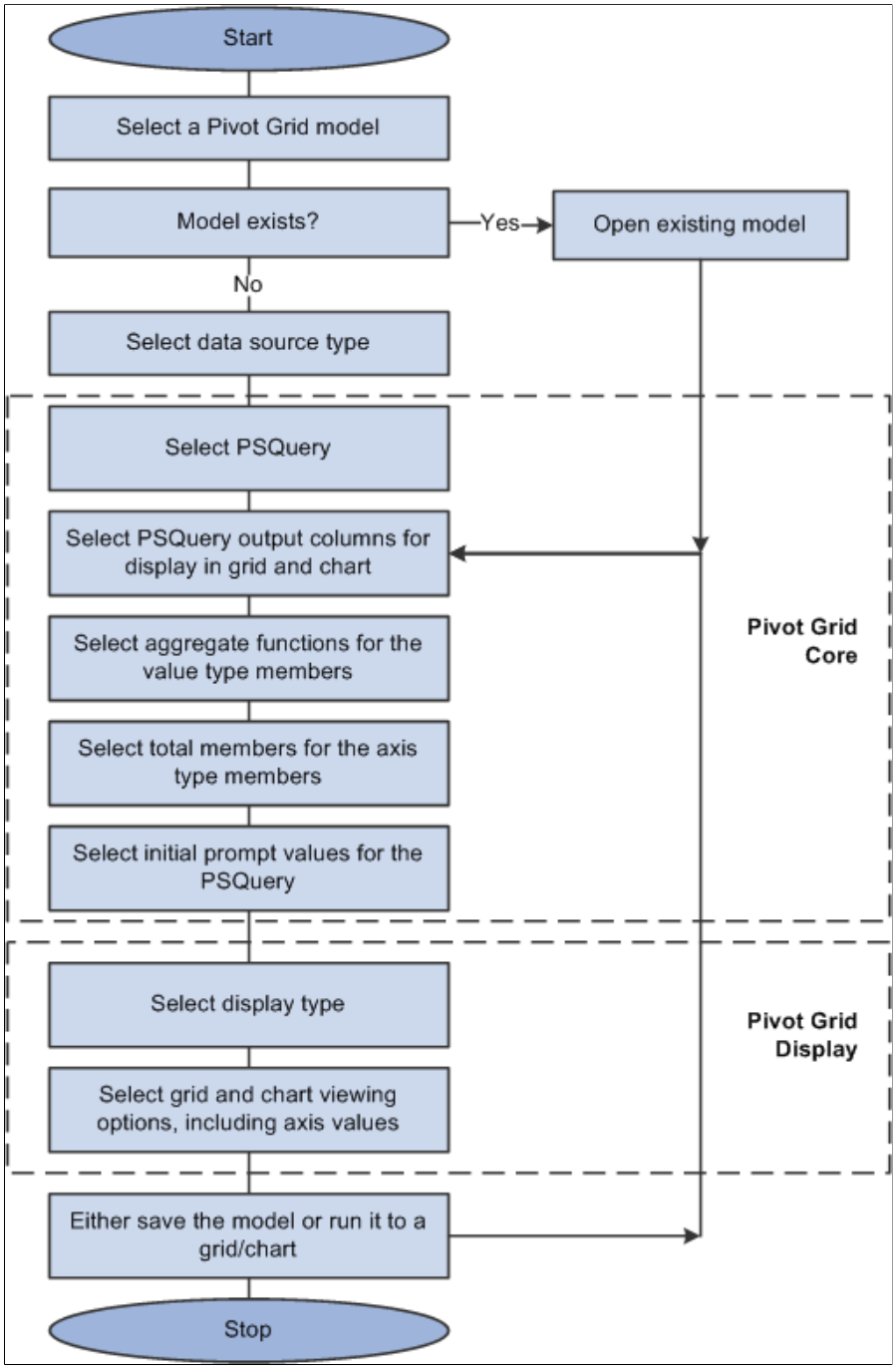
pivot display (chart type and viewing options). Users with the appropriate security also use the Pivot Grid wizard to update existing models.

Image: Flowchart for creating and updating a Pivot Grid model

This diagram illustrates the processes of creating and updating a Pivot Grid model.



Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard

This topic discusses how to:

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- Specify Pivot Grid properties.
- Select a data source.
- Specify data model values.
- Specify data model options.
- View Pivot Grid displays.

Specifying Pivot Grid Properties

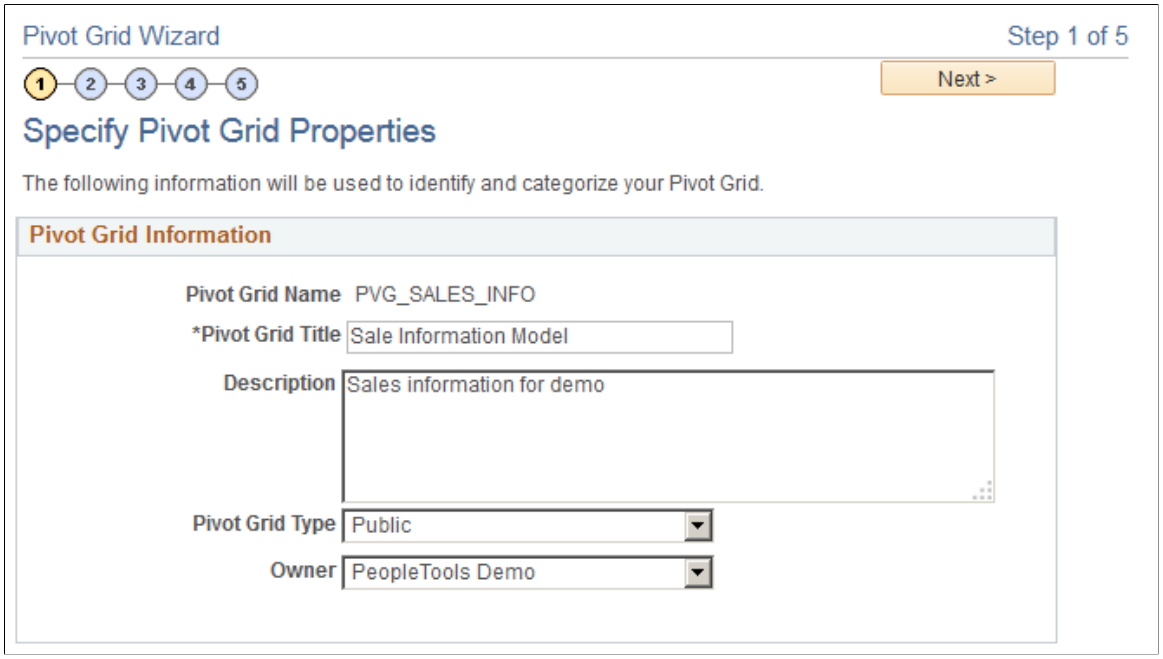
Use the Specify Pivot Grid Properties page (PTPG_WIZ_INFO) to identify and categorize the data model for the Pivot Grid.

Navigation

Access the Specify Pivot Grid Properties page by selecting Reporting Tools, Pivot Grid, Pivot Grid Wizard.

Image: Specify Pivot Grid Properties page

This example illustrates the fields and controls on the Specify Pivot Grid Properties page. Definitions for the fields and controls appear following the example.



Pivot Grid Title Enter a title for the pivot grid. This field is required.

Pivot Grid Type Select whether the Pivot Grid model is *Private* or *Public*.

- Private models are only available to the users who created the model and the users who have the PivotGridAdmin role.

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- Public models are available to administrators and power users for updating, and they are accessible to all users for viewing.

Next

Note: The Next button is available after you enter the title of the pivot grid in the Pivot Grid Title field and move to any other field.

Click to advance the wizard to the next page.

Selecting a Data Source

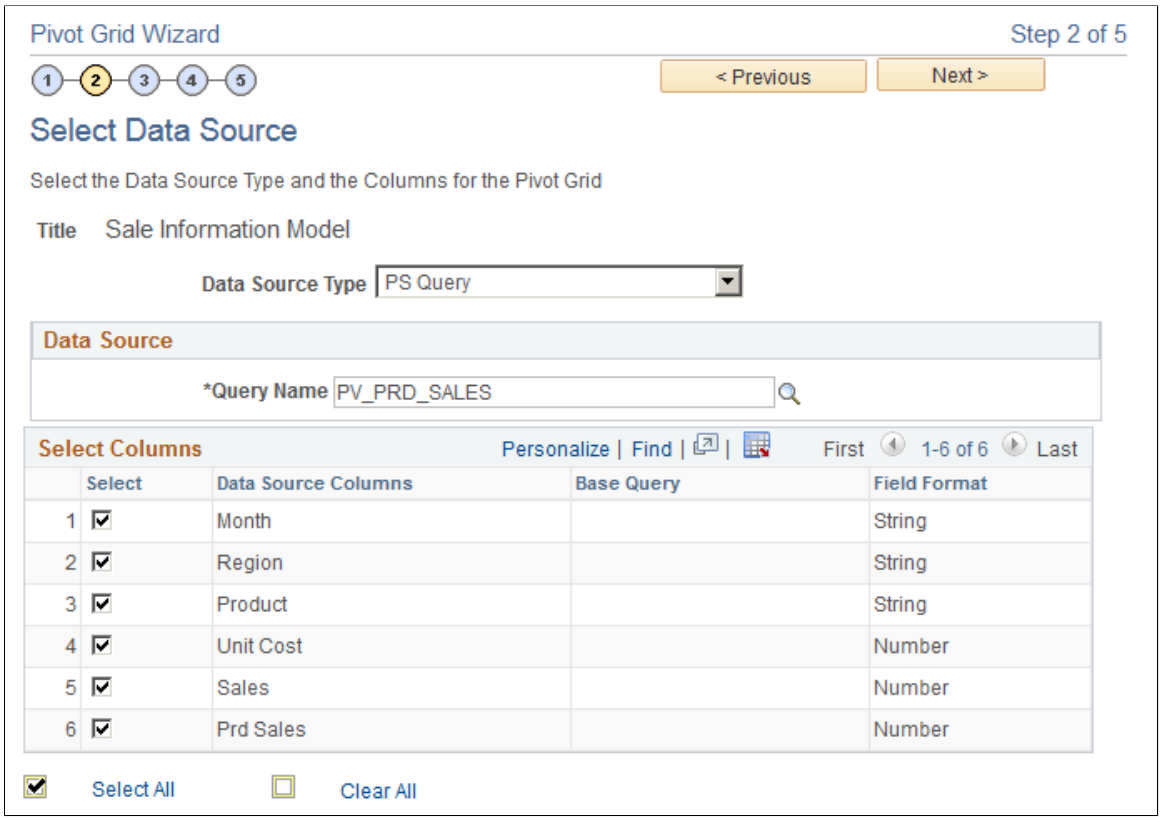
Use the Select Data Source (PTPG_WIZ_DATASRC) page to select the data source and output columns.

Navigation

Access the Select Data Source page by selecting the Next button on the Specify Pivot Grid Properties page.

Image: Select Data Source page - PSQuery

This example illustrates the fields and controls on the Select Data Source page when the Data Source Type is set to *PS Query*.



Data Source Type

Available options are *PS Query* and *Component*.

See Understanding Component Real Time Search Using Pivot Grid in the Fluid Mode.

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Query Name

This field is available if the Data Source Type is set to *PS Query.*

Click the search icon to select a query from the list of existing queries.

Note: Only one query can be associated with one Pivot Grid model as a data source.

Select Columns

Select the output columns to be plotted in the Pivot Grid model.

Note: The Select Columns region is available after you select an existing query in the Query Name field using the search icon or after you enter a valid query name and tab out of the Query Name field.
You must select at least two PSQuery output columns.

Next

Click to advance the wizard to the next page.

Note: The Next button is available after you select at least two columns in the Select Columns region.

Specifying Data Model Values

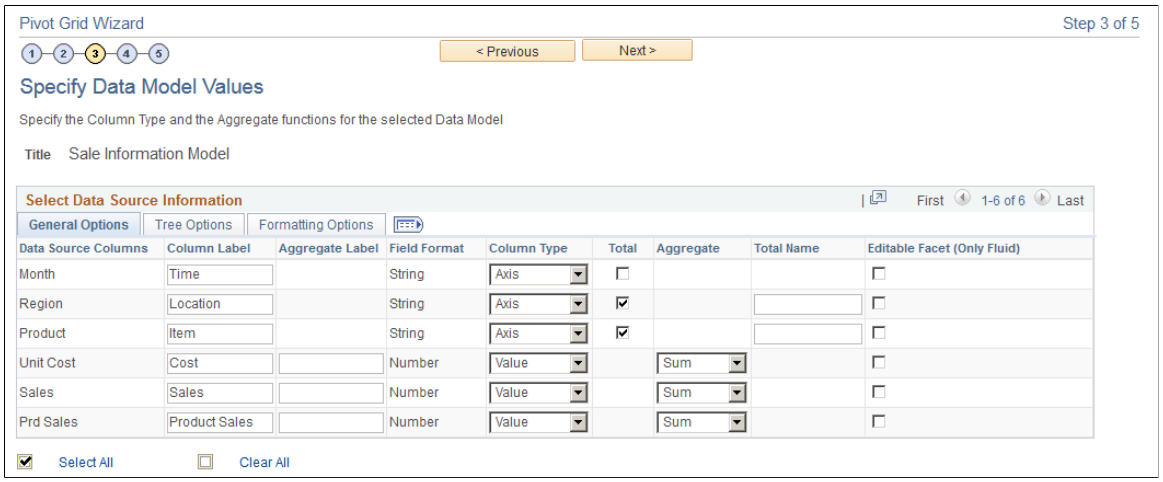
Use the Specify Data Model Values page (PTPG_WIZ_MODEL) to define the column type and aggregate functions for the selected data model.

Navigation

Access the Specify Data Model Values page by selecting the Next button on the Select Data Source page.

Image: Specify Data Model Values page

This example illustrates the fields and controls on the Specify Data Model Values page. Definitions for the fields and controls appear following the example.



Column Label

Optionally, specify the labels for columns (dimensions/facts). The labels apply to grids and charts.

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Note: Column labels must be unique. No two datasource columns can have the same label.

Column Type

Define the axis, value, or display members for a column.

Select the *Display* option to enable the column to appear in the detailed-data view of the grid and the chart.

Note: At least one *Axis* and one *Value* member are required. You can also select this column as a related action parameter for a Pivot Grid model in the detailed-data view.

If the PSQuery formula is based on an expression and that expression is used in the Pivot Grid model, then:

- The formula-based expression can be used only as a column value and no aggregate function should be applied if the aggregation functions are derived from the other columns which make up the expression.

  You can select the *None* option in the Aggregate column for the expression to avoid multiple aggregation on the column.

- The formula-based expression cannot be used as a column axis.

- The formula-based expression should be comprised of only other column values. For example, *(ValueA + ValueB/100)* or *((ValueA + ValueB)/ValueA)*100*.

Total

Select which *Axis* members have the Total (All) attribute enabled.

Note: This column is available only for the data source column with column type *Axis.*

Aggregate

Define the aggregate functions for the *Value* type members. Available options are *Avg, Count, Max, Min, Sum,* and *None.*

Note: This column is only available for the data source column with column type *Value.*
Value members of type *Number* and *Signed Number* can be associated with any of the aggregate functions. Value members of any other type can only be associated with the Count aggregate function.

If the PSQuery expression is based on a formula and that expression is used in the Pivot Grid model, then the type of the column should be set to *Value,* and the Aggregate value should be set to *None* to avoid multiple aggregations on the column

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Total Name Optionally, specify the total names, which override the default All string.

Select Query Prompt Values Enter the default values for the PSQuery runtime prompts.

Note: This region is only available when the selected query has prompts attached.
The default value in the Select Query Prompt Values region is blank and you are able to define your prompt values. If the required prompt fields are blank or if the format of data entered is incorrect, Pivot Grid Wizard displays a validation error.

Configure Visible Prompts Select a check box in the Visible Prompt column for the query prompts that will be visible to the viewers. Otherwise, clear the Visible Prompt check box for the query prompts that will be hidden from viewers. If all prompts are set to be invisible, the Prompts option will not appear in the Options menu in Pivot Grid Viewer.

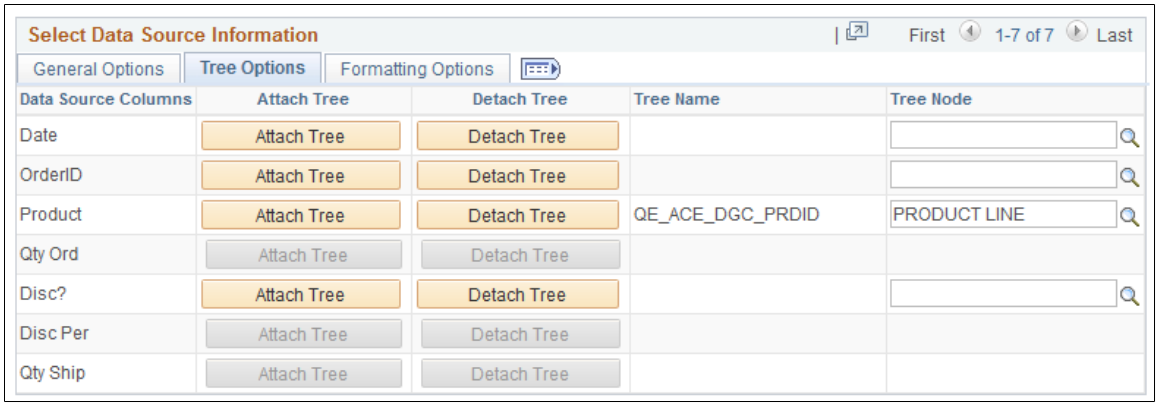
Note: This region is only available when the selected query has prompts attached.

Next Click this button to advance the wizard to the next page.

Tree Options

Image: Tree Options section

This example illustrates the fields and controls on the Tree Options section. You can find definitions for the fields and controls later on this page.



Attach Tree Click to access the Attach Tree to Dimension window, where you can select a tree from a list of available trees and attach it to the dimension.

Note: Only Summer Detail Trees that match the corresponding Axis are listed.

Detach Tree Click to detach a current PeopleSoft tree from the dimension.

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Tree Name Display the tree names that you have selected using the Attach Tree button.

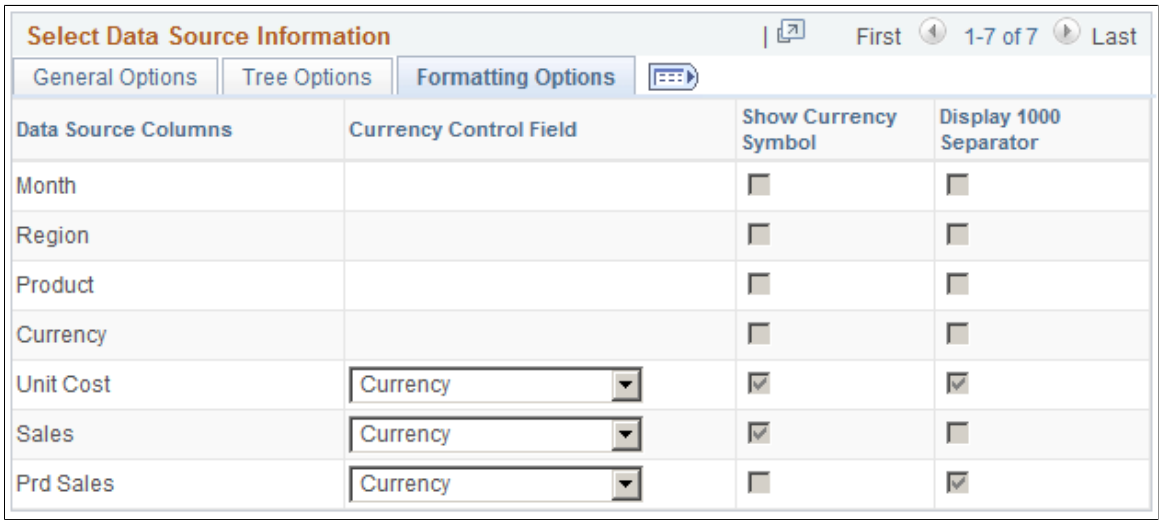
Tree Node This field is required.

The Tree Node is populated with the Root node of the selected tree. However, this value can be changed to point to any node in the tree. The hierarchical information for the dimension is shown from this node only.

Formatting Options

Image: Formatting Options section

This example illustrates the fields and controls on the Formatting Options section. You can find definitions for the fields and controls later on this page.



Currency Control Field Select Currency field as the Currency Control Field. The decimal positions for the currency value are based on the currency control field. For example, two decimal positions appear for U.S. dollars or three decimal positions appear for the Brazilian real.

Note: The query should include the Currency field as a Data Source Column to associate it as the Currency Control Field.

The currency control fields can be associated with the columns set to Value and Display.

Show Currency Symbol Select to display the currency symbol for the Value. If the Show Currency Symbol option is selected, the value is appended by the currency symbol, such as $, £, and so on.

Display 1000 Separator Select to display the 1000 separator for the Value. For example, the value of ten thousand dollars appears as $10,000.00.

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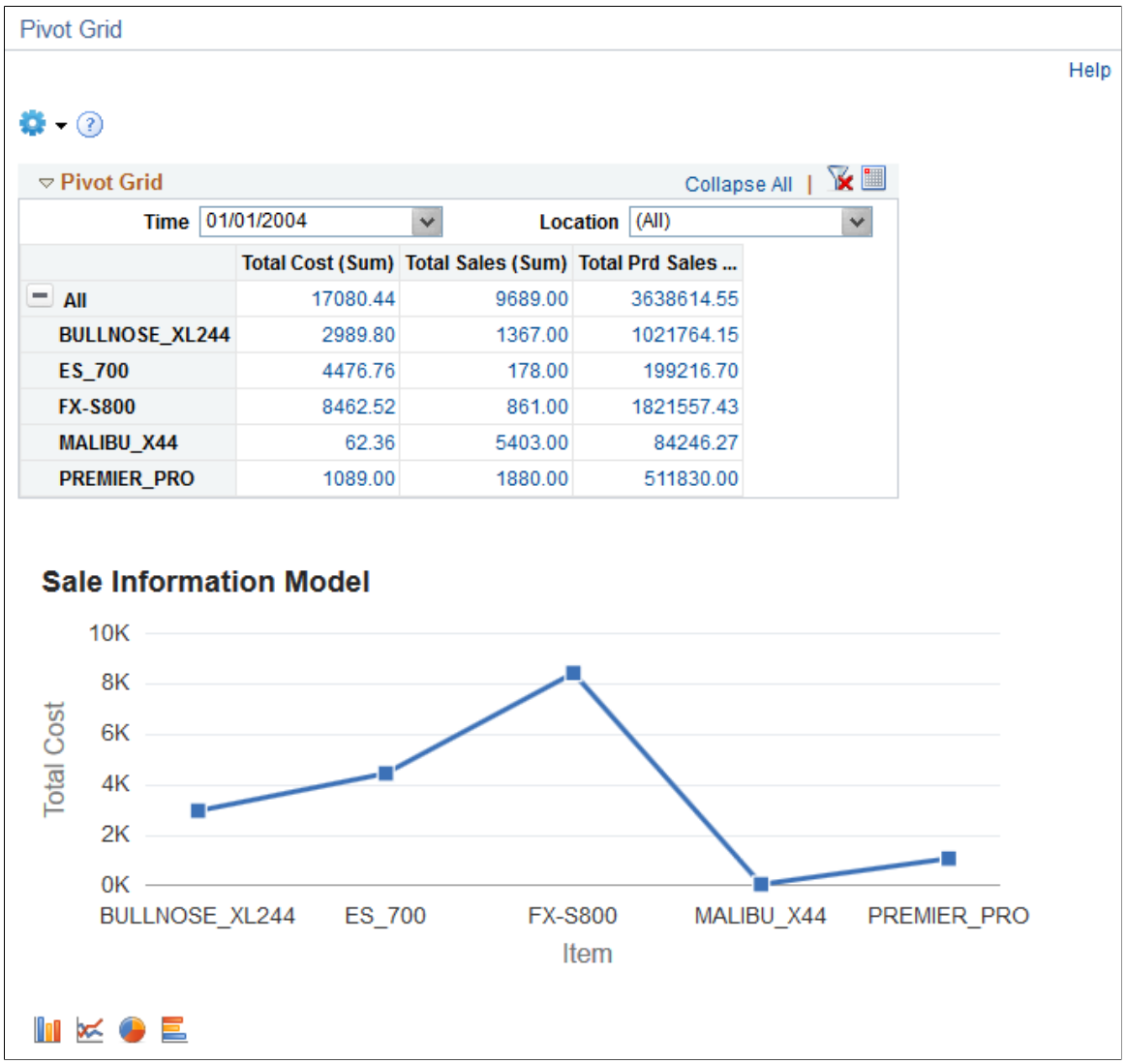
Note: If no value is set in the Formatting Options tab, the system displays the currency values using the default settings, for example, 123456.78.
The alternate text in the chart and in the values on the Detail View displays the currency in the defined formats.

Example: Labels for Columns and Total Names

Image: Labels in Pivot Grid's grid and chart

This example illustrates the labels - Time, Location, Cost, and Item - in the grid and chart of the Pivot Grid.



Attaching PeopleSoft Trees to Dimensions

Each dimension in the Pivot Grid model can be associated with a PeopleSoft *Summer Tree* (which has the tree details associated with a component). The totals that appear in the Pivot Grid model are limited to only the lowest level of the tree structure.

Using the Attach Tree functionality, note that:

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- This function is used for Detail Type Tree Structures, which have the tree details associated with a component (Summer Trees). The function may not be used when the tree nodes correspond to details.
- The tree structure for the corresponding tree has to be as follows:

  1. The Tree Node must be associated with the Tools delivered TREE_NODE_TBL table.
  2. The Tree Details in the tree structure must point to the application data table.
  3. The field name in Tree Details must match with the field that you are trying to attach the tree to.

- If you attach more than one tree, the SQL queries become more complicated and lower the performance rating.
- Totals at the lowest level are not available when the Total option is not selected for the dimension.
- Aggregation is available only for the lowest level.
- You cannot specify skip levels for the tree while performing aggregation; for example, if the tree has eight levels, you cannot select only level one through level five.
- For the chart-only view, trees are attached only in the filters.
- In the Fluid mode, the filters do not show the hierarchy information. The hierarchy information is restricted to grid row and column only.
- In Pivot Grid Viewer, the tree hierarchy level appears only at the lowest level of the grid row or column because Pivot Grid calculates totals only at the lowest levels.
- The tree nodes and the tree leaf values used with Pivot Grid models must be distinct to avoid incorrect display of values.

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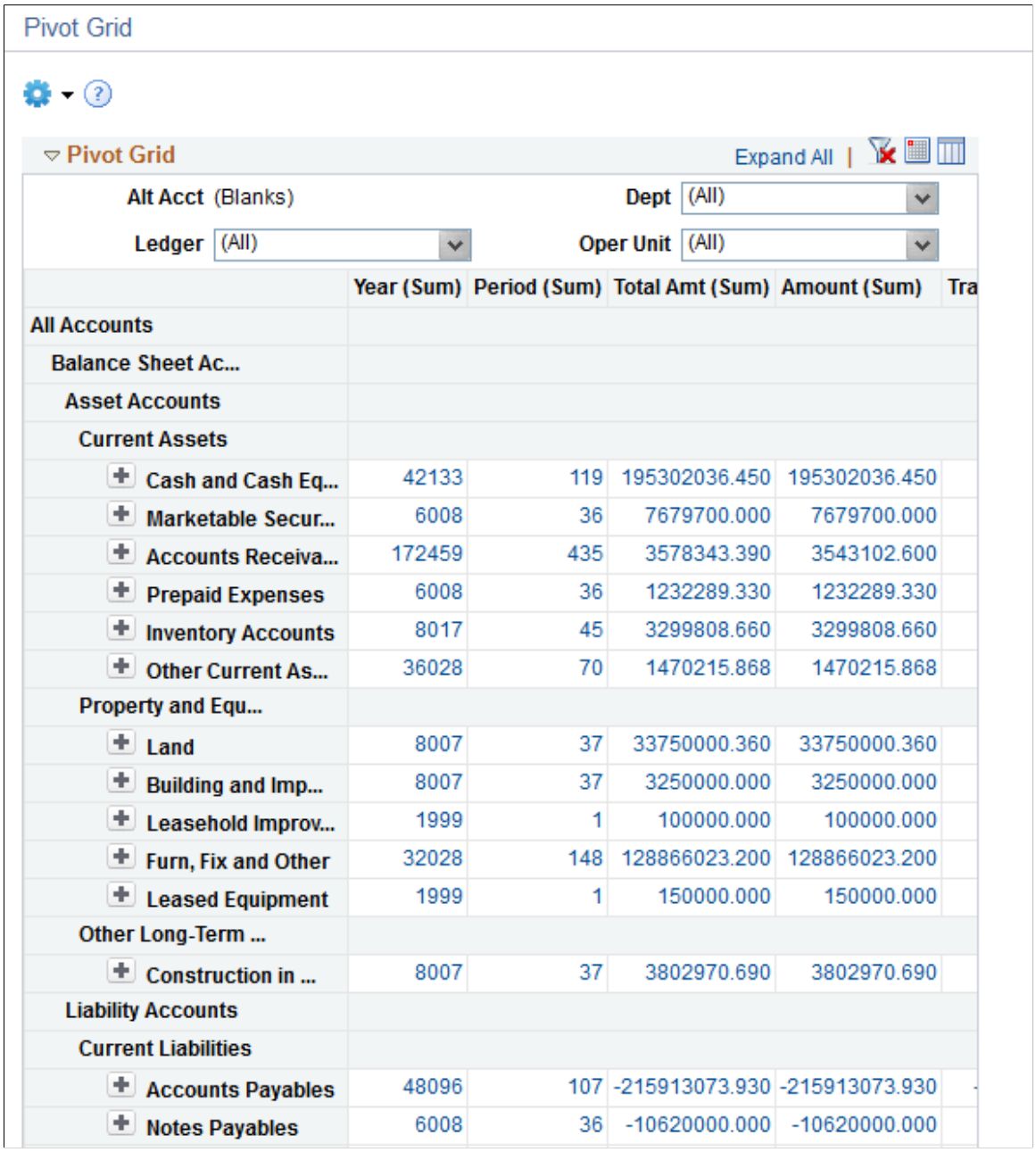
- This functionality can be used only in Pivot Grid Viewer and cannot be used in CRTS.

Image: Pivot Grid Viewer When Tree is Attached to Pivot Grid Row

This example shows Pivot Grid Viewer displaying the results of a tree attached to a Pivot Grid row.



	Year (Sum)	Period (Sum)	Total Amt (Sum)	Amount (Sum)	Tra
All Accounts					
Balance Sheet Ac...					
Asset Accounts					
Current Assets					
Cash and Cash Eq...	42133	119	195302036.450	195302036.450	
Marketable Secur...	6008	36	7679700.000	7679700.000	
Accounts Receiva...	172459	435	3578343.390	3543102.600	
Prepaid Expenses	6008	36	1232289.330	1232289.330	
Inventory Accounts	8017	45	3299808.660	3299808.660	
Other Current As...	36028	70	1470215.868	1470215.868	
Property and Equ...					
Land	8007	37	33750000.360	33750000.360	
Building and Imp...	8007	37	3250000.000	3250000.000	
Leasehold Improv...	1999	1	100000.000	100000.000	
Furn, Fix and Other	32028	148	128866023.200	128866023.200	
Leased Equipment	1999	1	150000.000	150000.000	
Other Long-Term ...					
Construction in ...	8007	37	3802970.690	3802970.690	
Liability Accounts					
Current Liabilities					
Accounts Payables	48096	107	-215913073.930	-215913073.930	
Notes Payables	6008	36	-10620000.000	-10620000.000	

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Image: Pivot Grid Viewer When Tree is Attached to the Grid Filter

This example shows Pivot Grid Viewer displaying the results of a tree attached to the grid filter.

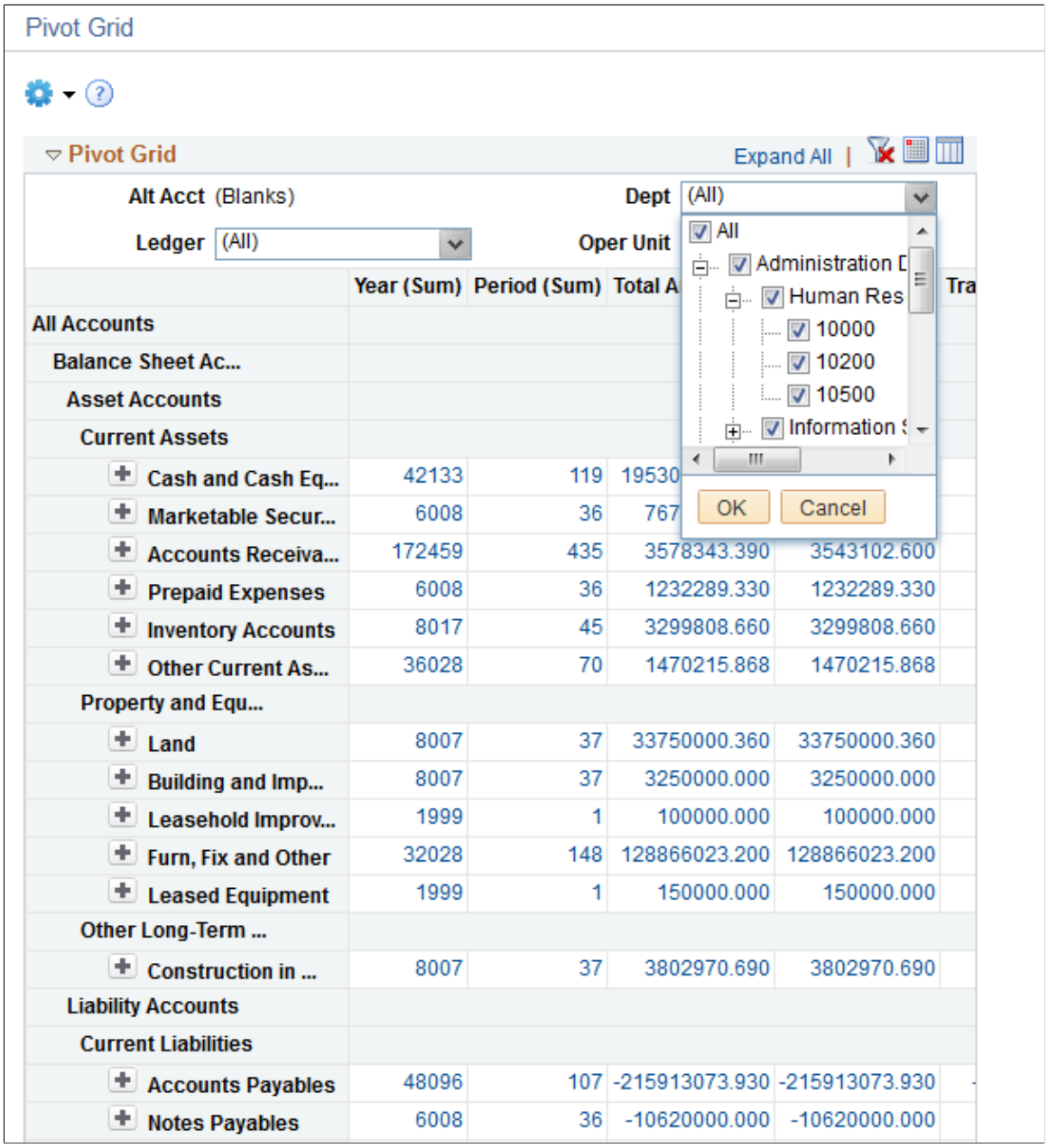

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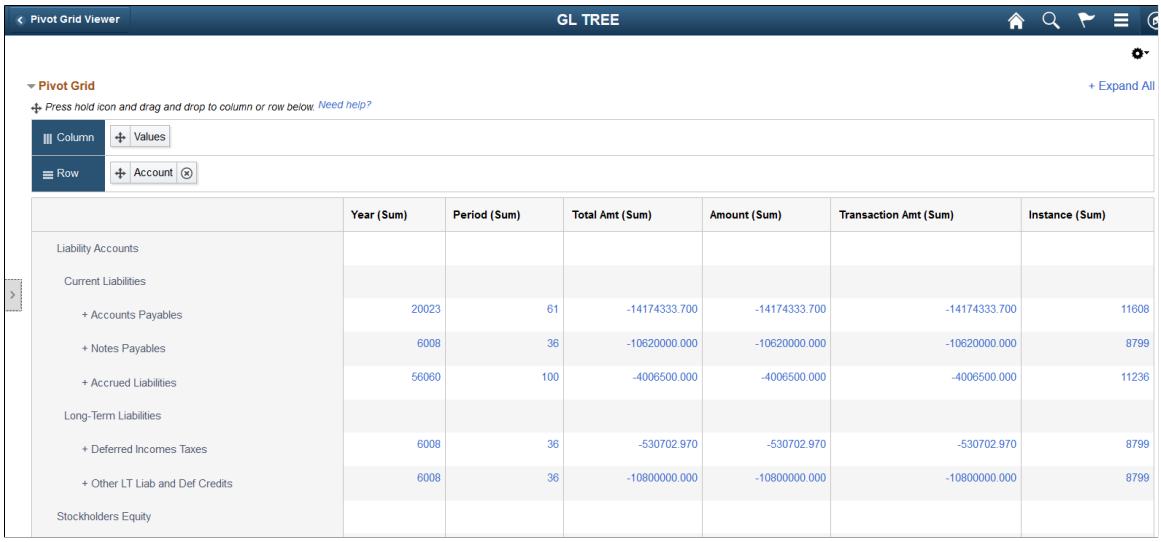
Image: Pivot Grid Viewer in the Fluid Mode displaying the results of a tree attached to the Pivot Grid model

This example shows Pivot Grid Viewer in the Fluid mode displaying the results of a tree attached to the Pivot Grid model.



	Year (Sum)	Period (Sum)	Total Amt (Sum)	Amount (Sum)	Transaction Amt (Sum)	Instance (Sum)
Liability Accounts						
Current Liabilities						
+ Accounts Payables	20023	61	-14174333.700	-14174333.700	-14174333.700	11608
+ Notes Payables	6008	36	-10620000.000	-10620000.000	-10620000.000	8799
+ Accrued Liabilities	56060	100	-4006500.000	-4006500.000	-4006500.000	11236
Long-Term Liabilities						
+ Deferred Incomes Taxes	6008	36	-530702.970	-530702.970	-530702.970	8799
+ Other LT Liab and Def Credits	6008	36	-10800000.000	-10800000.000	-10800000.000	8799
Stockholders Equity						

Related Links

Tree Manager

Specifying Data Model Options

Use the Specify Data Model Options (PTPG_WIZ_OPT) page to define the initial layout of the grid and the chart.

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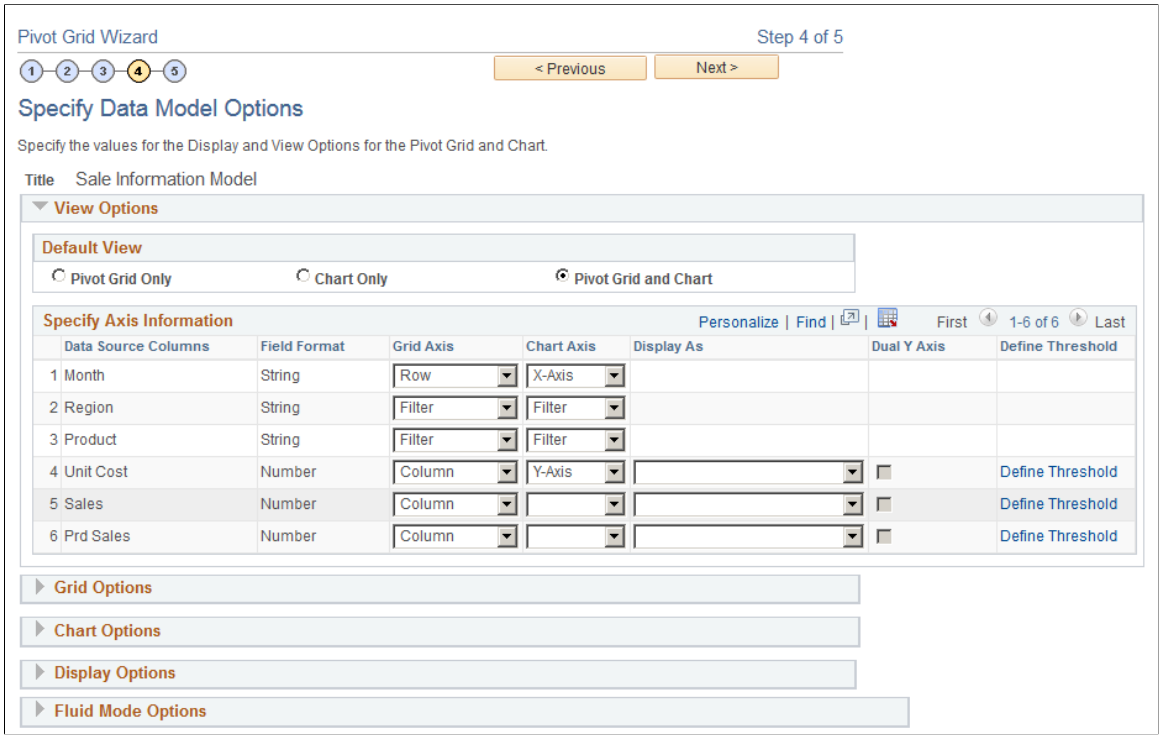
Navigation

Access the Specify Data Model Options page by selecting the Next button on the Specify Data Model Values page.

Image: Specify Data Model Options page

This example illustrates the fields and controls on the Specify Data Model Options page. Definitions for the fields and controls appear following the example.



This page has six main sections: View Options, Grid Options, Chart Options, Display Options, Display Mode, and Fluid Mode Options. Each section can be expanded or collapsed.

View Options

Expand to display the view options.

Default View

Define Pivot Grid view options for the grid and the chart.

Available options are:

- Pivot Grid Only
- Chart Only
- Pivot Grid and Chart

Grid Axis and Chart Axis

Select the initial grid and chart layout. Note that:

- Both grid and chart axes must be selected, irrespective of the display option selected. Both grid and chart have the same filters. All the Value type columns lie on one axis in the pivot grid.

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- For the chart, Axis type members can be selected as X axis and Series, whereas the Value type members can be selected as Y axis and Overlay.
- You can select only one X axis, Y Axis, Series, or Overlay member.

Display As The Display As column is available only for number (facts) fields.

Select either the *Percentage* or the *Percentage Grand Total* option to display the number (fact) values in the grid and chart.

Next Click to advance the wizard to the next page.

Grid Options

Use the Grid Options section to define Pivot Grid view options for the grid and the chart.

Image: Grid Options section

This example illustrates the fields and controls in the Specify Data Model Options page - Grid Options section. Definitions for the fields and controls appear following the example.

Collapsible Data Area Select to allow viewers to collapse the data area.

Expanded State Select to have the initial view expanded.

No Drag and Drop Select if you do not want users to have the ability to drag and drop filters, rows, and column axes.

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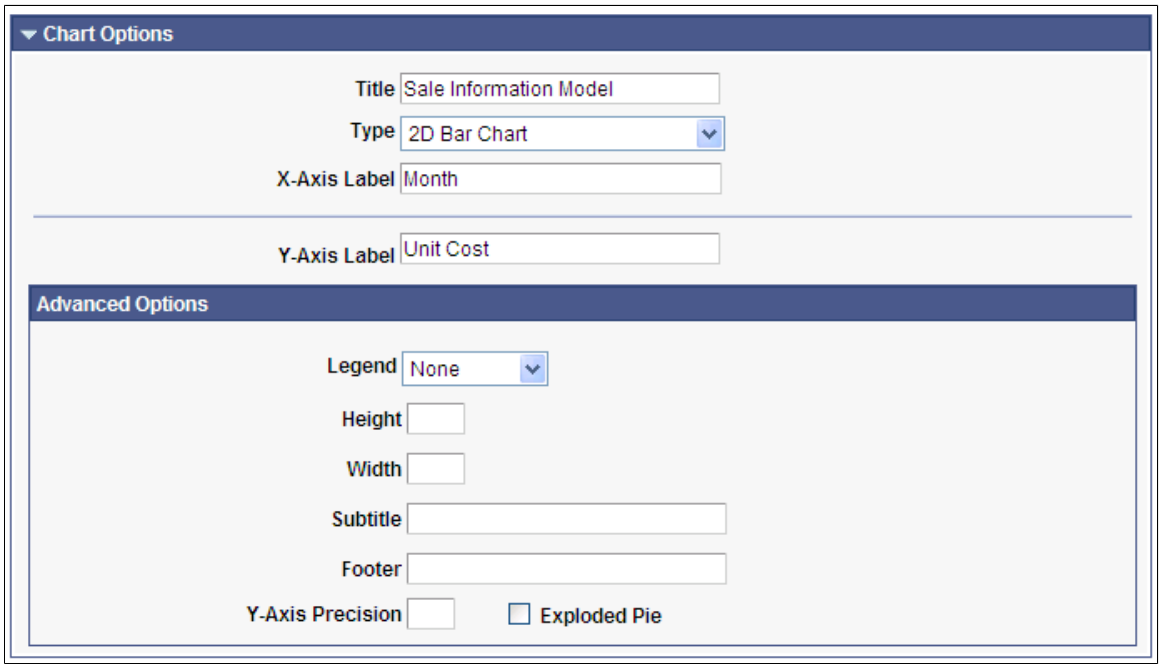
Chart Options

Expand the Chart Options section to enter additional chart options.

Image: Chart Options section

This example illustrates the fields and controls on the Specify Data Model Options page - Chart Options section. Definitions for the fields and controls appear following the example.



Title Enter a title for your chart. By default, the Pivot Grid model name is used.

Type All PeopleSoft chart types are available, including:

- 2D Bar Chart
- 2D Histogram Chart
- 2D Horizontal Bar Chart
- 2D Horizontal Percent Chart
- 2D Line Chart
- 2D Percent Bar Chart
- 2D Pie Chart
- 2D Stacked Bar Chart
- 2D Stacked Horizontal Bar
- 3D Bar Chart
- 3D Percent Bar Chart
- 3D Pie Chart

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	• 3D Stacked Bar Chart • Bubble Chart • Scatter Chart
X-Axis Label	Enter a label for the X axis. By default, the field name for the X axis is used.
Y-Axis Label	Enter a label for the Y axis. By default, the field name for the Y axis is used.
Advanced Options	Define display options for the chart, including chart legend, and height and width of the chart.
Legend	Select a legend for the chart. The available options are *Bottom*, *Left*, *None*, *Right*, and *Left*. By default, the *None* option is selected.
Y-Axis Precision	Enter the number of decimal places in the Y-axis values. For example, when the Y-Axis Precision has a value of *2*, the Y-axis in the chart has two decimal values. **Note:** When the pivot grid display is a pie chart type then the Y-Axis Precision is disabled and considered as 0.
Exploded Pie	Select to view the 2D or 3D charts with exploded sectors.

Display Options

Use the Display Options section to hide chart icon shortcuts and to disable menu options in the Pivot Grid display. This configuration is at the model level and is applicable for all views.

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For example, if the Hide Chart, Pie Chart, and Horizontal Bar Chart options are deselected in the Display Options section, then in the Pivot Grid display, the Hide Chart option in the Option Menu drop-down list is disabled and the Pie Chart and the Horizontal Bar Chart icons are invisible.

Image: Display Options section

This example illustrates the fields and controls on the Specify Data Model Options page - Display Options section with the Hide Chart, Pie Chart, and Horizontal Bar Chart options deselected.

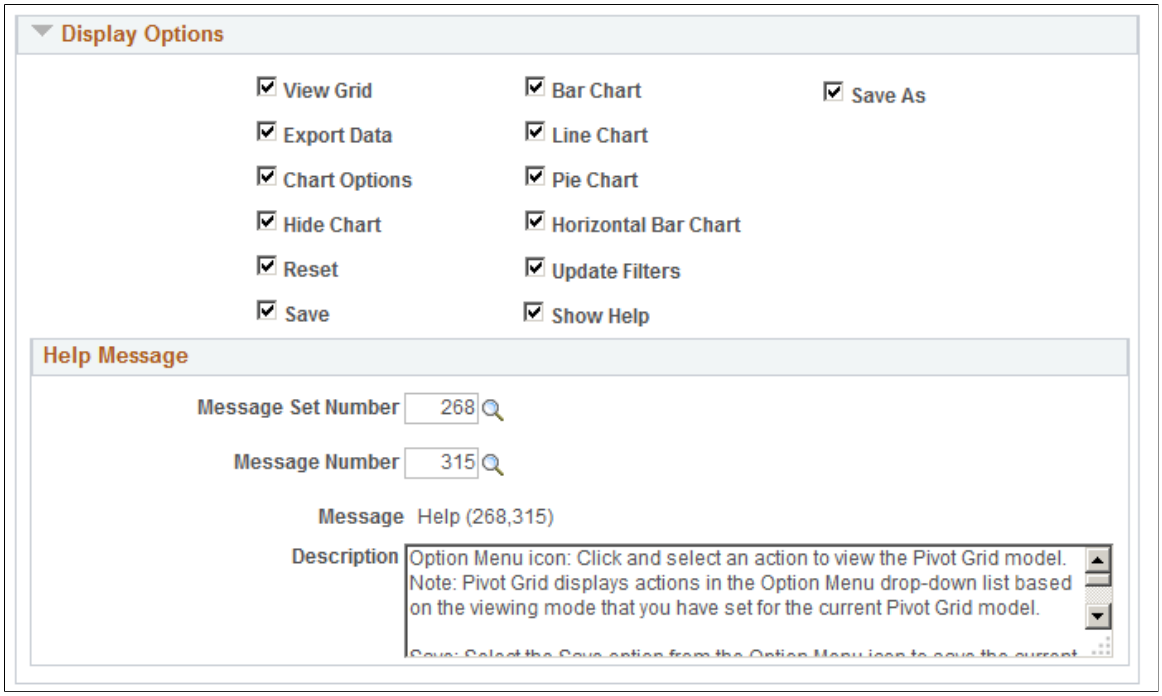

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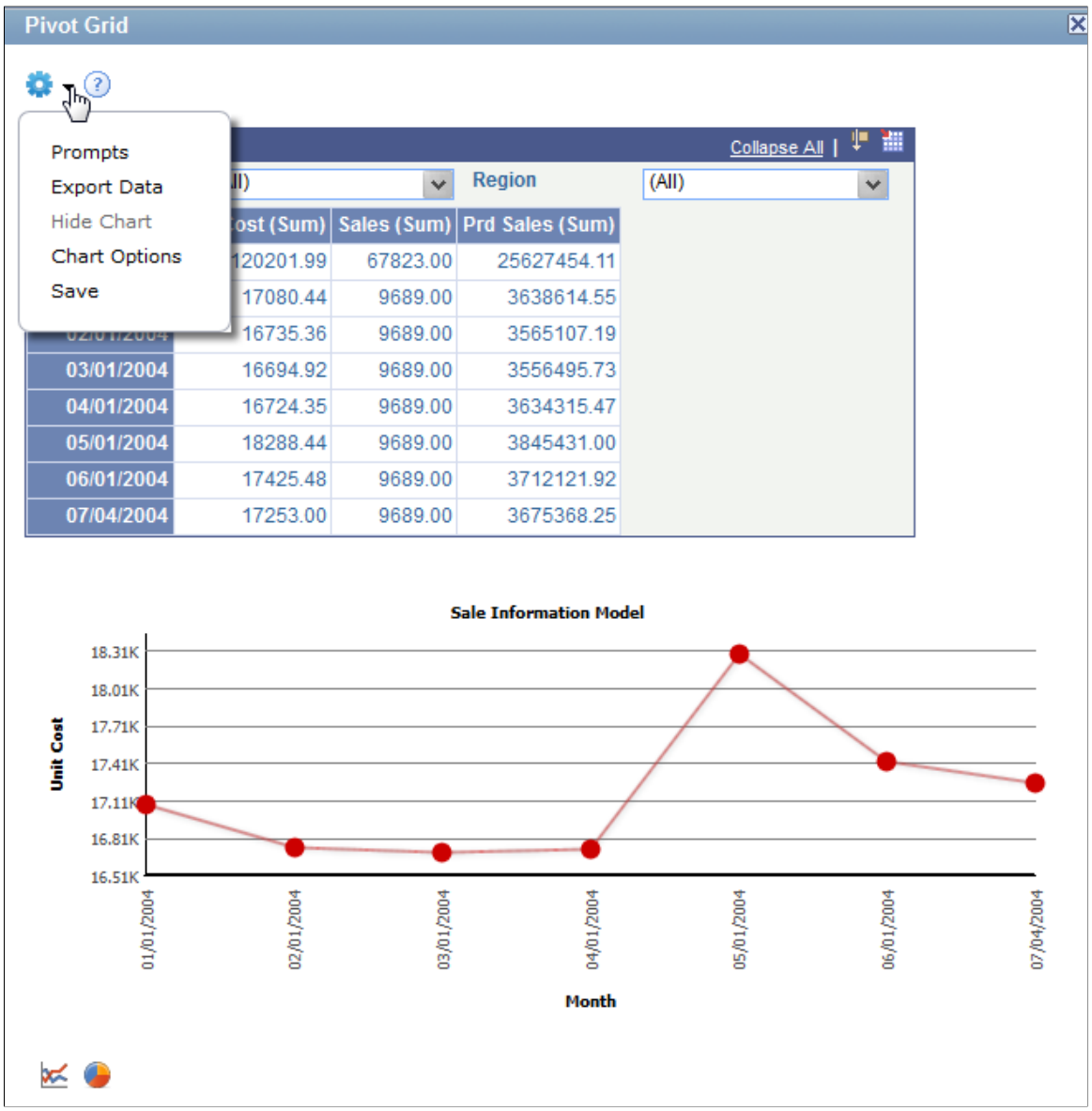
Image: Pivot Grid display without some viewer options

This example illustrates the Pivot Grid display with the Hide Chart option in the Option Menu drop-down list disabled and the Pie Chart and the Horizontal Bar Chart icons made invisible.



Note that following points when you set the values in the Display Options section:

- If no view option is selected in the Display Options section and if all prompts are set to invisible, then the Options Menu is invisible in Pivot Grid Viewer.
- Irrespective of how you set the View Grid option in the Display Options section, the View Grid option is always available in the Options Menu for the chart-only models in accessibility mode.
- You can selectively show and hide prompts using the Select Query Prompt Values section in the Pivot Grid Wizard – Specify Data Model Values page.
- If the Show Help option is selected, the embedded Help icon is available in the Grid Viewer page.

Note: The Help icon is shown only in the classic viewer and it is unavailable in Fluid viewer.

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- Use the Help Message section to define the help information. The default help message is from message set number 268, and the message number 315. The message catalog entry is parsed for special placeholders %PBCTXT(PTPG_PSPGVIEWER). Note that the Help URL field in the Web Profile Configuration page must be specified (by selecting PeopleTools, Web Profile, Web Profile Configuration).

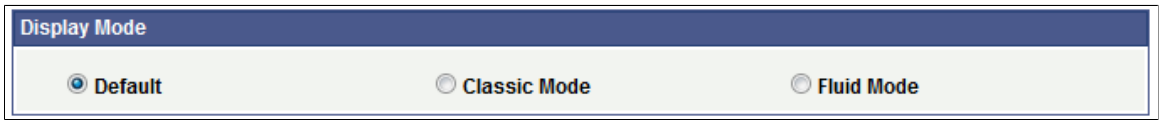
  See *Entering Embedded Help Messages in the Message Catalog* in "Configuring Embedded Help for Scroll Areas and Grids" (PeopleTools 8.54: Application Designer Developer's Guide).

Display Mode

You are able to specify a display mode at the view level for PSQuery Pivot Grid models. The selected option in this section can override the viewer that is used for opening the Pivot Grid view.

Image: Display Mode section

This example illustrates the fields on the Specify Data Model Options page - Display Mode section.



Default Select this option to unable the system to perform redirection in the Pivot Grid viewer. If either the classic Pivot Grid Viewer or the Fluid Viewer is invoked, that view is used directly.

Classic Mode Select this option to enable the system to always open the Pivot Grid view in the classic Pivot Grid Viewer. If the view is opened using the Fluid Viewer URL, it is redirected to the classic Pivot Grid Viewer.

Fluid Mode Select this option to enable the system to always open the Pivot Grid view in the Fluid Pivot Grid Viewer. When the view is opened using the classic Pivot Grid Viewer URL, it is redirected to the Fluid Pivot Grid Viewer.

Note: Similar display mode settings are also available in the Pivot Grid Views Component page that is accessible using the Configure Pivot Grid Views link in Pivot Grid Wizard - Step 5 or in Pagelet Wizard - Step 3.
See Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.

When you set the display mode, note that:

- The display mode supports redirection at the viewer-level only. When applications reuse the Fluid Pivot Grid subpages, they need to redirection to classic viewer if the display mode is set to Classic Mode.
- You should not add Fluid mapping to the classic Pivot Grid component because it might cause circular dependency and interfere the view-level setting that is set in Pivot Grid views.
- The Display Mode section is available only for the model that has PSQuery as data sources.
- Pivot Grid pagelets always appears in the classic view and ignores the setting in the Display Mode section because pagelets are classic-only components.

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- In grouplets, the Display Mode setting is ignored on the tiles that are displayed in the home screens. However, clicking the tile redirects depending on the Display Mode setting.
- The Pivot Grid Viewer search page disables the Open in Fluid Mode option when the Classic Mode or the Fluid Mode display mode option is selected.

  For example, the PG_GRIDANDCHAR model has two view with the classic mode (CHARTONLY_C) and Fluid mode (CHARTONLY_F) enabled. In the Pivot Grid Viewer search page, the Open in Fluid Mode options are disabled for both views. These option is selected or cleared based on the display mode that you selected in the Display Mode section.

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Fluid Mode Options

You use the Fluid Mode Options section to define the display the view of the Pivot Grid models in the Fluid mode.

Image: Fluid Mode Options - List View Options

This example illustrates the fields and controls on the Specify Data Model Options page - Fluid Mode Options - List View Options section.

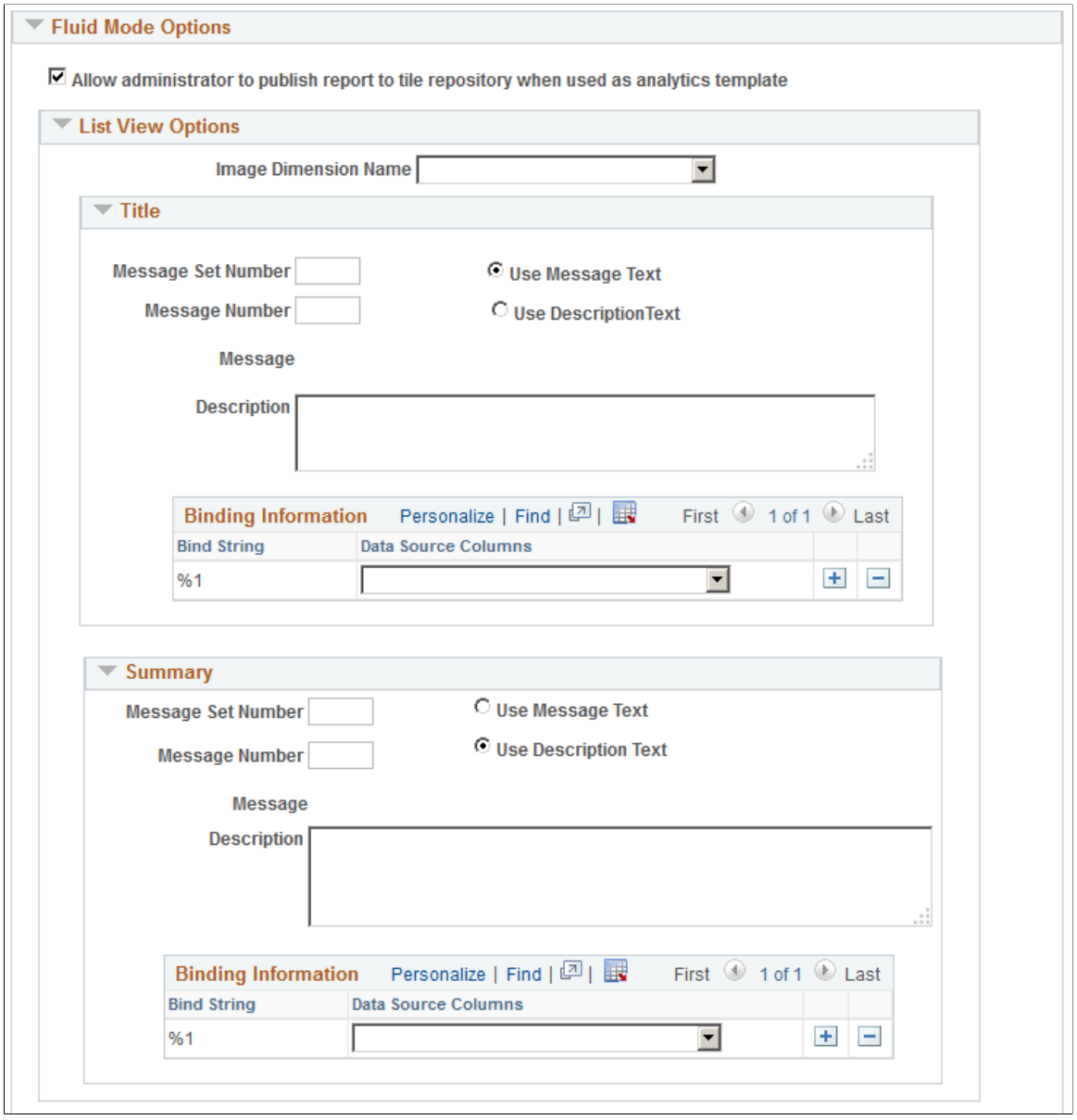

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Image: Fluid Mode Options - Viewer Options

This example illustrates the fields and controls on the Specify Data Model Options page - Fluid Mode Options section - Viewer Options region.

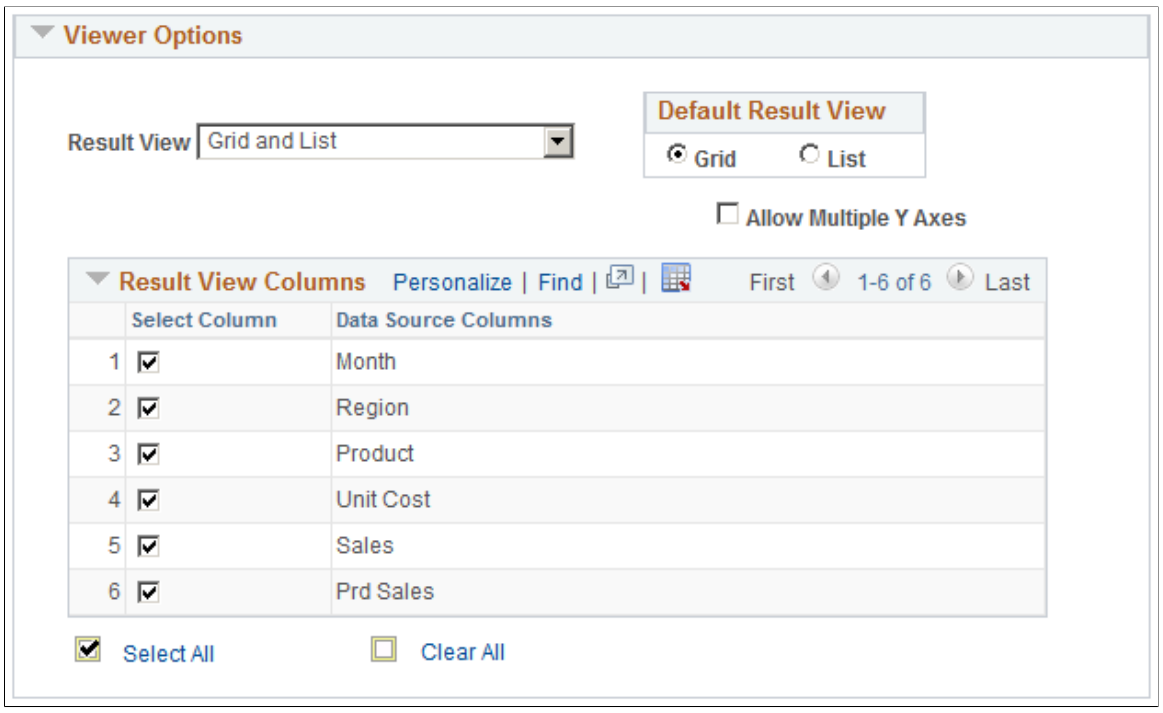
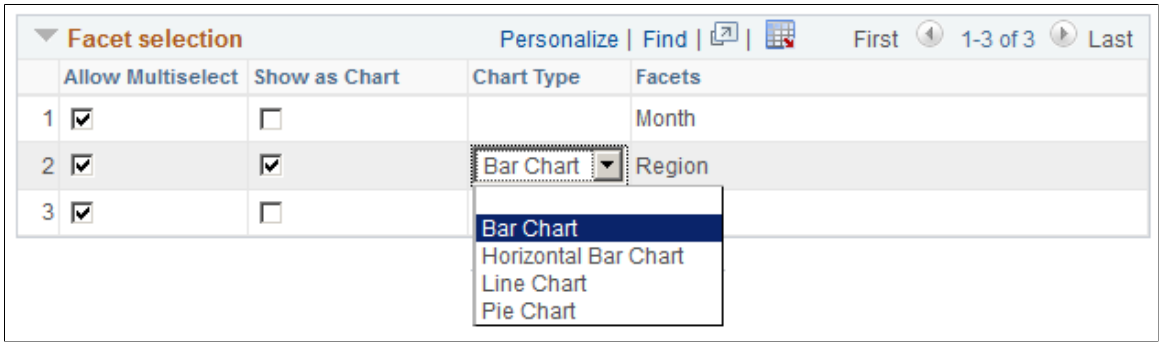


Image: Fluid Mode Options - Facet Options

This example illustrates the fields and controls on the Specify Data Model Options page - Fluid Mode Options section - Facet Options region.



Viewing Pivot Grid Displays

Use the Pivot Grid Display page (PTPG_WIZ_DISP) to review the Pivot Grid model based on the display option and layout selected. Optionally, you can modify the Pivot Grid model to finalize the design and then click the Save button to save it. Pivot Grid model metadata is saved to the database.

Note that Pivot Grid displays the value 0 (zero) in the grid cell if:

- No data for the grid intersection point exists.

  In this case, Pivot Grid displays 0 as text, and you cannot drill down to details from this text.

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- Aggregate function returns 0 for the grid intersection. A common use case could be *+ve* and *-ve* values adding up to 0 for the Sum aggregate.

  In this case, Pivot Grid displays 0 as a link, and you can drill down to details from this link.

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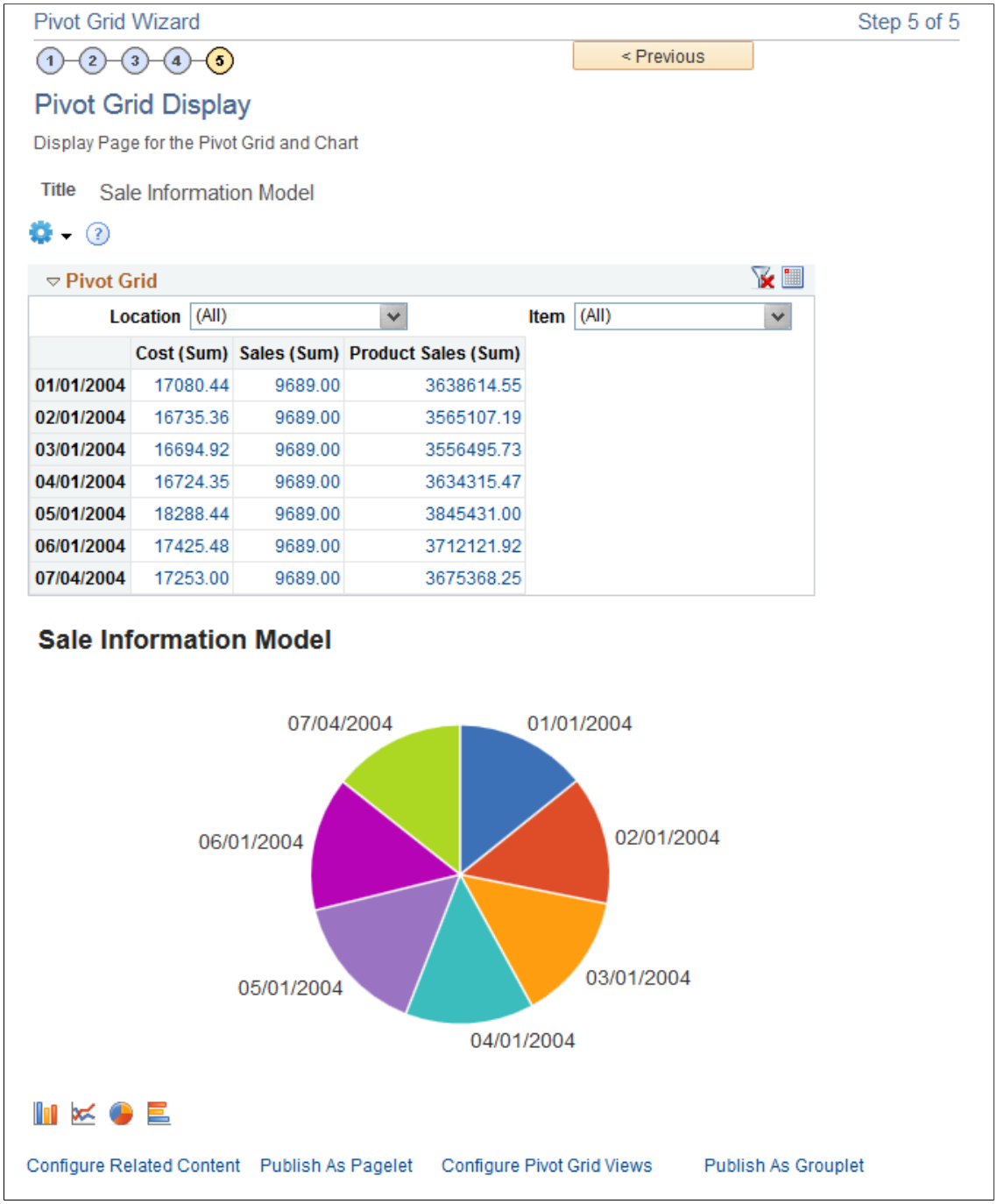
Navigation

Access the Pivot Grid Display page by selecting the Next button on the Specify Data Model Options page.

Image: Pivot Grid Display page

This example illustrates the fields and controls on the Pivot Grid Display page. Definitions for the fields and controls appear following the example.



Use the Option Menu icon to select the actions for viewing the Pivot Grid model.

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- Export Data: Select to export the underlying PSQuery data to Microsoft Excel.
- Chart Option: Select to open the User Charting Options dialog box, where you can change the chart layout, chart axes, and filters.

Note: To drill down on the chart, click the chart data points. To drill out on the chart, click the drillout link, which appears as a locator link at the top of the chart.

If the Pivot Grid model is in the Chart Only mode or in the Pivot Grid and Chart mode, the available options are Export Data and Chart Option.

If the Pivot Grid model is in the Pivot Grid Only mode, the available option is Export Data.

Note: The options Prompts, Reset, Save, View Grid, Display Chart, and Hide Chart are not available in the Pivot Grid Wizard because these options are viewer-only options.

Click the Help icon to display the Help - Pivot Grid dialog box, where you can view the help information that you have defined for all actions for this Pivot Grid model.

Expand All and Collapse All

The Expand All or Collapse All link appears when the Pivot Grid model contains dimensions with totals on the lowest level of the grid row or column. These links are not available for the Pivot Grid models that have no totals defined for dimensions on the grid row and grid column.

Click the Expand All link to expand all the positions on the grid row and column; the Collapse All link appears.

Click the Collapse All link to collapse all the positions on the grid row and column; the Expand All link appears.

Click the Bar icon to display data in a bar chart.

Click the Line icon to display data in a line chart.

Click the Pie icon to display data in a pie chart.

Click the Horizontal Bar Chart icon to display data in a horizontal bar chart.

Configure Related Content

Click to access the Assign Related Actions page, where you can assign services to be used as Related Actions, select the service target to determine where the service will be displayed, and define the parameter mappings and options for the service.

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Note: The Configure Related Content link is available after you save the Pivot Grid model.

See Using and Configuring the Related Actions Menu.

Publish as Pagelet

Click to access the Review Pagelets dialog box, where you can view a list of pagelets that are using the current Pivot Grid model and where you can create home page and template Pivot Grid pagelets without navigating to the pagelet wizard.

You can also add new, delete, or update existing pagelets that are based on the specific Pivot Grid model that you edited in the wizard.

Note: The Publish as Pagelet link is available after you save the Pivot Grid model.

See Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.

Configure Pivot Grid View

Click to access the Pivot Grid Views Component dialog box, where you can create or edit existing views that are associated with the current Pivot Grid model.

Note: This link is available only after the Pivot Grid model is saved for the first time; for example, in Update or Correction mode.

See *Defining the Pivot Grid Display Options* in Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.

Publish as Grouplet

Click to enable the Pivot Grid model to be published as a tile and included in the landing pages. The tile can contain the Pivot Grid chart as the dynamic tile content.

See Publishing Pivot Grid Fluid Views as Grouplets.

Note: When working with the Pivot Grid Wizard, you can modify your previous selections at any step by clicking the step number icons. Changes to your selections could change the Pivot Grid model.

Example: Specifying Data Model Options

The way you define the data model determines the actions that are available in the pivot grid, as well as the initial view. This topic provides some examples of data sources designed to use a filter, multiple filters, a Series, and an overlay.

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Using a Filter

Image: All axis columns have Total selected

In this example, all the axis columns have Total enabled.

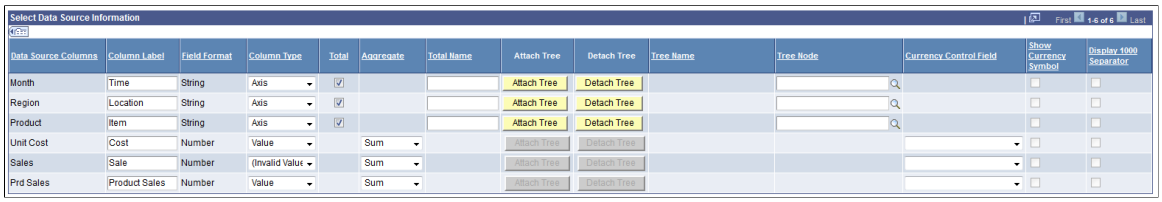

Image: Example of filtering on Month

In this Data Source page example, Month is defined as a filter.

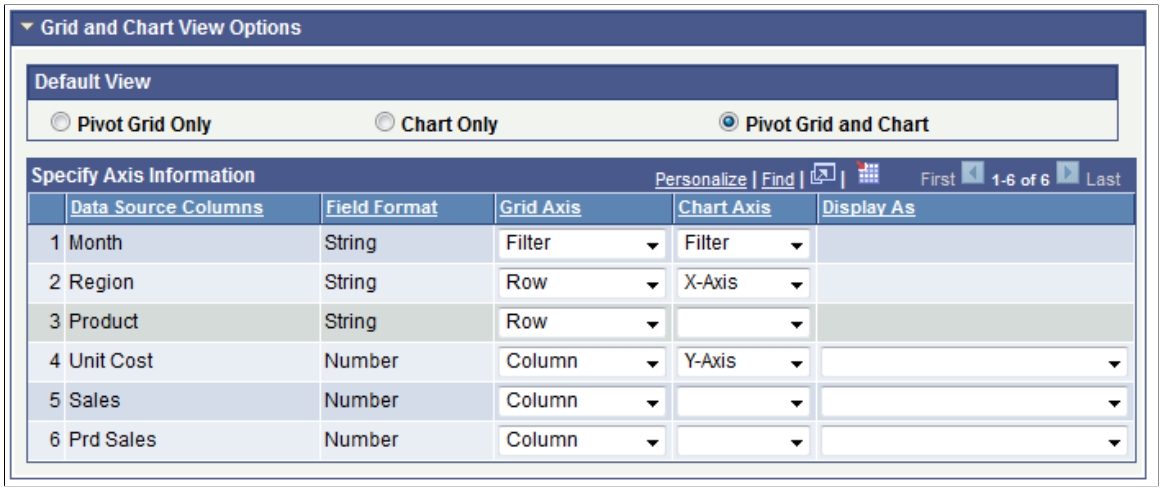

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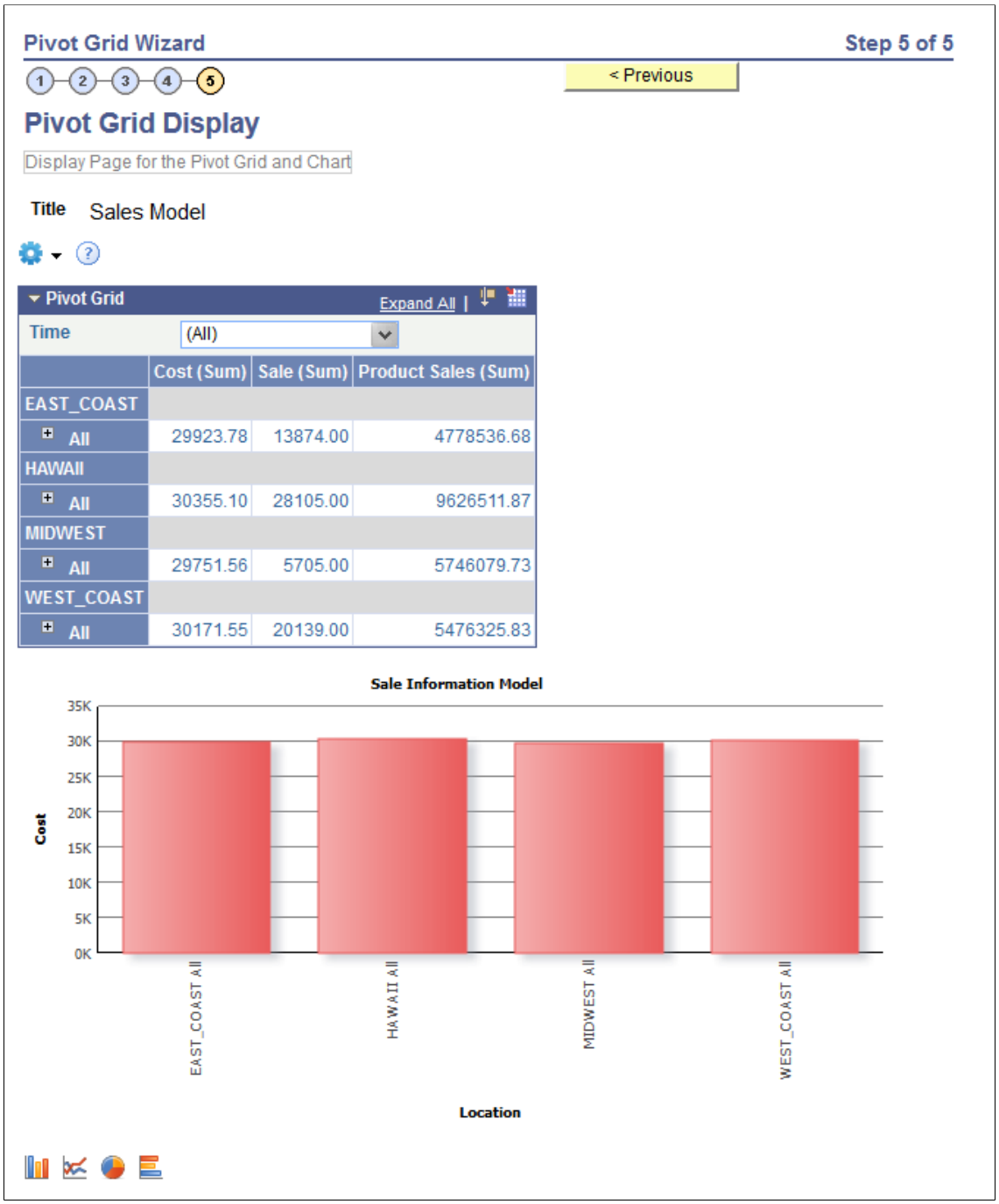
Image: Example of a Pivot Grid model when the display option is Pivot Grid and Chart

This example shows the view of a Pivot Grid model when the display option is Pivot Grid and Chart and the filter is set to Month (Time).



You can change the grid layout at runtime by dragging members onto a different axis; the chart layout also changes based on the grid layout to preserve synchronization between the grid and the chart. You can also select the Chart Options option from the Option Menu icon to change the chart type and the Y axis of the chart.

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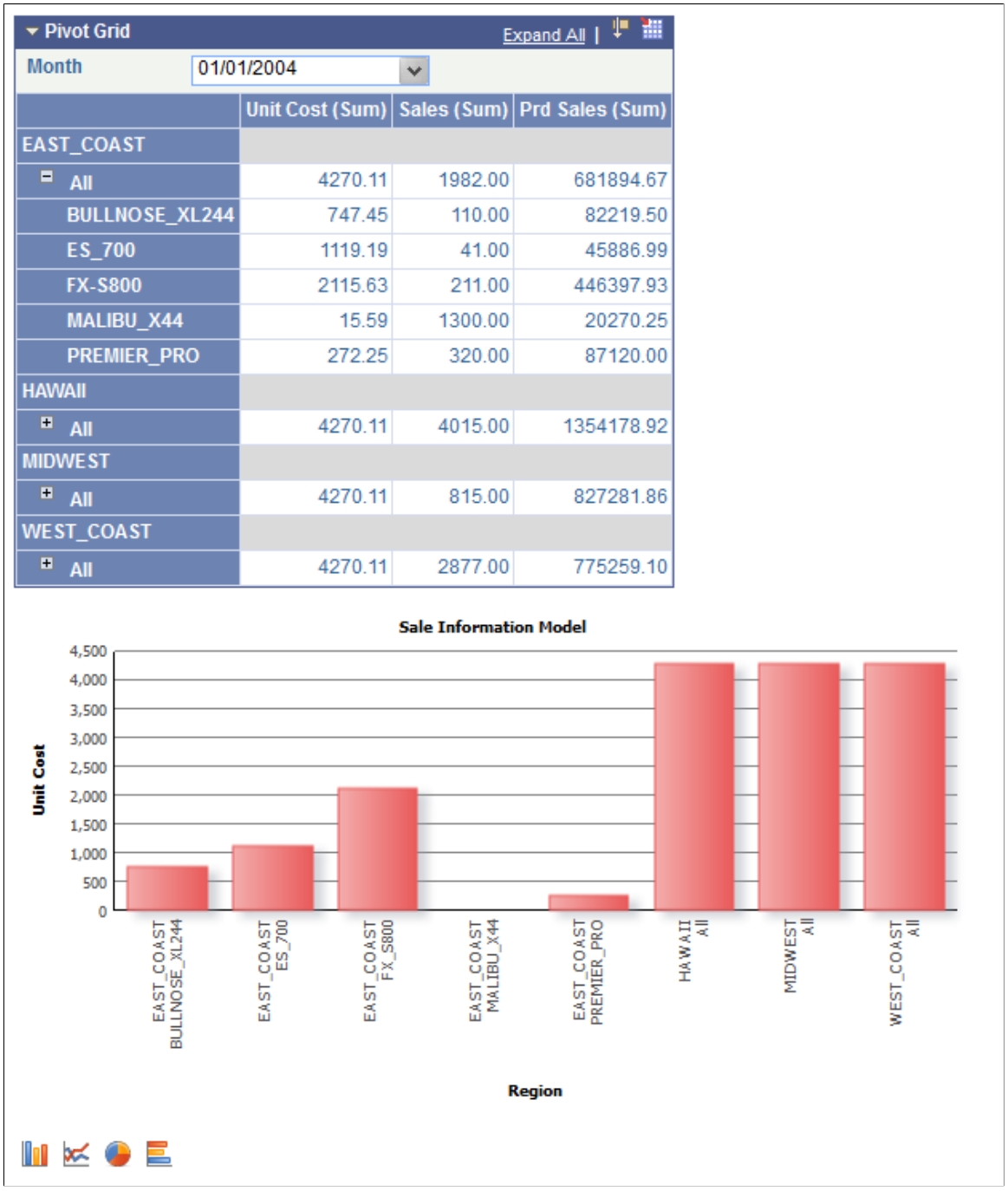
Drilling Down on a Region

The Pivot Grid displays detailed data based on the region on which a drill-down is performed. For the chart, the same data appears for the selected Value column. You can select the chart type and change the Y axis by selecting a different Value column to be plotted.

Image: Example of a Pivot Grid model when the display option is Pivot Grid and Chart and the user drilled down on a region

This example shows a Pivot Grid model when the display option is Pivot Grid and Chart and the user drilled down on a region.



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Using Multiple Filters

Image: Data model with multiple filters

In this example, Product and Month are defined as filters.

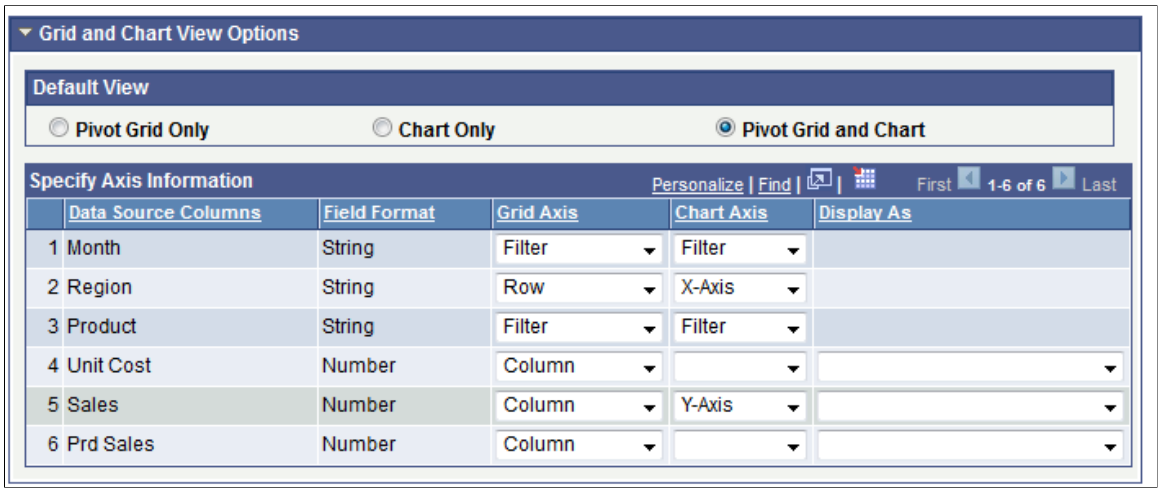

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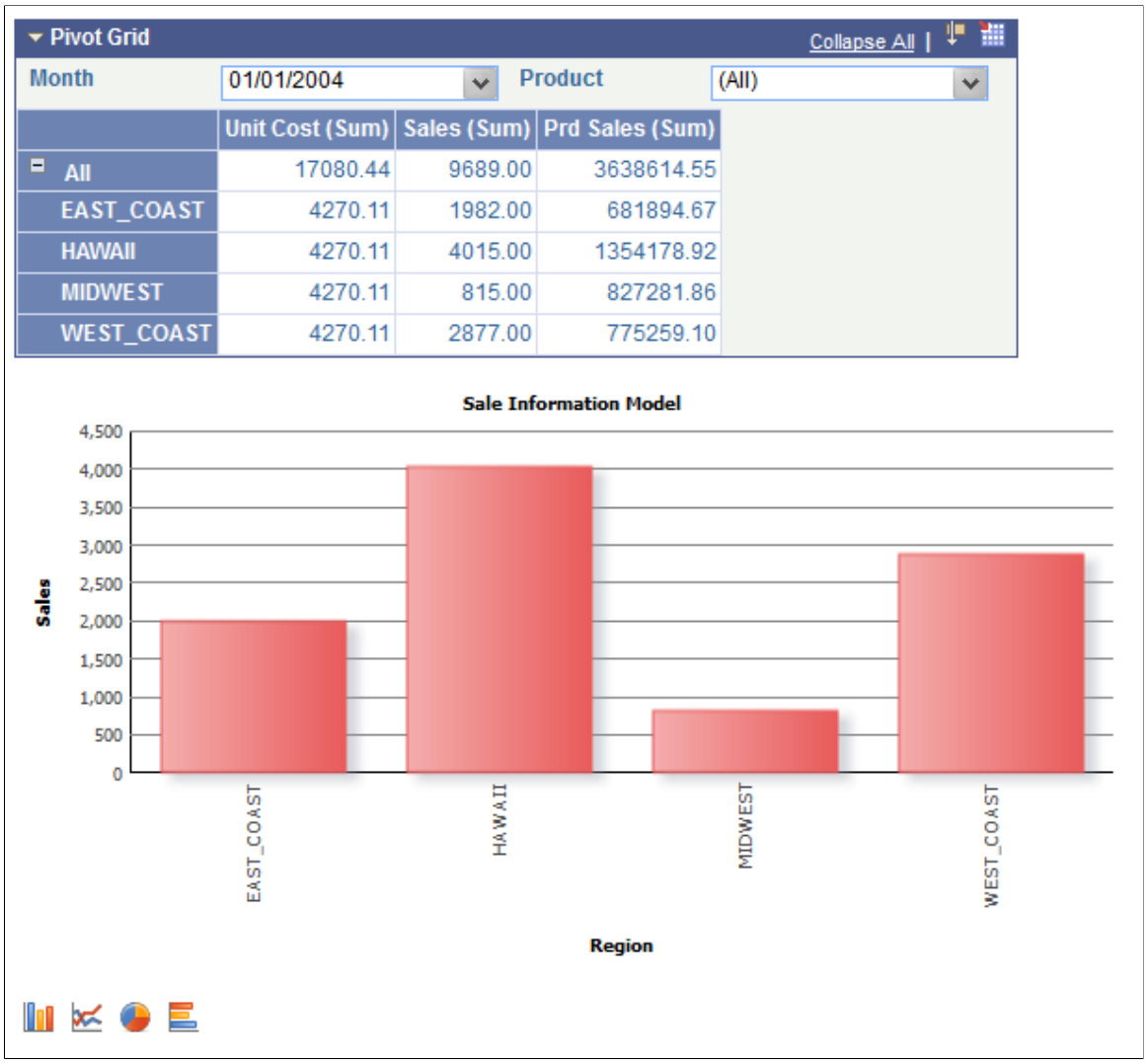
Image: Example of Pivot Grid with Month and Product fields as report filters

These same filter values also drive the chart. The X axis of the chart is preselected based on the grid layout. You can select the chart type and the Y axis.



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Using a Series

Series value is automatically determined for the chart when the display option is *Pivot Grid and Chart.* The automation is dependant on the grid layout; if any dimension (axis type) is selected on the column, then it is automatically selected as a series for the chart.

Image: Using Month for a series

In this example, all the axis columns have All (Total) enabled. On the Data Source page, Month is defined as column axis and used as a series.

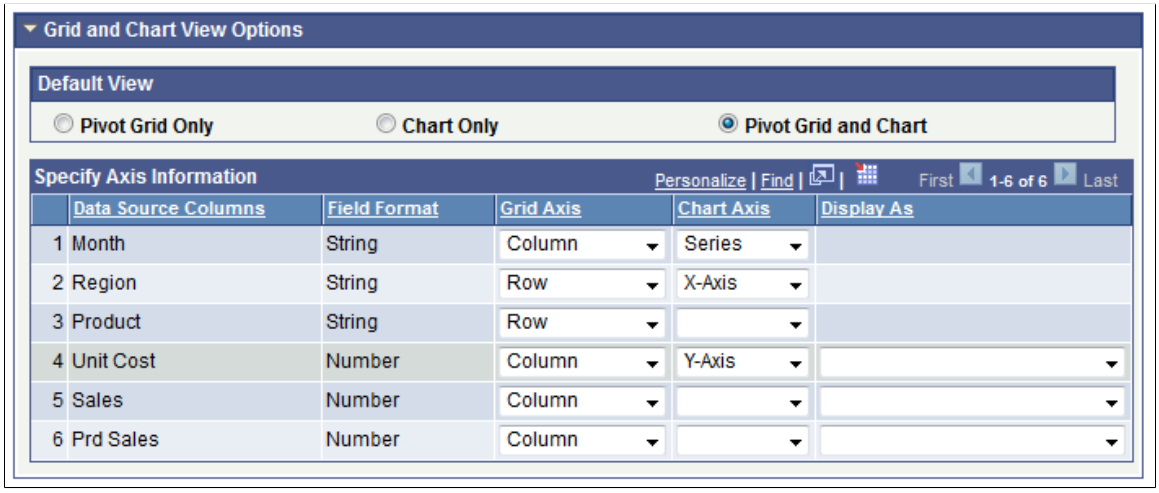

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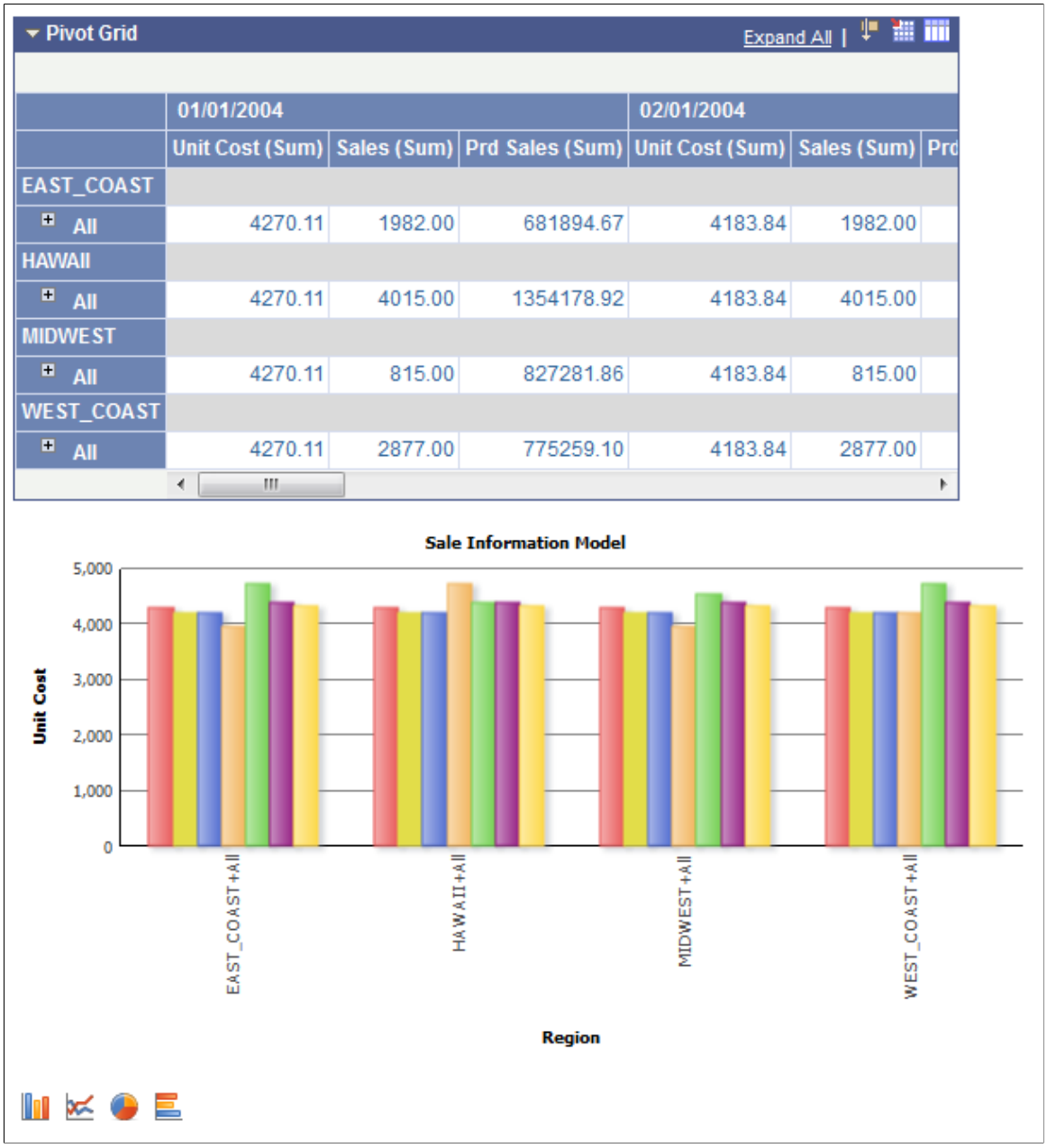
Image: Months displayed as a series on grid and chart

This example shows the grid and chart with detailed data based on the Month field.



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Using an Overlay

Note: Chart overlay is available when the display option is *Chart Only* and the data appears in bar charts.

Image: Specify Data Model Options page, example of using overlay

If the display option is *Chart Only* in the Specify Data Model Options page, selecting a column as an overlay field results in plotting multiple charts based on the Y axis and the overlay field. In this example, Unit Cost is used as an overlay field.

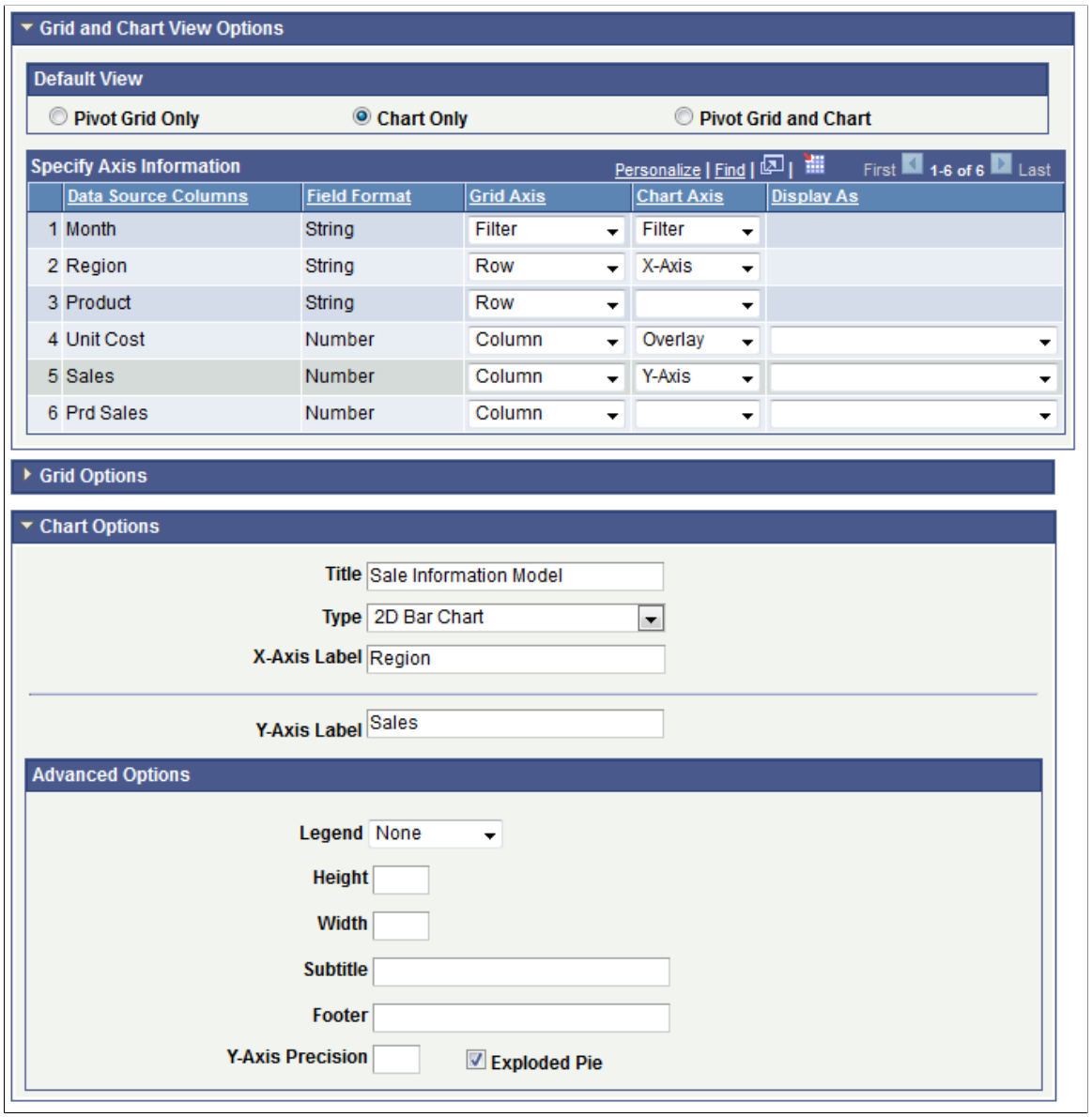

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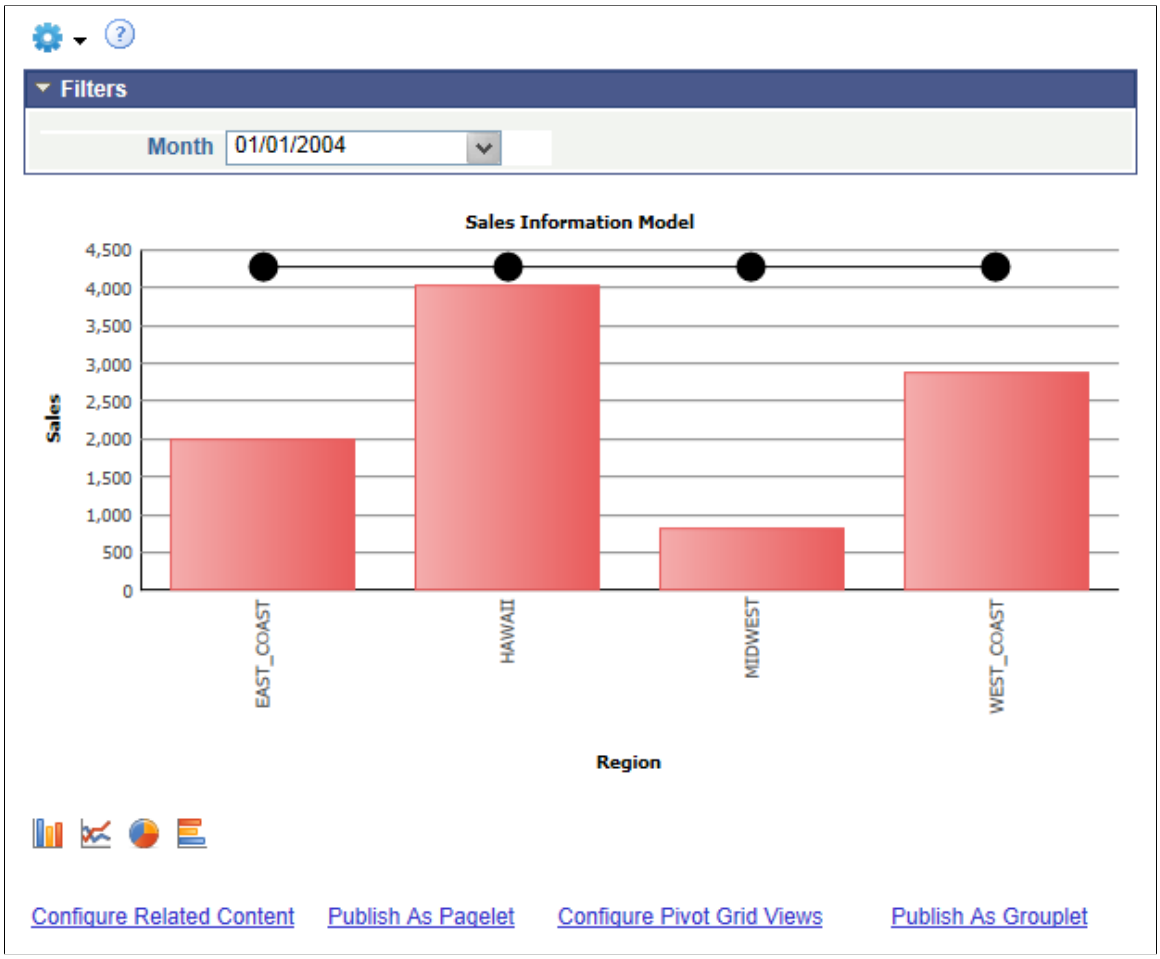
Image: Initial display for overlay

The chart is plotted with Region as the X axis and Unit Sales as the Y axis. The second chart is plotted with Region as the X axis and Unit Cost as the Y axis.



Note: You can change the overlay field using fields in the Specify Data Model Options page, Chart Options section.

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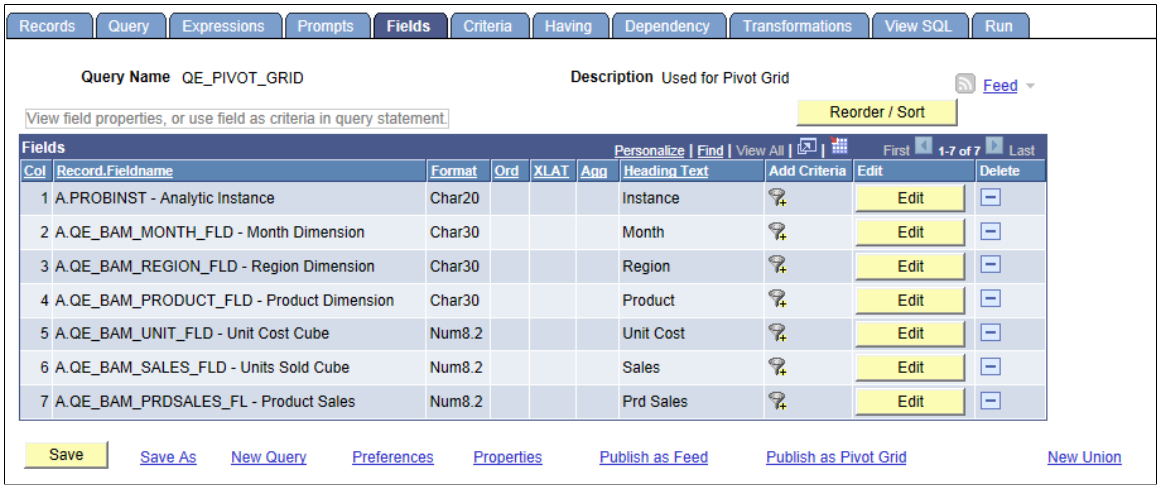
Creating a Pivot Grid Model Using Query Manager

From the Query Manager component, the Pivot Grid designer, application developers, or report administrators can use the Publish as Pivot Grid link to create or edit Pivot Grid models.

Image: Fields page

This example shows the Fields page in Query Manager, including the Publish as Pivot Grid link:



To create a Pivot Grid model using Query Manager:

1. From the Main Menu, select Reporting Tools, Query, Query Manager.
2. Open an existing query; in this example, open query QE_PIVOT_GRID.
3. Select the Fields tab.
4. Click the Publish as Pivot Grid link.

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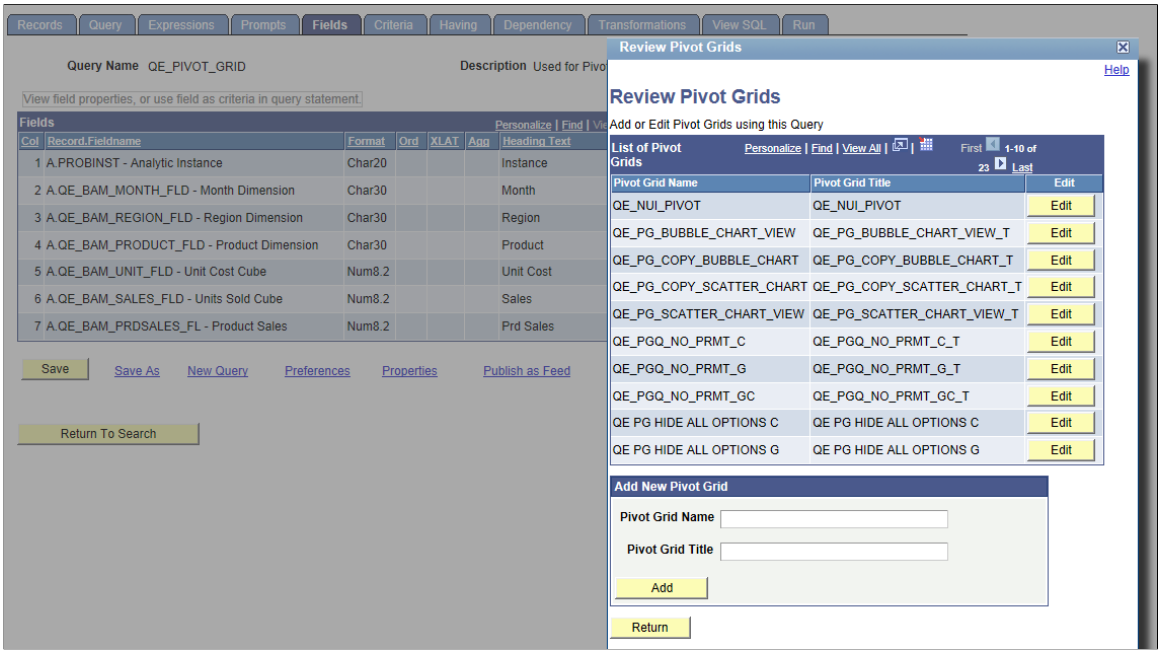
The Review Pivot Grids page appears listing all existing pivot grid models that currently use the query definition.

Image: Review Pivot Grids page

This example shows the Review Pivot Grids page.



5. From the Review Pivot Grid page, you can click either the Edit or the Add button to access the Pivot Grid Wizard – Select Data Source page (Step 2), where you can add new Pivot Grid models or update existing ones that are based on the current query.

   If you add a new Pivot Grid, you must enter a unique value in the Pivot Grid Name field and a Pivot Grid title. The query name and select columns are populated in the Select Data Source page. The

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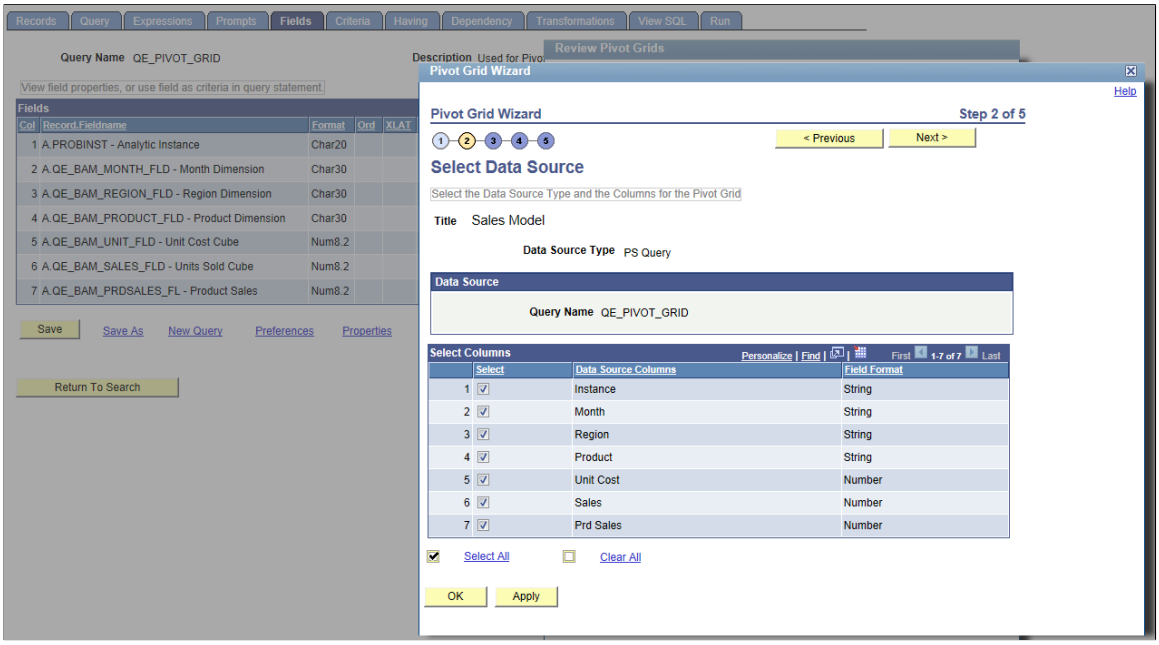
security is the same as in Pivot Grid Wizard. You are able to open and edit the Pivot Grid models that you are granted permission for (for example, Pivot Grid administrator or Pivot Grid model creator).

Image: Pivot Grid Wizard – Select Data Source page

This example shows the Pivot Grid Wizard – Select Data Source page.



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6. You can navigate through each step and complete the Pivot Grid model creation as in Pivot Grid Wizard.

Image: Pivot Grid Wizard – Specify Data Model Values page

This example shows the Pivot Grid Wizard – Specify Data Model Values page (Step 3).

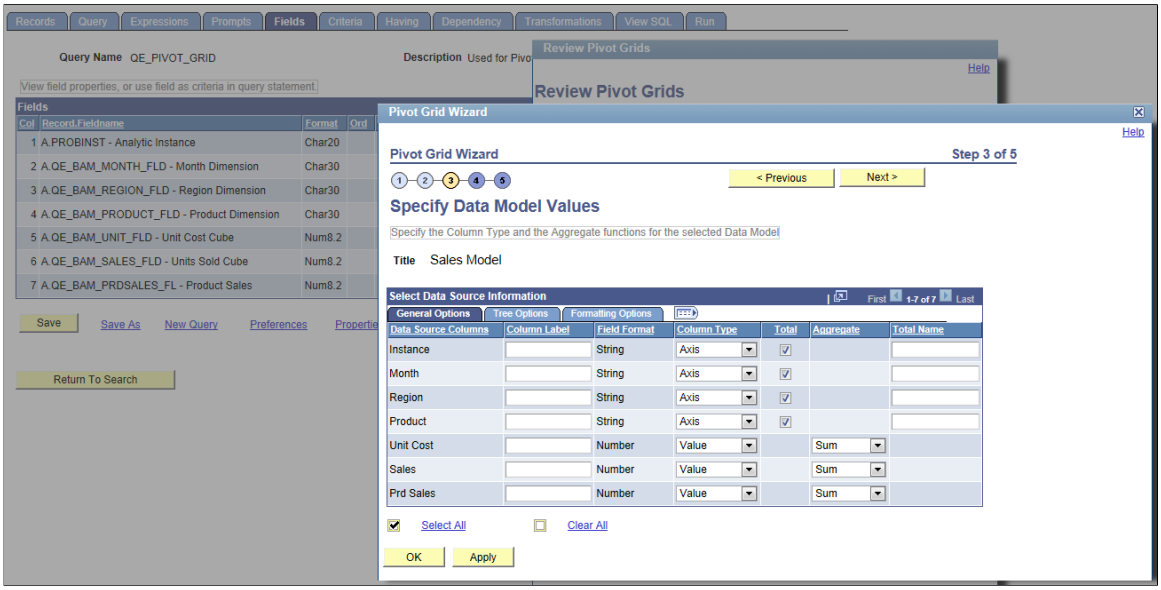

Image: Pivot Grid Wizard – Specify Data Model Options page

This example shows the Pivot Grid Wizard – Specify Data Model Options page (Step 4).

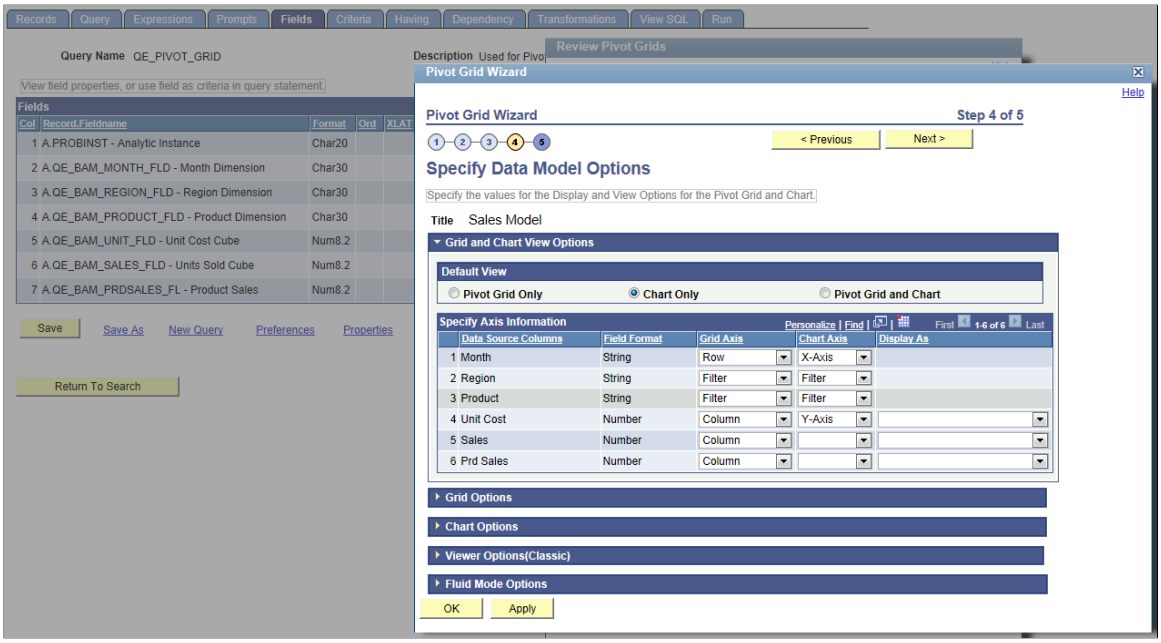

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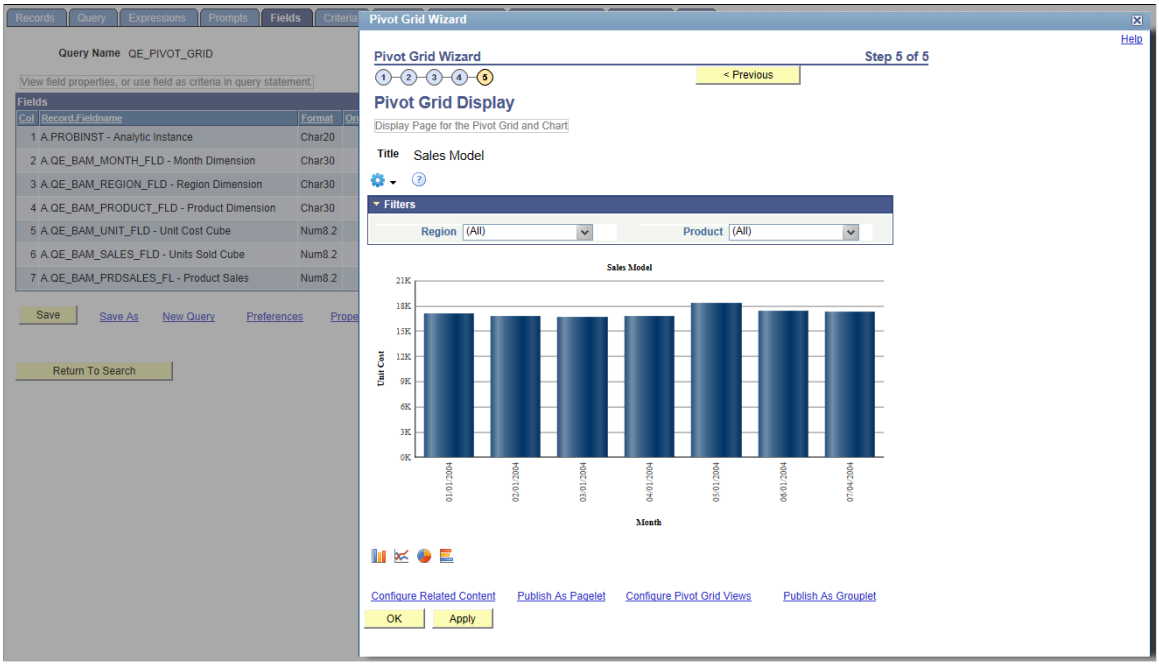
Image: Pivot Grid Wizard – Pivot Grid Display page

This example shows the Pivot Grid Wizard – Pivot Grid Display page (Step 5).



7. From the Pivot Grid Display page, you can:

   - Click the Apply button to save the wizard.

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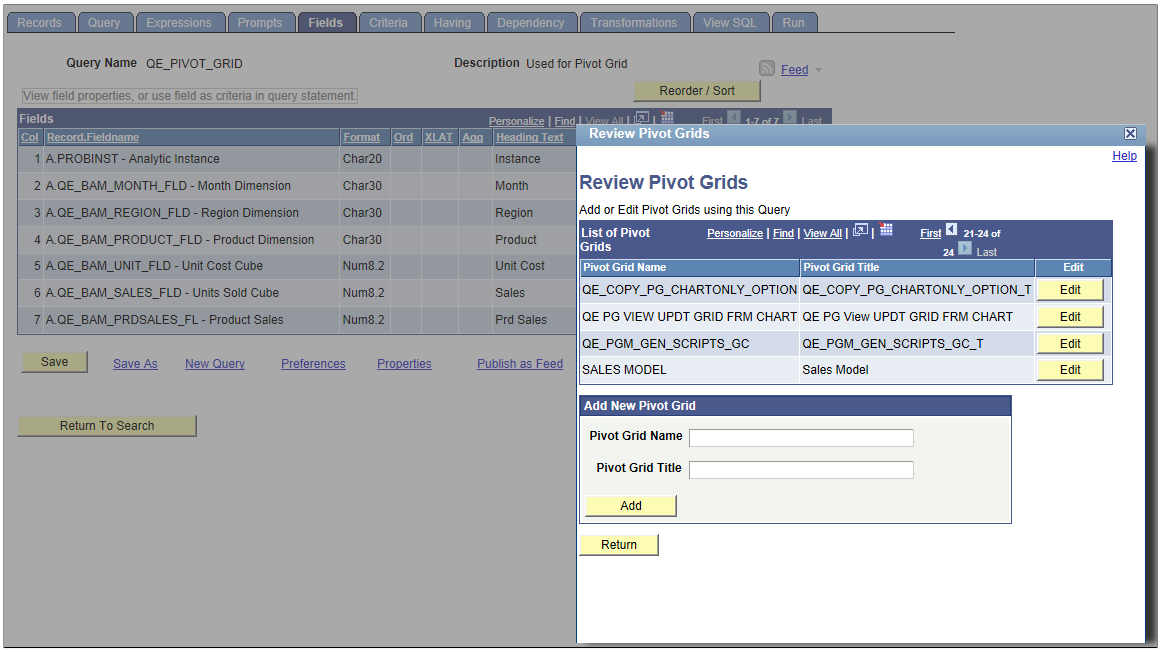
- Click the OK button to save and close the Pivot Grid Wizard window and return to the Review Pivot Grids page.

Image: Review Pivot Grid page

This example shows the Review Pivot Grid page. The Sales Model is created and listed as part of existing models.



See Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard.

Using and Configuring the Related Actions Menu

In the Pivot Grid wizard - Specify Data Model Values page, you can select the Display option to enable the column to appear in the detailed-data view of the grid and the chart. You can also select this column as a related action parameter for a Pivot Grid model in the detailed-data view.

In Pivot Grid models, you can configure the related action at the cell level in the grid. Each cell in the Pivot Grid model represents an aggregate fact value. For each fact, the combination of different dimensions is defined for each related action service. Clicking the fact value number populates a related action menu, which is a combination of all the related actions that were configured for that fact.

Note: If related actions are not configured for the Pivot Grid model, then clicking the fact value number opens the Detailed View page.
To drill down on the Pivot Grid charts, you must enter an authentication domain either when you set up the PeopleSoft Pure Internet Architecture or in the Web Profile page. See “Configuring General Portal Properties” in "Configuring Web Profiles" (PeopleTools 8.54: Portal Technology) and “Setting Up the PeopleSoft Pure Internet Architecture” in the Installation Guide.

To configure Related Actions from Pivot Grid Wizard:

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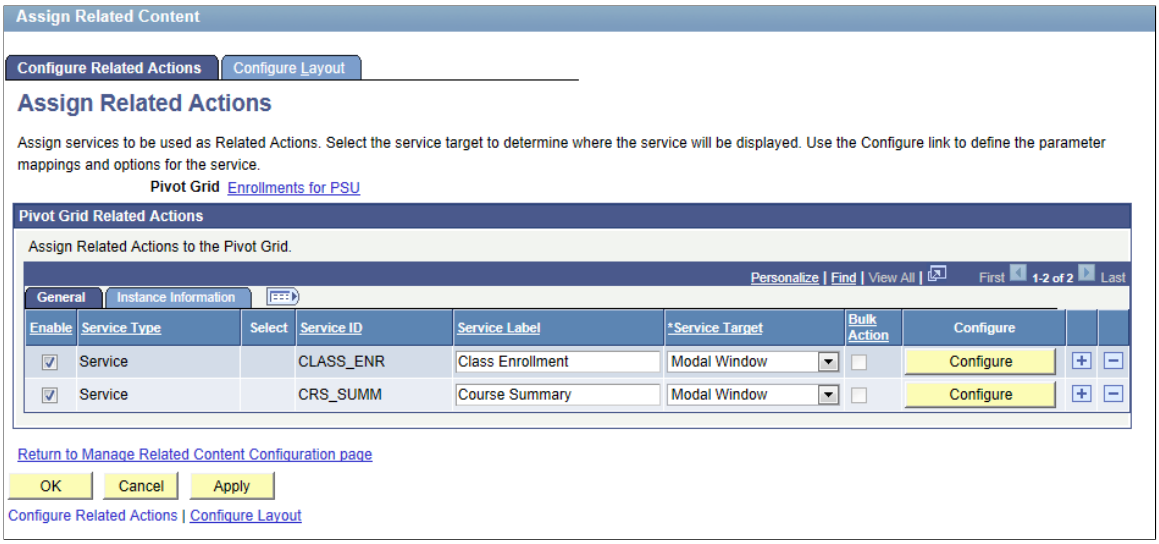
1. Select Reporting Tools, Pivot Grid, Pivot Grid Wizard.
2. Open an existing Pivot Grid model, and access Step 5 - Pivot Grid Display page.
3. Click the Configure Related Content link.

   The Assign Related Actions page appears.
4. Define the values for Service ID, Service Label, and Service Target.

   Image: Assign Related Actions page

   This example illustrates the fields and controls on the Assign Related Actions page.



5. Optionally, select the Bulk Action option.

   See the Using Bulk Related Actions in Pivot Grid Detail View section or Row-Level, Aggregate, and Bulk Related Actions section in Viewing Pivot Grid Models in Fluid Mode.

   Click the Configure button.
6. Set the Mapping Type to *Data Column*.
7. Click the search icon in the Select column to select an appropriate Pivot Grid data column.
8. In the Menu Options section:
   - Select the Detail View option to display the related actions menu only in the Detailed View grid.
   - Select the Aggregate View option to display the related action menu in both grid and chart.

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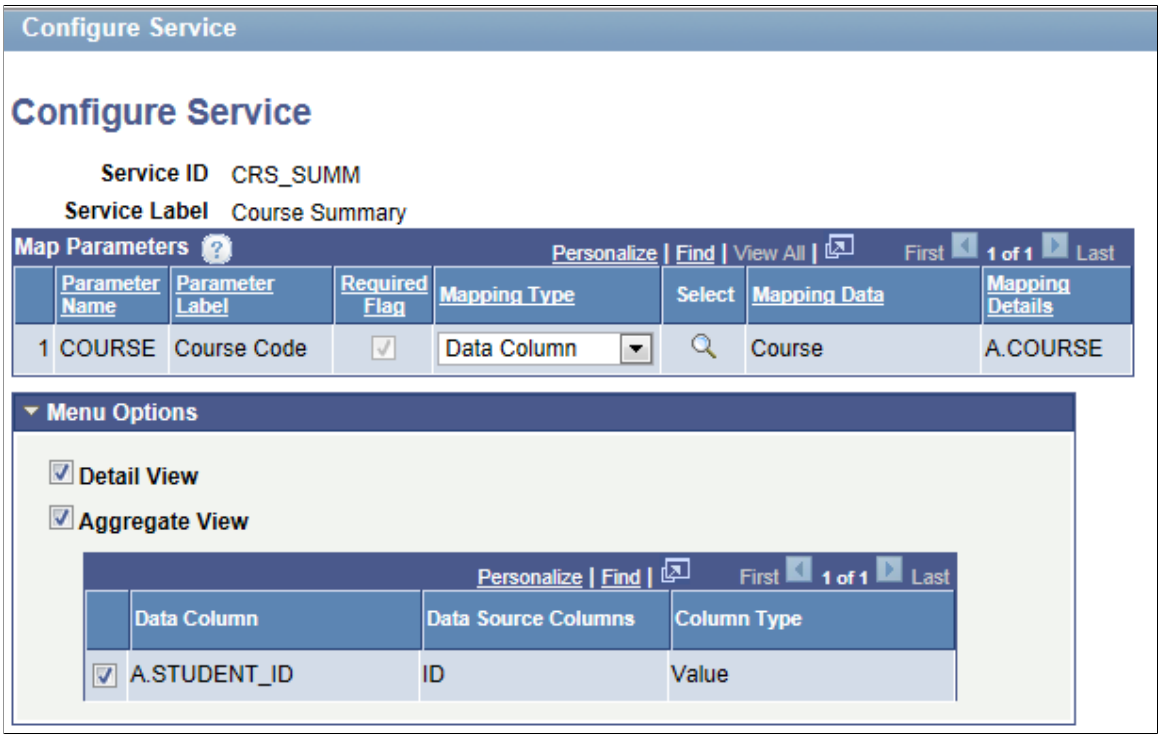
- Select the data columns on which you want to show the menu.

Image: Configure Service page

This example illustrates the Configure Service page.



9. Click the OK button to exist the Configure Service page, and click the OK button again to exist the Assign Related Actions page.

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10. Save your settings.

Image: Related Actions menu in a chart-only model

This example illustrates a chart-only model with the related action menu opened in chart. Note that, in a chart view, clicking the chart displays the related actions for the fact being plotted on the Y axis. The related actions are a combination of all the related actions that were configured for the facet.

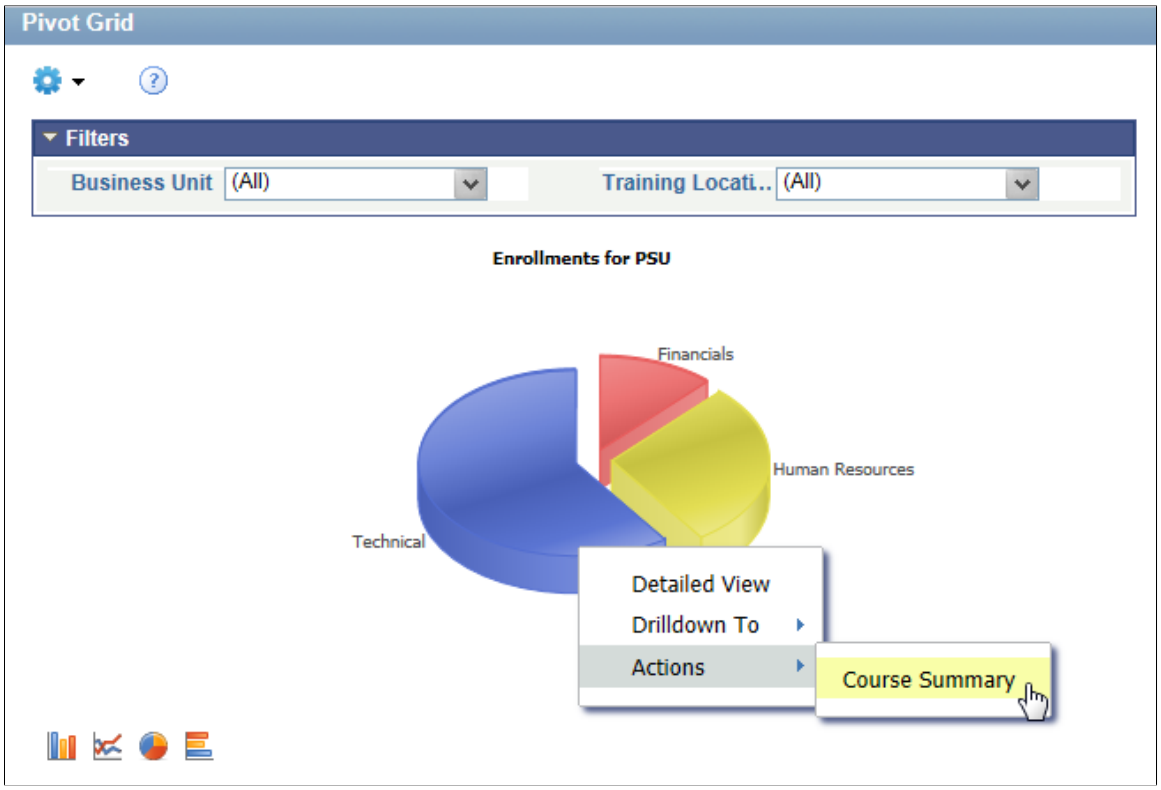

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Image: Related Action menu in the grid area of a grid-only model

This example illustrates a Pivot Grid Only model with the related action menu opened in grid.

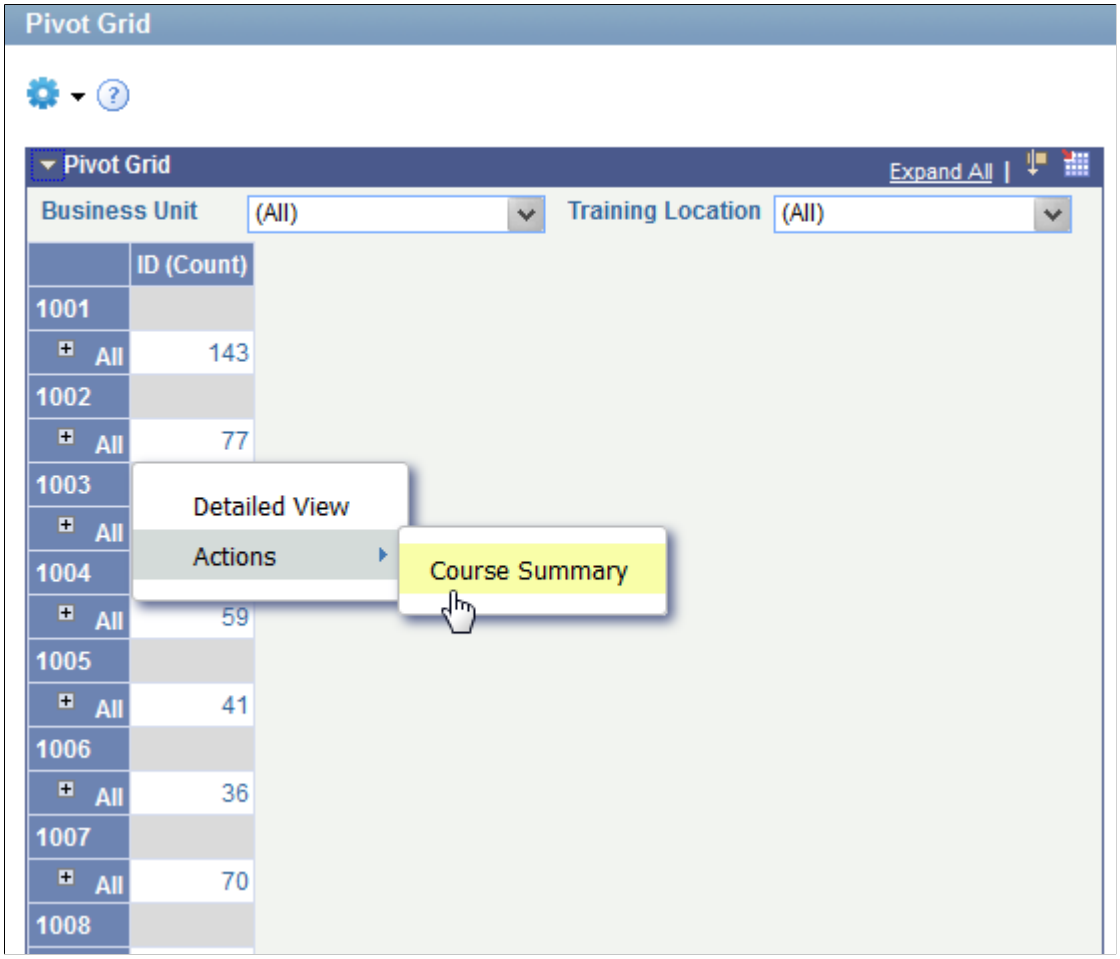
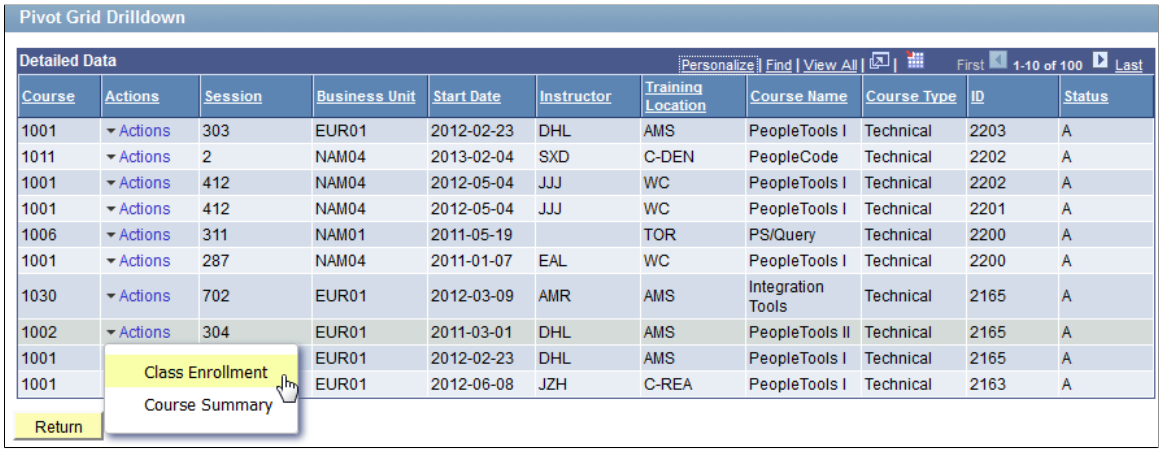


Image: Related Action menu in the Detailed View of a chart-only model

This example illustrates a related action menu that is opened in the Detailed View of a chart-only model. Note that, in the Detailed View, a related action widget aggregates all the related actions for all the facts and dimensions for a row.



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Using Bulk Related Actions in Pivot Grid Detail View

In the Pivot Grid Viewer, the Bulk Mode option is available in Detail View if the related content definition is configured to be in the bulk mode. You can use the Define Related Content Service page (Portal, Related Content Service, Define Related Content Service) to set the related service definition and to enable the Bulk Mode option for the Pivot Grid models.

Selecting the Bulk Mode option in the Detail View populates the Bulk Actions link and the action check boxes for every row in the grid. When you select one or more action check boxes and click the Bulk

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Actions link, a related action menu appears, which enables you to perform the bulk action for the selected rows.

Image: Grid Detail View displaying the Bulk Actions link and Bulk Mode option

This example shows the Pivot Grid Detail View – Pivot Grid Drilldown displaying the Bulk Actions link, the Bulk Mode option, and the action check boxes for every row in the grid.

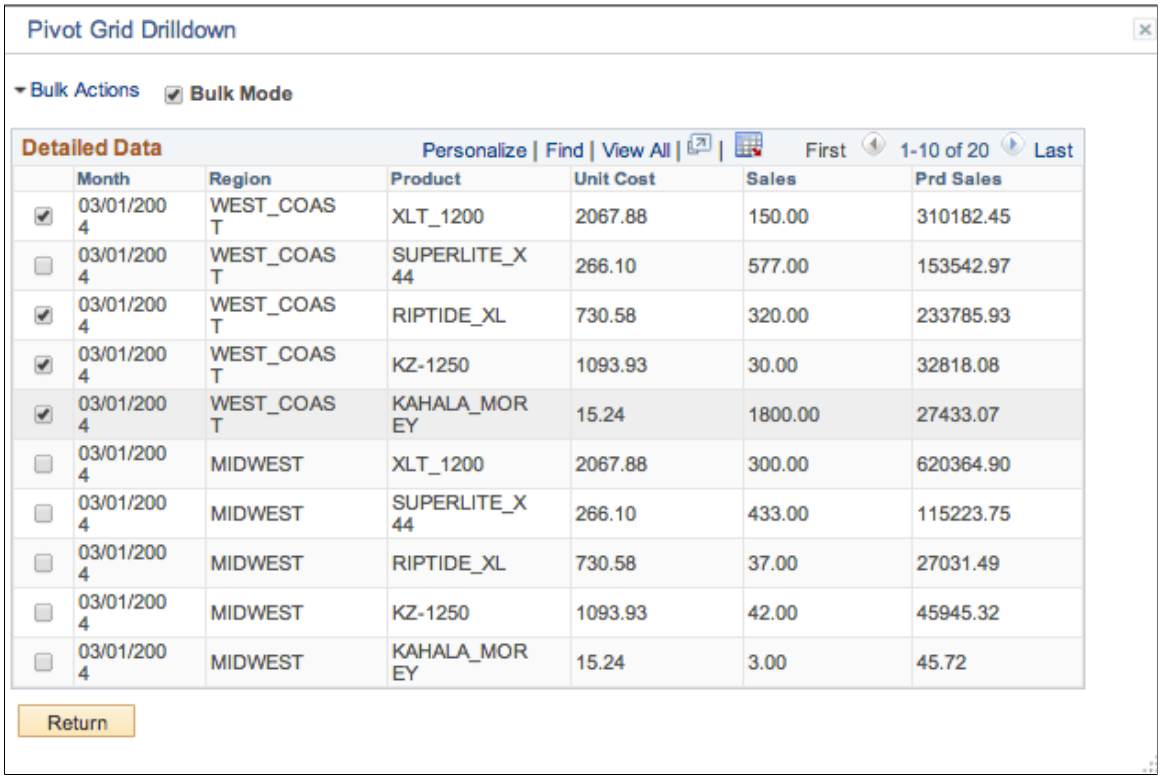

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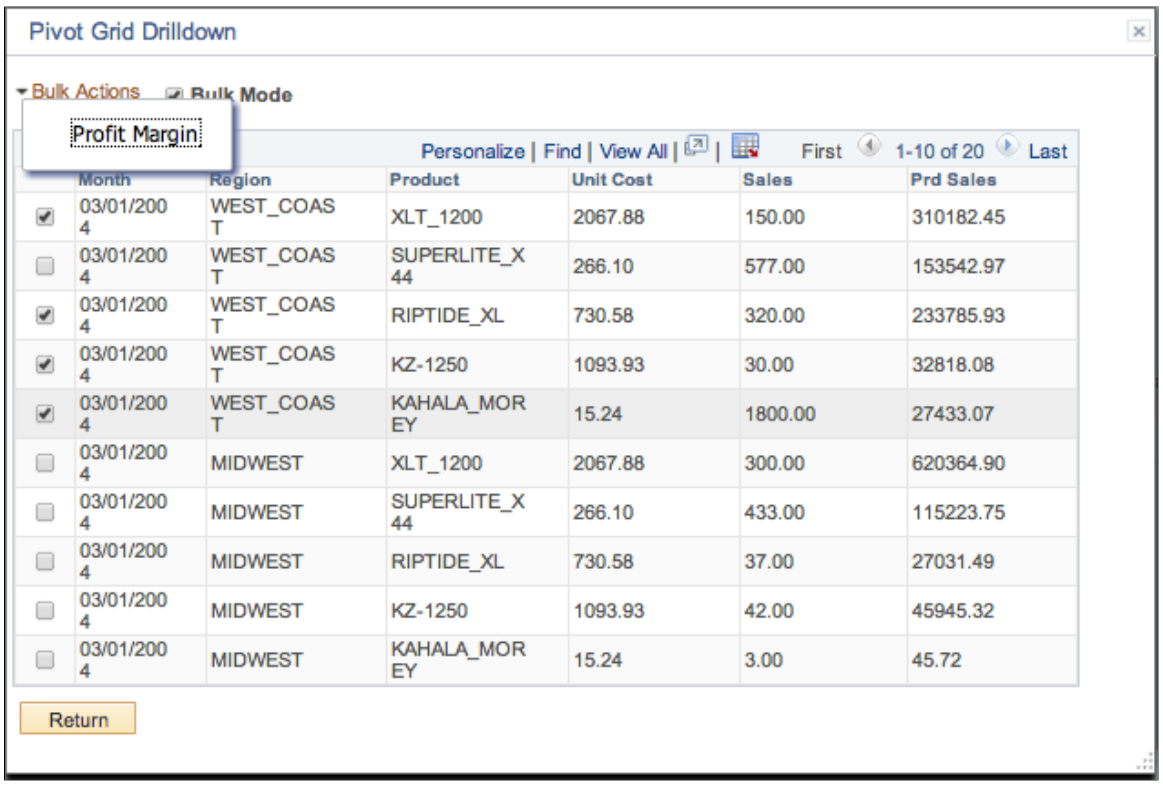
Image: Pivot Grid Detail View displaying the related action menu

This example shows the Pivot Grid Detail View - Pivot Grid Drilldown. The Bulk Mode option and some action check boxes are selected. When you click the Bulk Actions link, the related action menu appears.



Note: Aggregate bulk related actions are not applicable; therefore, the aggregate option is disabled for the bulk related action configuration for Pivot Grid models.

See the Row-Level, Aggregate, and Bulk Related Actions section in Understanding Component Real Time Search Using Pivot Grid in the Fluid Mode.

Related Links

"Defining Related Content Services" (PeopleTools 8.54: Portal Technology)

"Managing Related Content" (PeopleTools 8.54: Portal Technology)

Updating a Pivot Grid Model Using the Pivot Grid Wizard

To update a Pivot Grid model using the Pivot Grid wizard:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Wizard.
2. Search for and select an existing Pivot Grid model to update.
3. Modify the Pivot Grid model, and preview the changes on the last page of the wizard.
4. Save the Pivot Grid model and the Pivot Grid model metadata is saved to the database.

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Chapter 5

Using Pivot Grid Viewer

Pivot Grid Viewer Overview

Pivot Grid Viewer is the component that Pagelet Wizard, applications, and so on use to view Pivot Grid models. Pivot Grid Viewer parses the pivot grid attributes (Pivot Grid name, PSQuery runtime prompt values, grid axis information, grid view options, chart type information, and display options) and renders the display on the page. This component enables user to:

- View the pivot grid in the browser.
- Change the layout of the grid and the chart to view the data differently.
- Drill down on the grid and chart to get detailed views of the data.

  If the display option is Chart Only, drill-down can be performed by clicking the chart. If the display option is Pivot Grid and Chart, drill-down is performed based on the All members that were defined for the axis type columns.
- Flip the display of the Pivot Grid chart.
- Export the original PSQuery data to Microsoft Excel.
- Change the PSQuery runtime prompt values.
- Export the slice of data seen in the grid to Microsoft Excel.
- Change the chart types to either bar, line, or pie.
- Change the chart options—chart axes, chart title, axis labels, and so on—using the User Charting Options dialog box.
- Save user preferences in addition to the initial options set for the Pivot Grid View.

  You can save the grid and chart layouts based on the filtering and dicing done on the grid and chart. When rendering the Pivot Grid display, these user preferences have a higher priority than the default view options.

  The following table lists the attributes that can be view options and that can be customized by users.

Attribute	*View Option*	*User Preference*
Pivot Grid core (including axis, values, aggregation functions, and All members).	No	No

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Attribute	*View Option*	*User Preference*
Pivot Grid display option (including Pivot Grid, Chart, or Pivot Grid and Chart).	Yes	No
Grid Display Options (including Collapsible Data Area, expanded or collapsed Initial Grid View, drag-and-drop operations on the grid, and so on).	Yes	No
Grid axis information.	Yes	Yes
Grid report filter values.	No	Yes
Chart type information.	Yes	Yes
Chart axis information.	Yes	Yes
Other chart display options, such as legends, chart title, and so on.	Yes	Yes
PSQuery runtime prompt values.	Yes	Yes
Display Mode Option (Default, Classic Mode, and Fluid Mode)	Yes	No

Note: If the query used in the Pivot Grid model is changed after the Pivot Grid model is created, you need to modify and save the Pivot Grid model to ensure all changes are properly displayed in the Pivot Grid Viewer.

Viewing Pivot Grid Options

Pivot Grid View Options is the component that facilitates creating new views and updating existing ones for a Pivot Grid model. This component provides a framework to save the Pivot Grid View Name along with all the view options. It enables Pagelet Wizard or applications to pass just the Pivot Grid View Name

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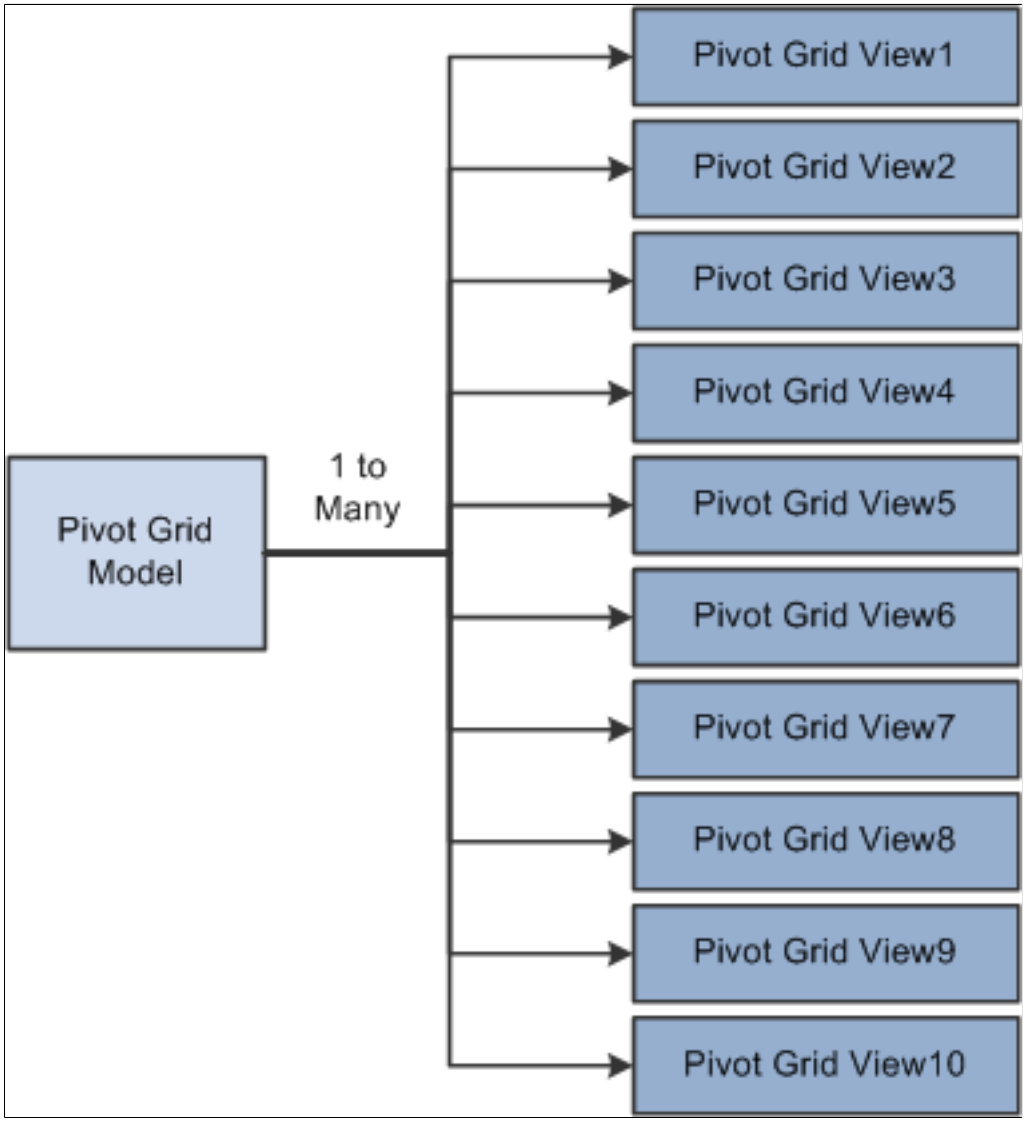
instead of the whole list of Pivot Grid display preferences as content reference attributes. You can create multiple Pivot Grid View Names and associate them with a single Pivot Grid model.

Image: Pivot Grid view options

This diagram shows Pivot Grid view options.



Note: Whenever a new Pivot Grid model is created, it is always associated with a default view. The default view name is <*Pivot Grid Model Name*>.*View*.
The Pivot Grid Viewer component is not fully accessible using a screen reader such as JAWS (Job Access With Speech).

Dynamically Passing Prompt and Filter Values Into Pivot Grid Model

The Pivot Grid Viewer component can accept dynamic filter and prompt values that are passed using the URL or using elated actions to render the data. These filters and prompts are applied when the Pivot Grid model loads in the UI. This feature is applicable for both classic and Fluid viewer components.

- Pivot Grid Model Name

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Parameter Name: PGNAME

- Pivot Grid View Name

  Parameter Name: VIEWNAME

In addition, the Pivot Grid Viewer component uses these parameter types and their values to pass prompt values dynamically to render the Pivot Grid models in a Related Content frame or to use Related Actions to render a Pivot Grid model:

- Pivot Grid PSQuery Prompt Values

  Parameter Name: Unique name for the prompt in PSQuery.

- Pivot Grid PSQuery Filter Values

  Parameter Name: Unique name for the corresponding field in PSQuery.

Suppose that you are required to view the compensation allocation. You are going to use a Pivot Grid model that has the budget ID prompt, map the parameters, view the compensation allocation, and analyze data that is related to compensation across departments. You use the following steps to pass the dynamic parameter values in the Pivot Grid model and display the requested data:

1. Use the Define Related Content Service page to create a related content service that contains a prompt —in this case, Budget ID—as a parameter.

   Note that the Budget ID parameter in the Pivot Grid model, which is also a prompt, was added as a service parameter. The Budget ID parameter name must exactly match the unique field name in

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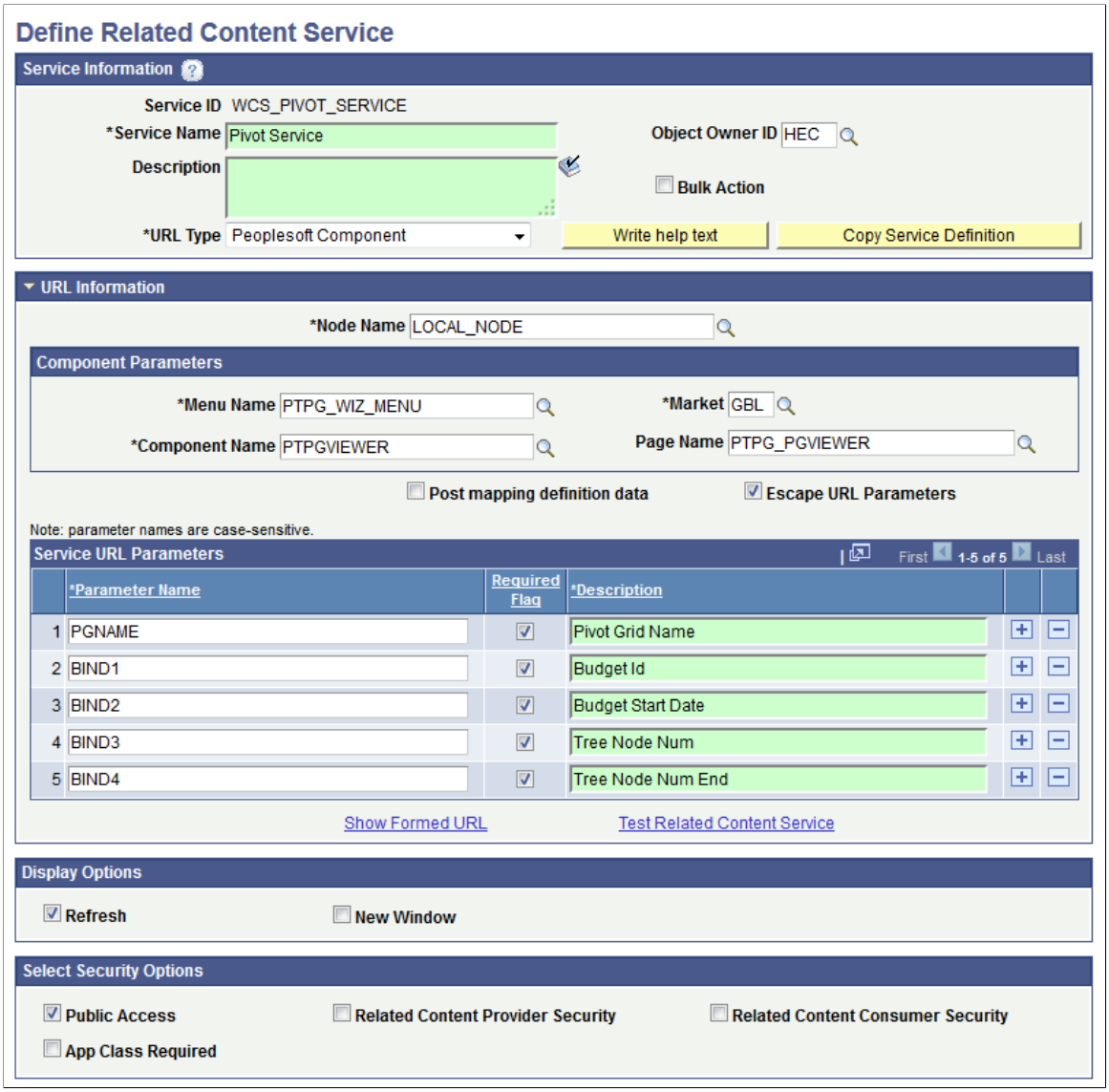
the query because the Pivot Grid Viewer component uses this unique name to understand what this parameter means for the pivot grid.

Image: Define Related Content Service page

This example illustrates the fields and controls on the Define Related Content Service page with the Budget ID prompt as a parameter.



Note: If you are setting the related content service for a Fluid viewer, you must set the following values in the Component Parameters section: Menu Name is set to *PTPG_WIZ_MENU,* Market is set to *GBL,* Component Name is set to *PTPG_NUI,* and Page Name is set to *PTPG_NUI_VWR.*
If the VIEWNAME is not set in the Service URL Parameters grid, then the default view will be invoked.

See "Defining Related Content Services" (PeopleTools 8.54: Portal Technology)

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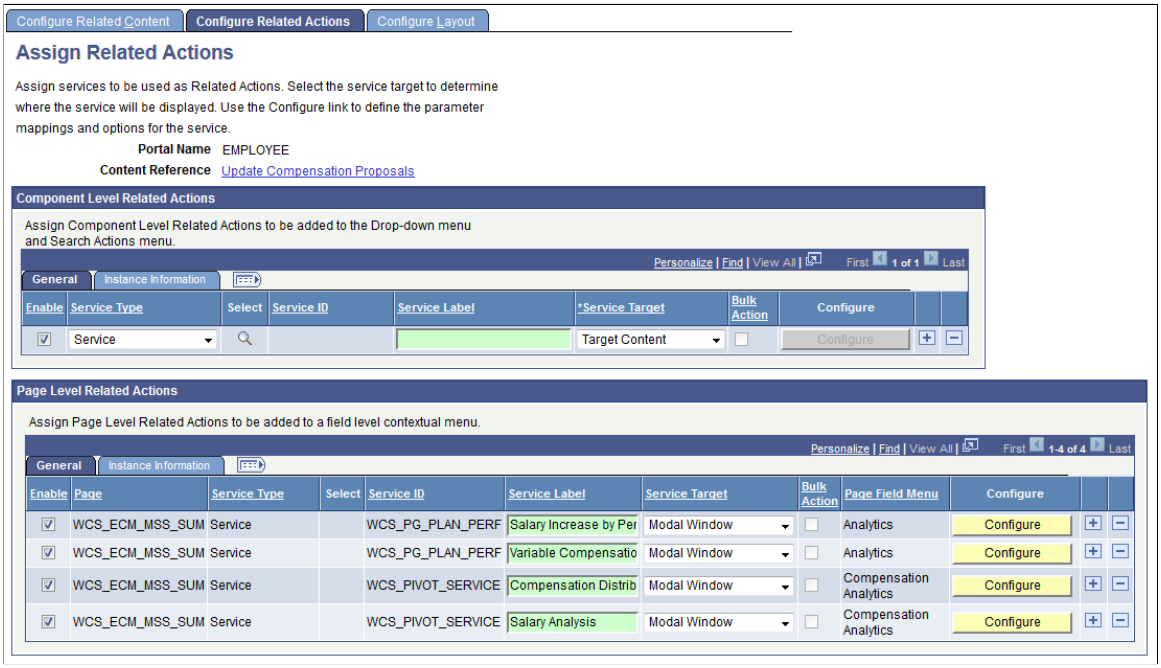
2. Use the Assign Related Actions page to associate the related content service with a component.

Image: Assign Related Actions - Configure Related Actions page

This example illustrates the fields and controls on the Assign Related Actions page that is used to associate the related content service with a component.



See "Configuring Related Content, Related Actions, and Layout" (PeopleTools 8.54: Portal Technology)

3. Use the Configure Service page to map parameters.

In this example, use the following values to map the parameters:

- Budget ID is the prompt, which is mapped to a page field.
- Pivot Grid Name is a fixed value and is mapped to the Pivot Grid Model Name.
- Pivot Grid View Name is a fixed value and is mapped to the Pivot Grid View Name.

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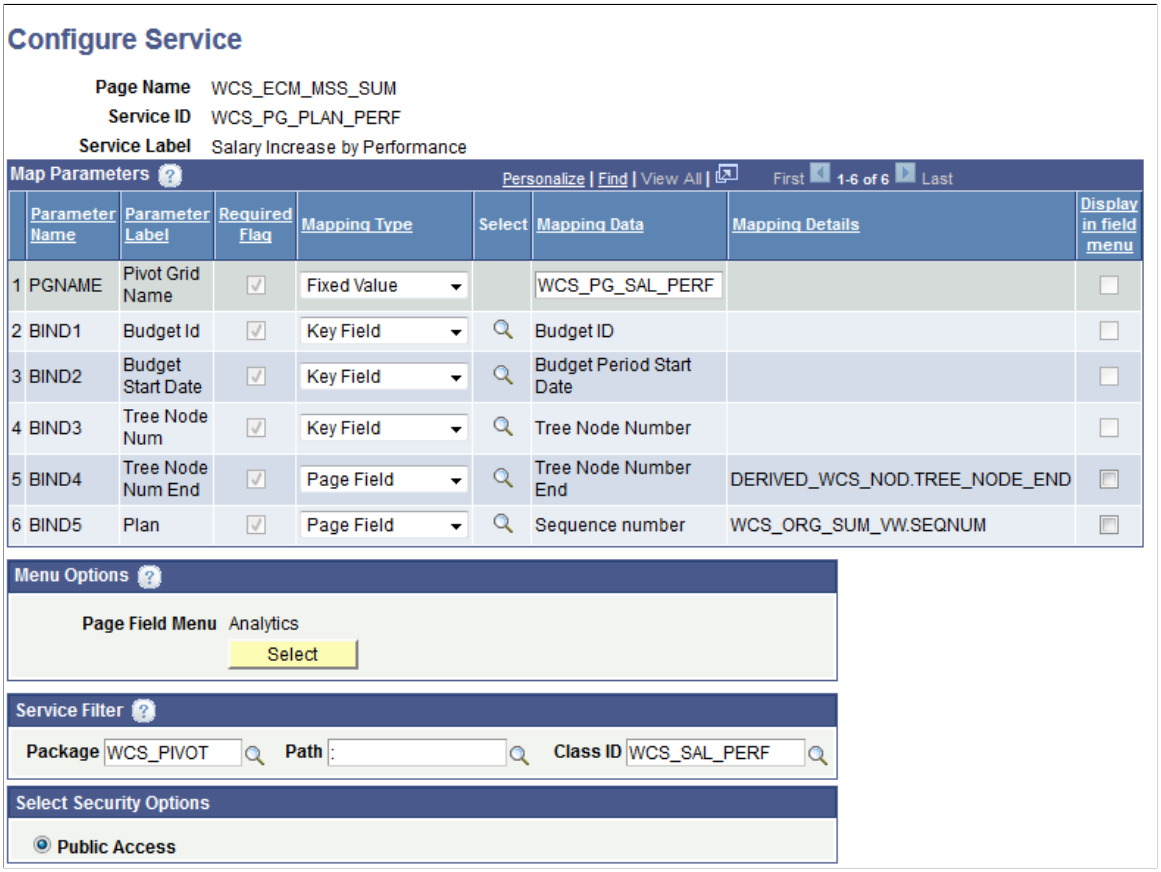
This parameter is optional and can be ignored. If this parameter is not provided, the Pivot Grid Viewer component will use the default view for the Pivot Grid model.

Image: Configure Service page

This example illustrates the fields and controls on the Configure Service page.



See "Configuring Related Content, Related Actions, and Layout" (PeopleTools 8.54: Portal Technology)

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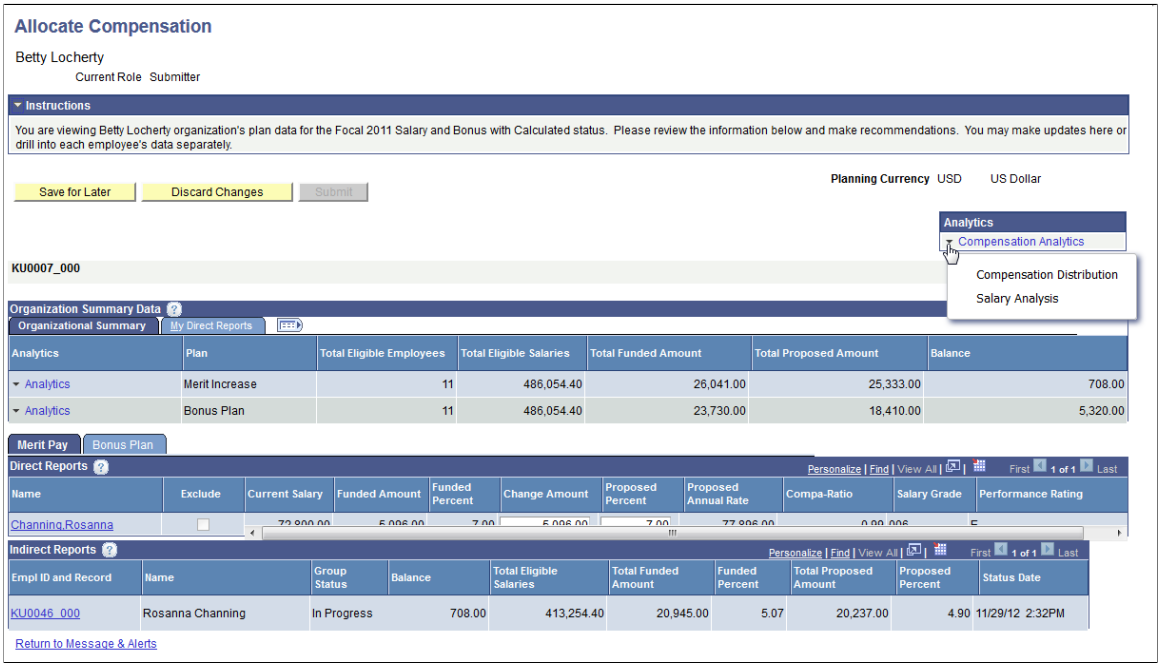
4. View the compensation allocation in the Manage Self Service component.

Image: Manage Self Service component

This example illustrates the fields and controls on the Manage Self Service component with the Compensation Analytics drop-down list (Related Actions menu).



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5. Use the *Peer Analysis Pivot* option from the Compensation Analytics drop-down list to populate the Pivot Grid model with the Budget ID option selected for that budget cycle.

Image: Salary Analysis model

This example illustrates the Salary Analysis model.

Note: Similarly, related actions can also be configured for Pivot Grid filters based on the unique field names for the Pivot Grid Filter fields in the query.

Creating a Related Content Service with Dynamic Parameter Values for Prompts

To create a related content service with dynamic parameter values for prompts:

1. Create a Pivot Grid model that has one or more data source prompts.
2. Create a related content service for the Pivot Grid Viewer component.
3. Use the following parameters for the related content service:
   - The Pivot Grid Name; parameter name is PGNAME.
   - The prompt; parameter name is the unique name for the corresponding prompt in PSQuery.
4. Associate this related content service with an existing component.

   The Pivot Grid Name is a fixed value parameter, and the prompt is associated with a page field.
5. Open the component and perform the related action.

Creating a Related Content Service with Dynamic Parameter Values for Filters

To create a related content service with dynamic parameter values for filters:

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1. Create a Pivot Grid model that has one or more filters.
2. Create a related content service for the Pivot Grid Viewer component.
3. Use the following parameters for the related content service:
    - The Pivot Grid Name; parameter name is PGNAME.
    - The filter; parameter name is the unique name for the corresponding field in PSQuery.
4. Associate this related content service with an existing component.

    The Pivot Grid Name is a fixed value parameter, and the filter is associated with a page field.
5. Open the component and perform the related action.

Viewing a Pivot Grid Model Using the Pivot Grid Viewer

Use the Pivot Grid Viewer page (PTPG_PSPGVIEWER) to view the Pivot Grid model with different display options: Pivot Grid and Chart, Pivot Grid Only, or Chart Only.

Note: If the display option is Pivot Grid Only, Pivot Grid displays the grid without the chart. Pivot Grid displays number *0* (zero) in the grid cell if the value on the grid cell is equal to *0*.

To view a Pivot Grid model using the Pivot Grid Viewer page:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Viewer.

    The Pivot Grid Viewer page appears with five filter options: Pivot Grid Name, Data Source Name, Data Source Type, and Show All Views.
2. Optionally, enter the filter options and perform the search.

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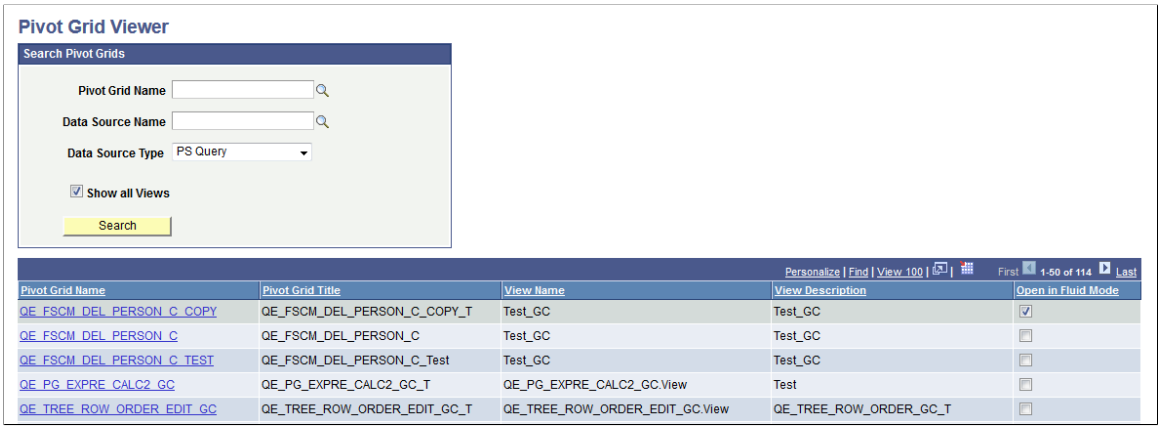
All the available and accessible Pivot Grid models are listed. Invalid Pivot Grid models are not listed for this search.

Image: Pivot Grid Viewer search page

This example illustrates the fields and controls on the Pivot Grid Viewer search page. If the Show All Views option is selected, the system displays the default and non-default views associated with the Pivot Grid models.



Note: Pivot Grid supports PSQuery and Component data sources.

3. Optionally, select the Open in Fluid Mode option to open the Pivot Grid model in fluid view.

   See Viewing Pivot Grid Models in Fluid Mode.

4. Select a Pivot Grid name link for viewing.

5. On the Pivot Grid Viewer page, view the Pivot Grid model with different options.

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The Pivot Grid model appears with the grid, chart, or both based on the display option selected.

Image: Pivot Grid Viewer page displaying chart only

This example illustrates the fields and controls on the Pivot Grid Viewer page with the default display of Chart Only.

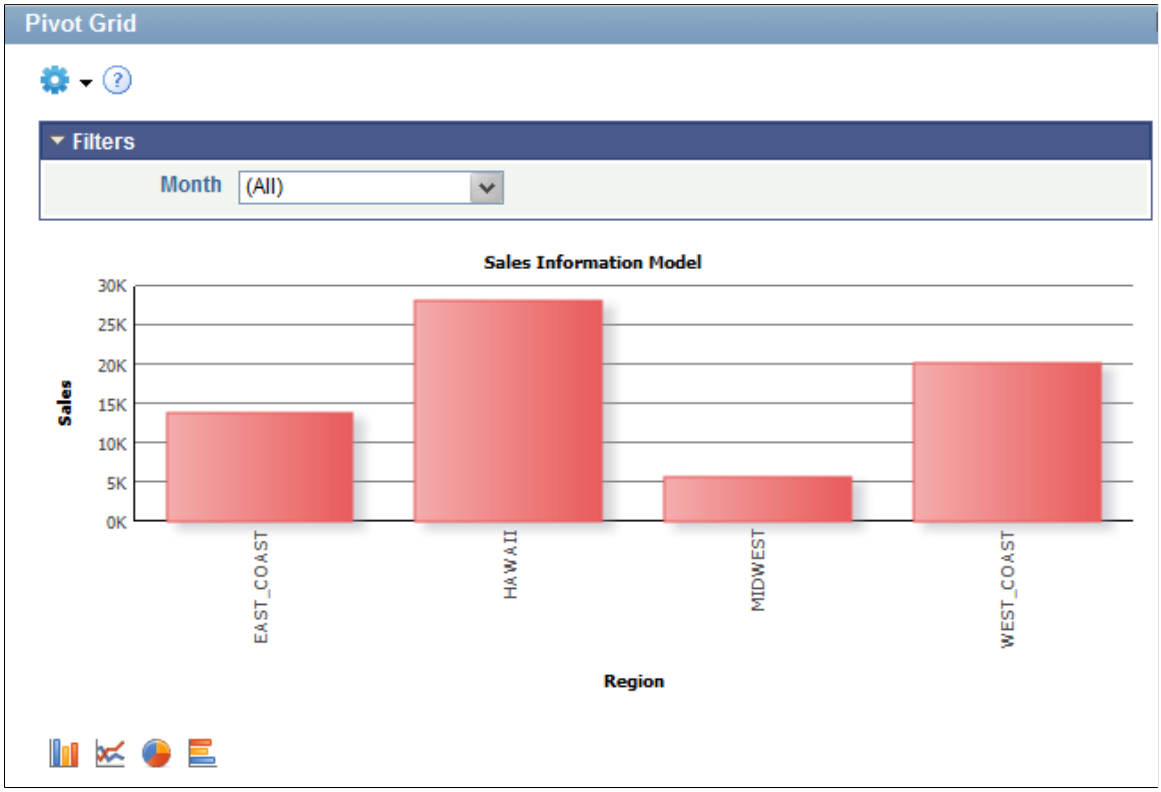

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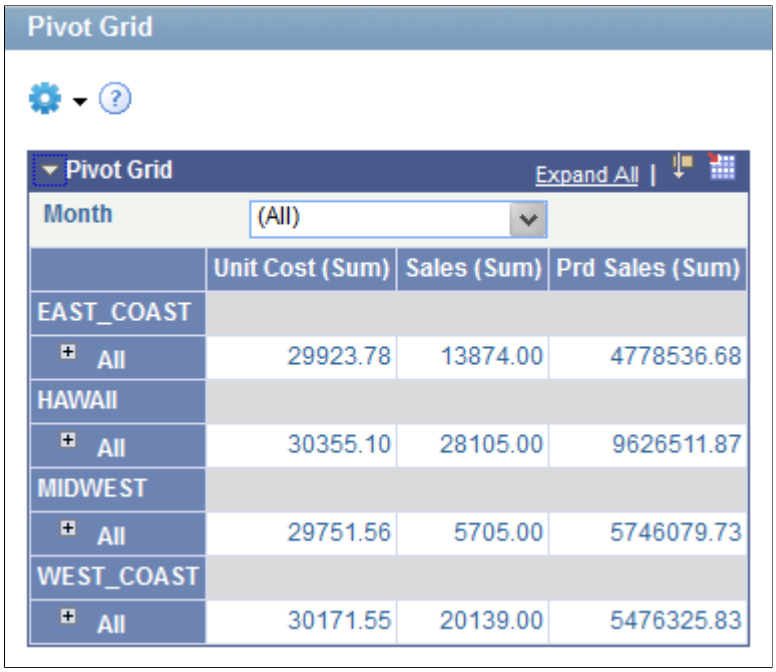
Image: Pivot Grid Viewer displaying grid only

This example illustrates the fields and controls on the Pivot Grid Viewer page with the default display of Pivot Grid Only. Definitions for the fields and controls appear following the example.



Use the Option Menu icon to select the actions for viewing the Pivot Grid model.

- Prompts: Select to open the Datasource Prompts dialog box, where you can change the values for query prompts.
- Reset: Select to delete all personalization of the current model and reset the model to the default layout.

  Selecting this option displays a message asking you to confirm the deletion. Click the Yes button to delete all personalization and reset the model to the original layout. Click the No button to dismiss the message window and cancel the deletion.

  Note: This option is available only when personalization is available for the current model.

- View Grid: Select to view the grid layout.
- Export Data: Select to export the underlying PSQuery data to Microsoft Excel.
- Chart Option: Select to open the User Charting Options dialog box, where you can change the chart layout, chart axis, and filters.

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Note: To drill down on the chart, click the chart data points. To drill out on the chart, click the drillout link, which appears as a locator link at the top of the chart.

- Hide Chart: Select to hide the Pivot Grid chart.
- Display Chart: Select to view the Pivot Grid chart.
- Save: Select to save the current grid and chart layout as a user preference for the default view of the current model. The grid and chart layout, filter values, and PSQuery prompt values are also saved as preferences.

Note: Pivot Grid displays actions in the Option Menu drop-down list based on the viewing mode that you have set for the current Pivot Grid model.

Click the Help icon to display the Help - Pivot Grid dialog box, where you can view the help information for all actions in this page.

You can define the Help icon and its embedded help information for each Pivot Grid model using the Show Help option in the Pivot Grid Wizard - Specify Data Model Options page, Viewer Options section.

See Creating a New Pivot Grid Pagelet Using the Pagelet Wizard.

<Pivot Grid name>

In the grid section, you can change the grid layout at runtime by dragging members to a different axis.

Expand All and Collapse All

The Expand All and Collapse All links appear when the Pivot Grid model contains dimensions with totals on the lowest level of the grid row or column. These links are not available for the Pivot Grid models that have no totals defined for dimensions on the grid row and grid column.

Click the Expand All link to expand all the positions on the grid row and column, and the Collapse All link appears.

Click the Collapse All link to collapse all the positions on the grid row and column, and the Expand All link appears.

Click the Hide Filter icon to collapse the section that displays the Pivot Grid filter options for the Pivot Grid models that have the grid-only mode.

Click the Show Filter icon to expand the section that displays the Pivot Grid filter options for the Pivot Grid models that have the grid-only mode.

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Filter	Displays the Pivot Grid filter options for the Pivot Grid models that have the chart-only mode. You can click to collapse or expand the section. The default setting is the expanded state.
	Click the Download icon to download the slice of data seen in the pivot grid to Microsoft Excel.
	Click the Show All Columns icon to display all the grid columns.
	Click the Show Scrolling icon to display columns in a scrollable grid.
	Click the Bar icon to display data in a bar chart.
	Click the Line icon to display data in a line chart.
	Click the Pie icon to display data in a pie chart.
	Click the Horizontal Bar Chart icon to display data in a horizontal bar chart.
<Chart>	If the Related Actions are *not* configured for the aggregate view, clicking the data point on the chart enables you to directly access the detailed view to view the data that is being plotted. If the Related Actions are configured on the aggregate view, clicking the data point on the chart displays a context menu with a list of available actions: Detailed View, Drilldown To, and Actions. **Note:** Beginning from PeopleTools 8.54, you select a chart data point in a Pivot Grid and Chart view to see the detail view for the data point or perform aggregate related actions (if configured). You can change PSQuery runtime prompt values.
Return	Click the Return button to close the Pivot Grid view and return to the Pivot Grid Viewer page.

Using the Chart Options

Use the User Charting Options dialog box to change the chart layout, chart axis, filters, and so on. In the Advanced Options section, you can specify the chart default dimensions, 3D angle, exploded pie chart, Y-axis precision, and legend positioning.

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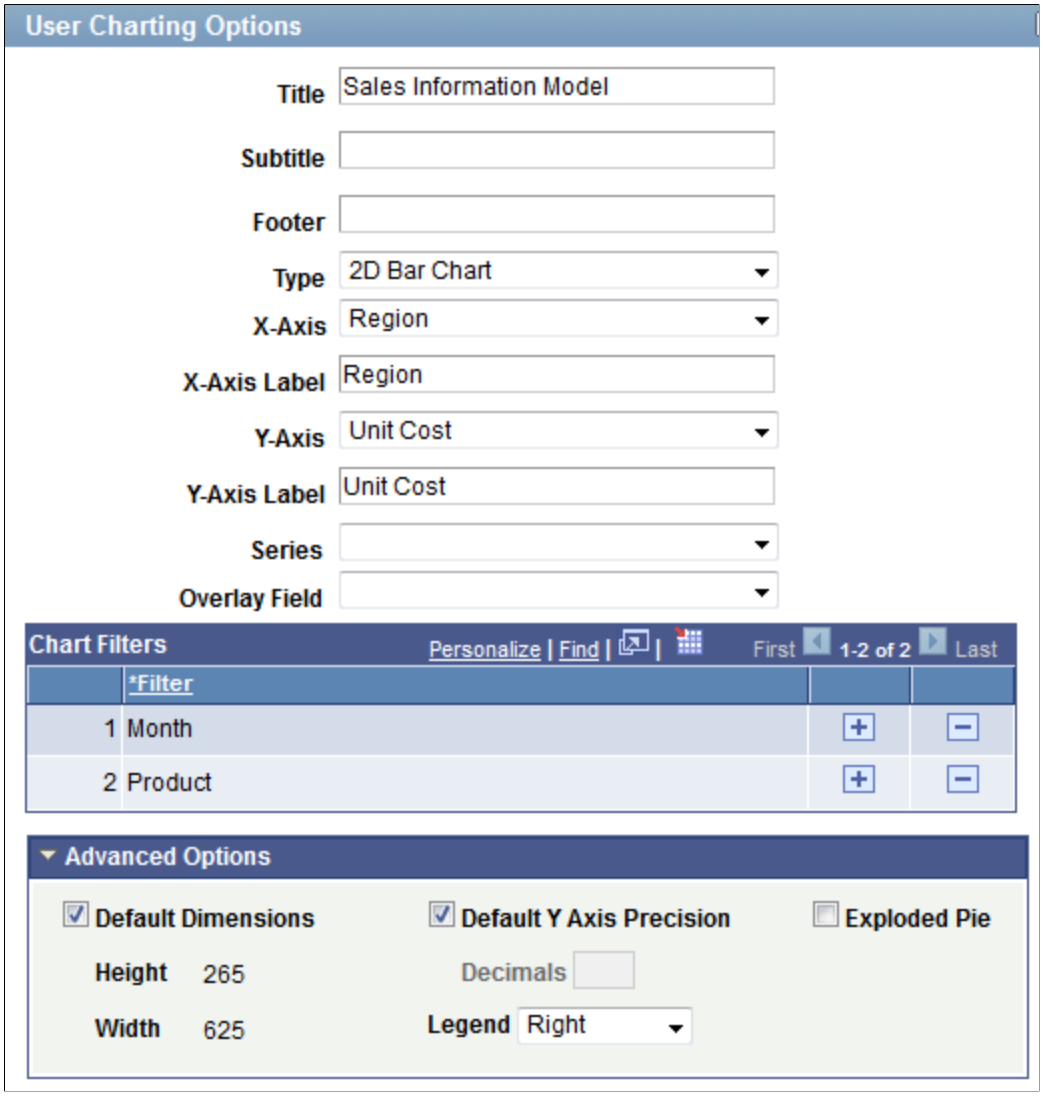
Navigation

Open the User Charting Options dialog box by selecting the Chart Options option from the Option Menu icon on the Pivot Grid Viewer page.

Image: User Charting Options dialog box

This example illustrates the fields and controls in the User Charting Options dialog box.



Note: The X Axis, Y-Axis Series, Overlay Field, and Chart Filters fields in the User Charting Options dialog box are not editable if the display option is *Pivot Grid and Chart.*

Examples: Viewing a Pivot Grid Model Using Pivot Grid Viewer

Suppose that a PSQuery was built on the record PS_QE_BAM_FACT_TBL, which stores the number of product units sold, unit cost, and product sales for a set of regions and products by month, as shown in the following table.

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Region (Key)	*Product (Key)*	*Month (Key)*	*No. of Units Sold (Units Sold Cube)*	*Unit Cost (Unit Cost Cube)*	*Product Sales (Product Sales Cube)*
QE_BAM_ REGION_FLD	QE_BAM_ PRODUCT_FLD	QE_BAM_ MONTH_FLD	QE_BAM_UNIT_ FLD	QE_BAM_SALES _FLD	QE_BAM_ PRDSALES_FL

Viewing a Pivot Grid Model When the Display Option is Pivot Grid and Chart

If the display option is Pivot Grid and Chart:

- The model for this example shows the sales information for various products for different regions across different months.
- The axis columns are Region, Product, and Month.

  All the axis columns have the All Member enabled.
- The Value columns are Unit Cost, Unit Sales, and Product Sales.

Note: If the display option is Pivot Grid Only, Pivot Grid displays the grid without the chart.

The initial grid layout has:

- Row axis is Region and Product.
- Column axis is Unit Sales, Unit Cost, and Product Sales.
- Report Filter Field is Month.

The initial chart view has:

- X axis is Region field.
- Y axis is Unit Sales fields.

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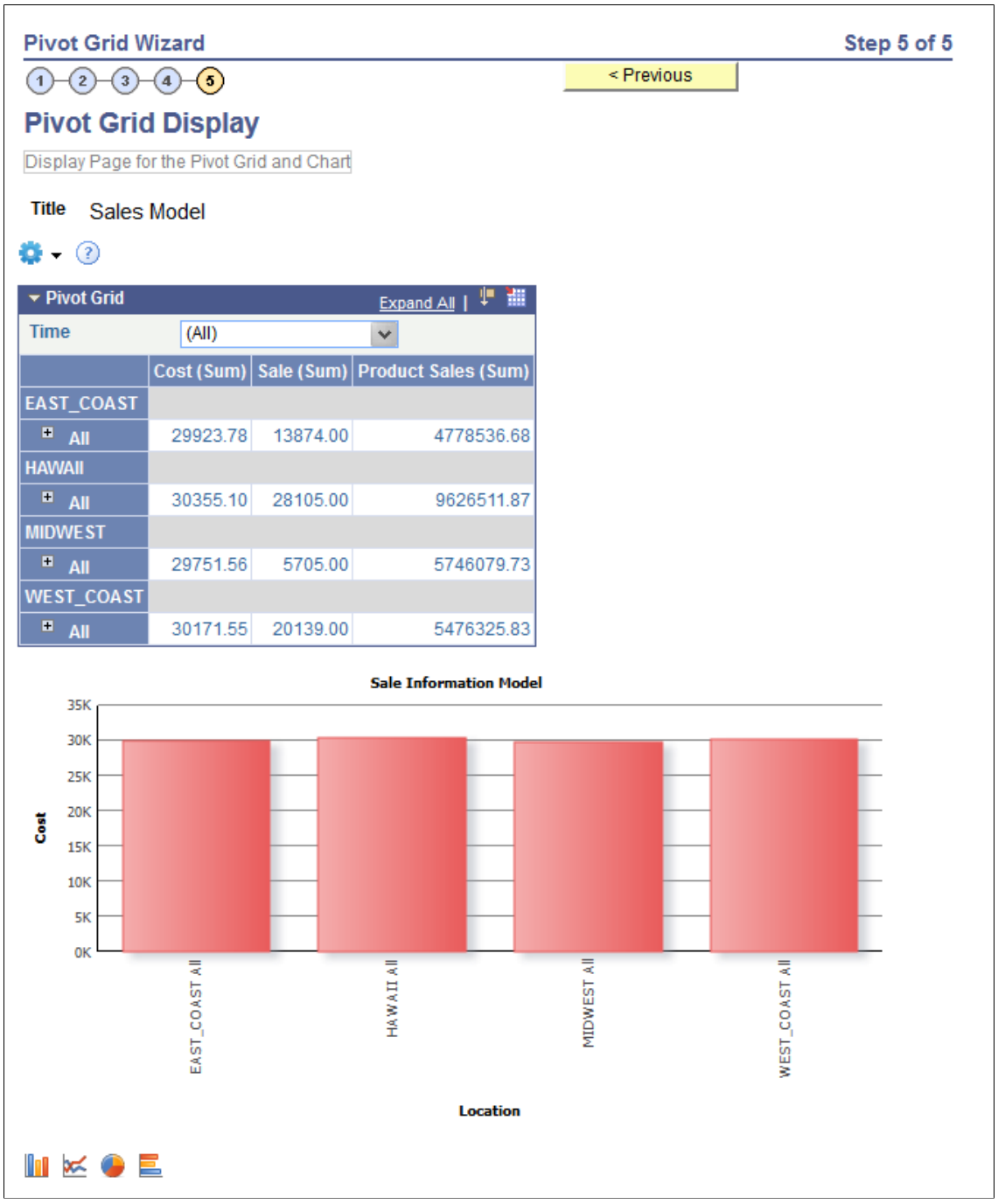
- Report Filter Field is Month.

Image: Example of a Pivot Grid model when the display option is Pivot Grid and Chart

This example shows the view of a Pivot Grid model when the display option is Pivot Grid and Chart.



Note: You can change the grid layout at runtime by dragging members onto different axes. The chart layout also changes based on the grid layout to preserve synchronization between the grid and the chart. You can change the chart type and the Y axis of the chart.

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Drilling Down in a Region

The Pivot Grid displays detailed data based on the region on which the drill down is performed. For the chart, the same data appears for the selected Value column. You can select the chart type and change the Y axis by selecting a different Value column to be plotted.

The pivot grid has:

- Row axis is Region and Product.
- Column axis is Unit Sales, Unit Cost, and Product Sales.
- Report Filter Field is Month.

The chart has:

- X axis is Region.
- Y axis is Unit Sales.

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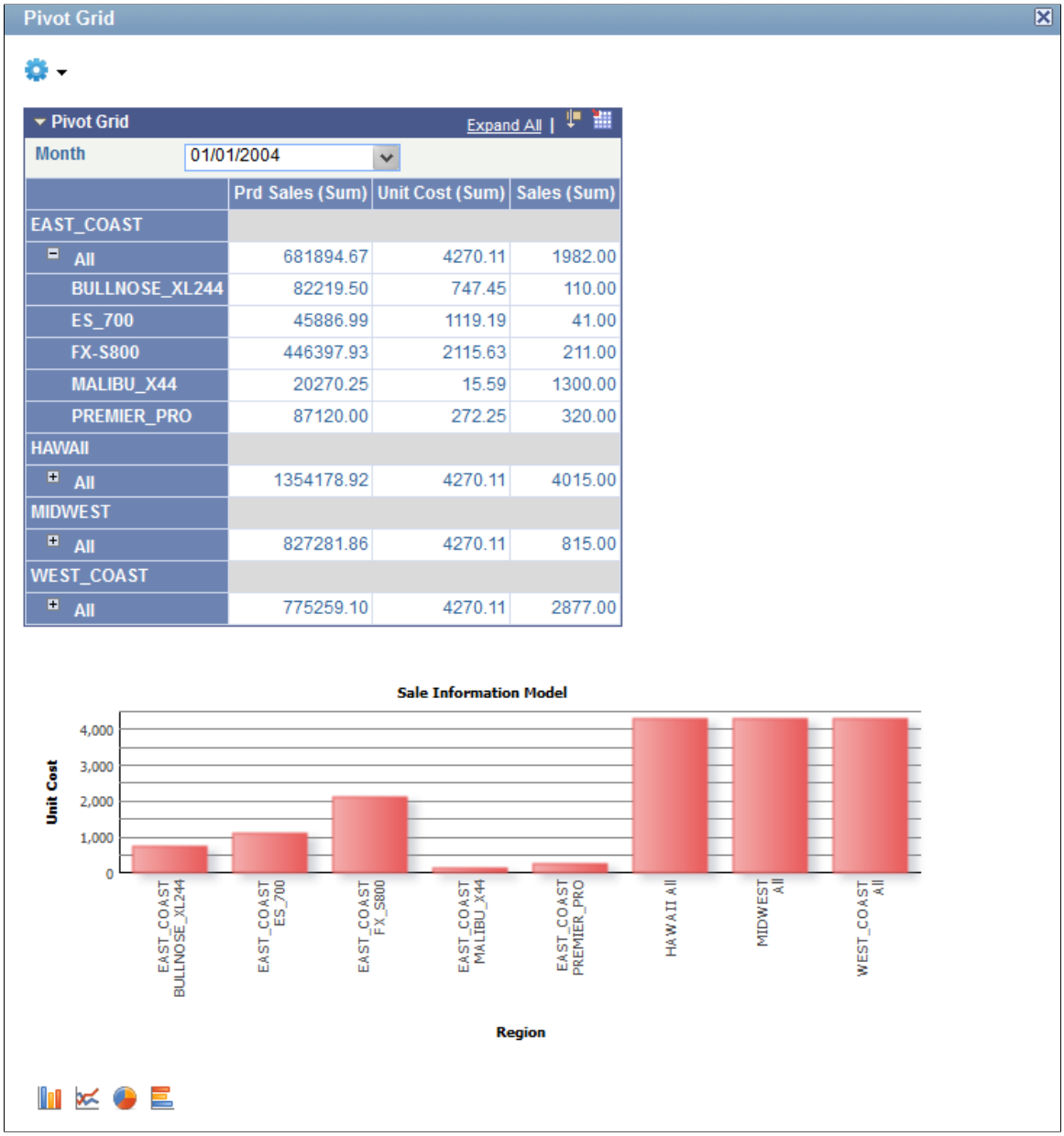
- Series field is Product.

Image: Example of a Pivot Grid model when the display option is Pivot Grid and Chart and drilldown was on a region

This example shows a Pivot Grid model when the display option is Pivot Grid and Chart and drill down was on a region.



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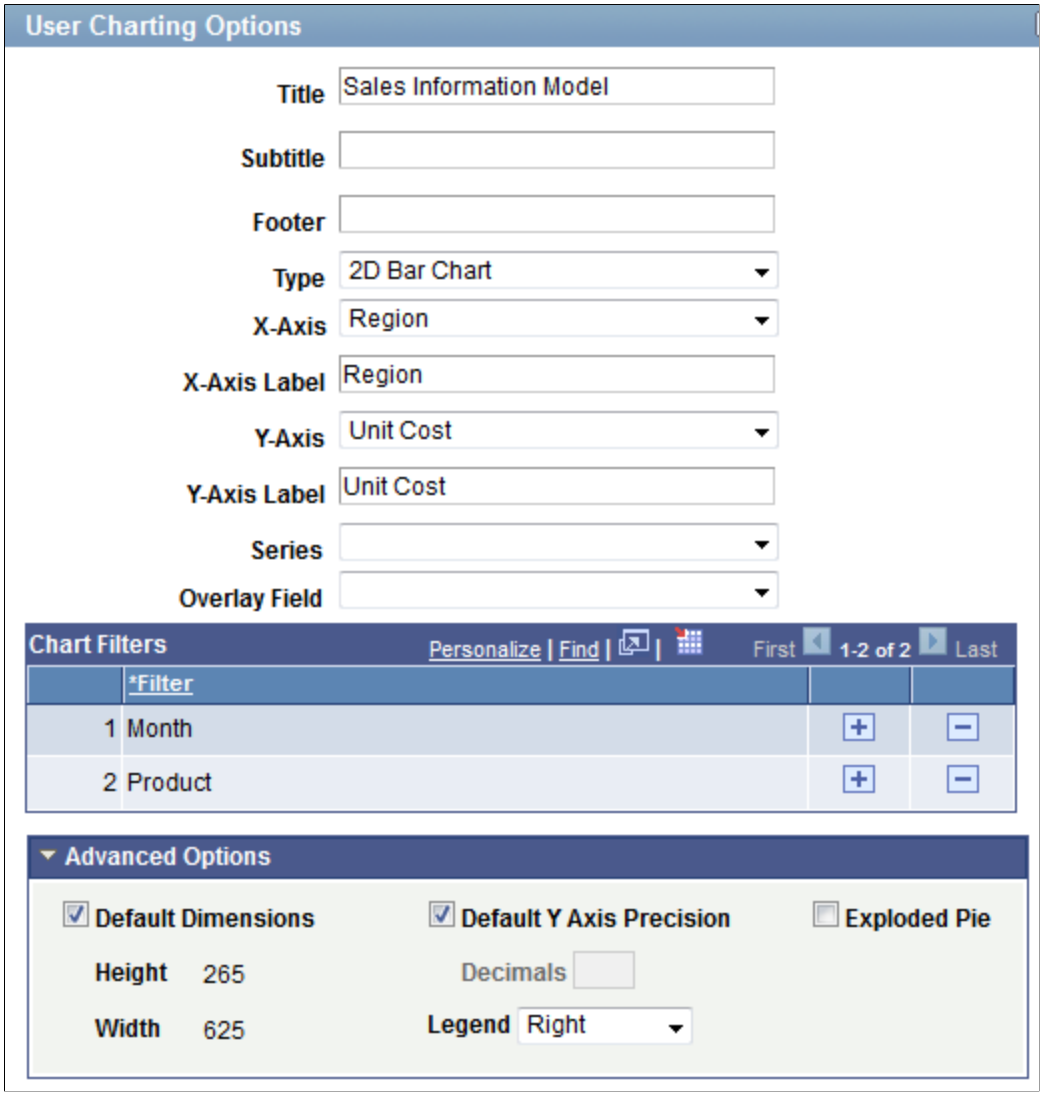
Changing Chart Options

Use the User Charting Options dialog box to change the chart type or Y axis.

Image: User Charting Options dialog box

This example illustrates the fields and controls in the User Charting Options dialog box.



Changing Filters

To add a filter at runtime, place the cursor on the field in the left side of the grid and drag it to the top part of the grid.

To remove a filter, place the cursor on the filter listed on the top part of the grid and drag it to back to the left-hand column.

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Viewing a Pivot Grid Model When the Display Option is Chart Only

This example of Pivot Grid model was defined using Chart Only. The chart initial view has X axis as Region, Y axis as Unit Sales, and Report filter as Month.

Image: Initial view of a Pivot Grid model in bar chart format when the display option is Chart Only

This example shows the initial view of a Pivot Grid model in bar chart format when the display option is Chart Only.

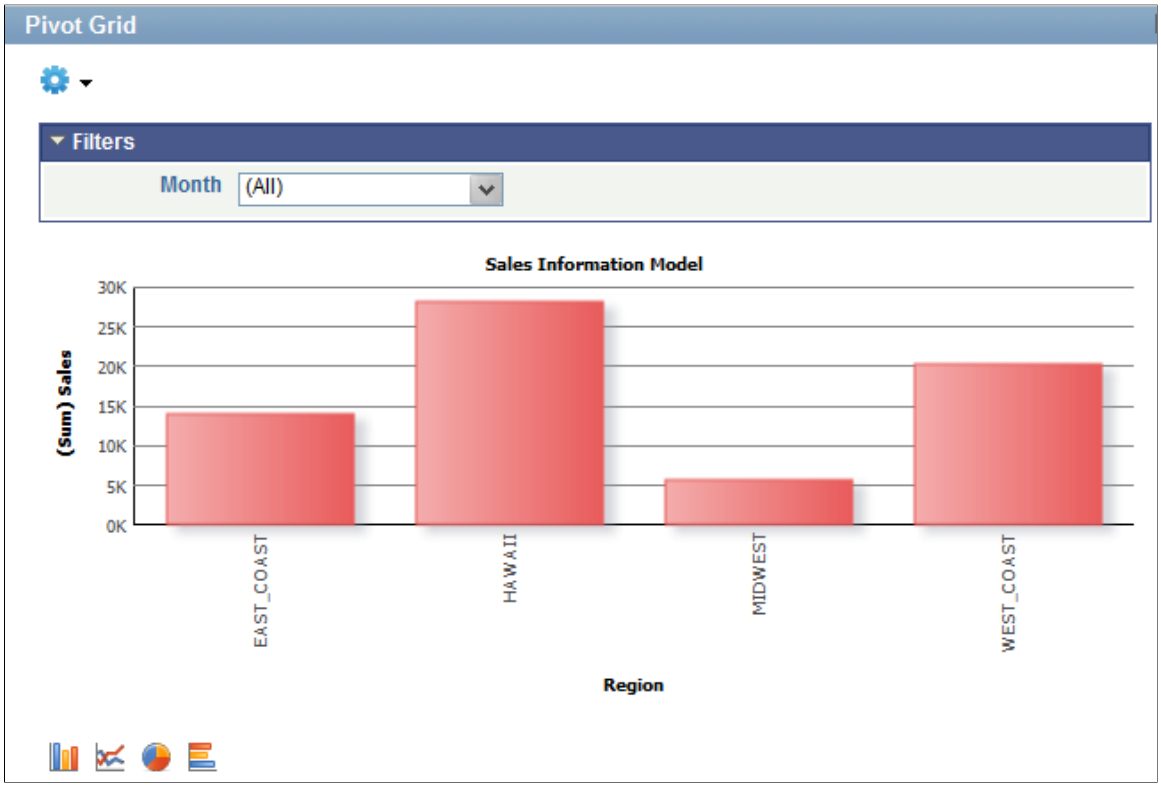

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Image: Initial view of a Pivot Grid model in line chart format when the display option is Chart Only

This example shows the initial view of a Pivot Grid model in line chart format when the display option is Chart Only.

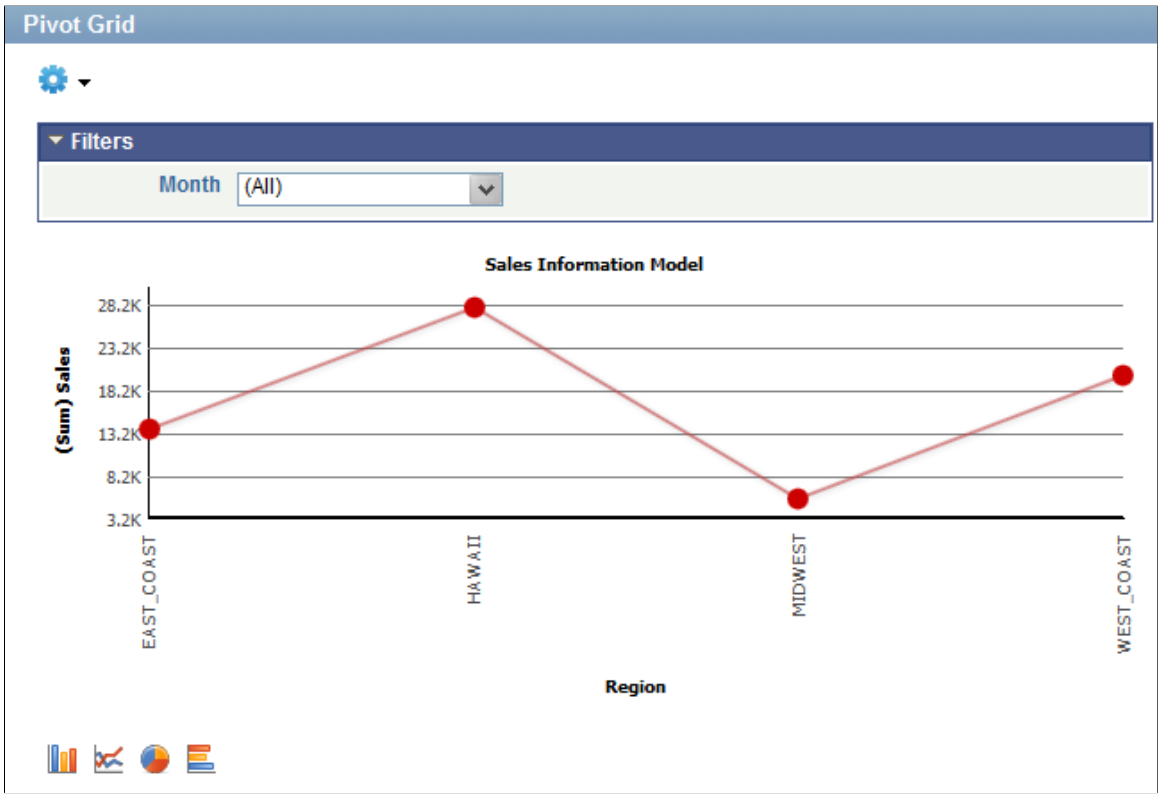

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Image: Initial view of a Pivot Grid model in pie chart format when the display option is Chart Only

This example shows the initial view of a Pivot Grid model in pie chart format when the display option is Chart Only.

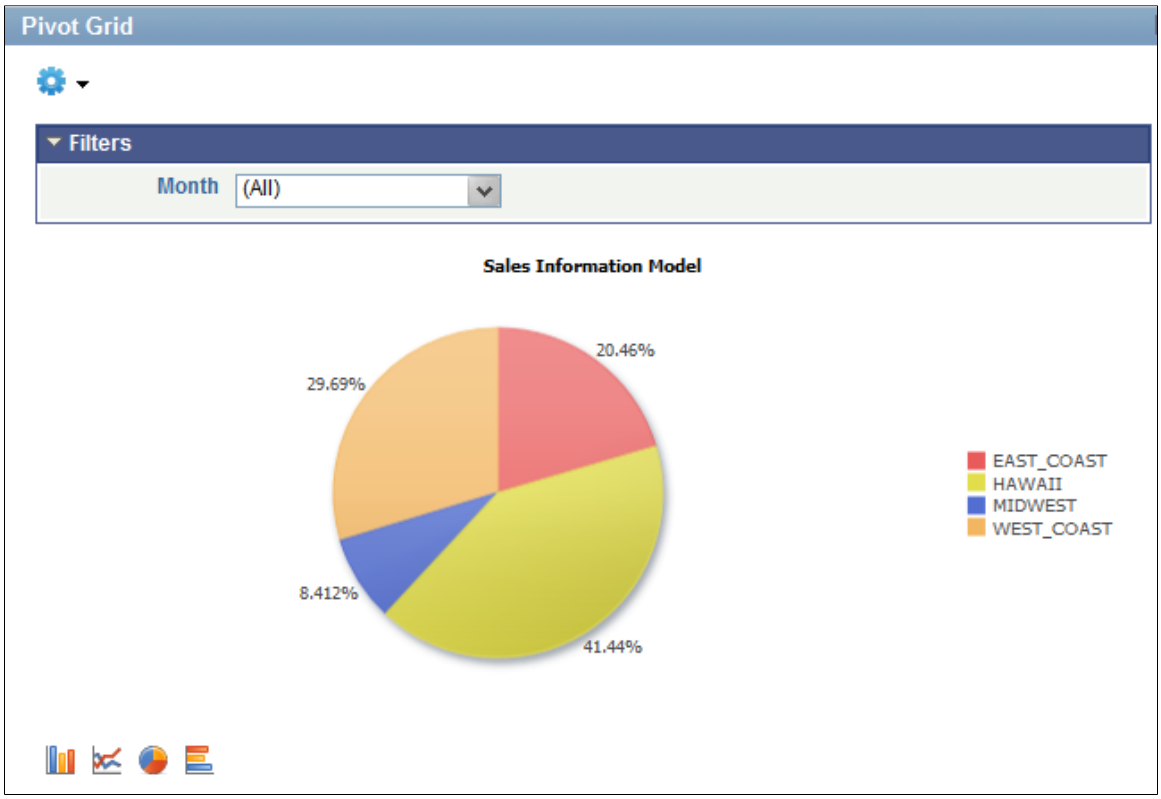

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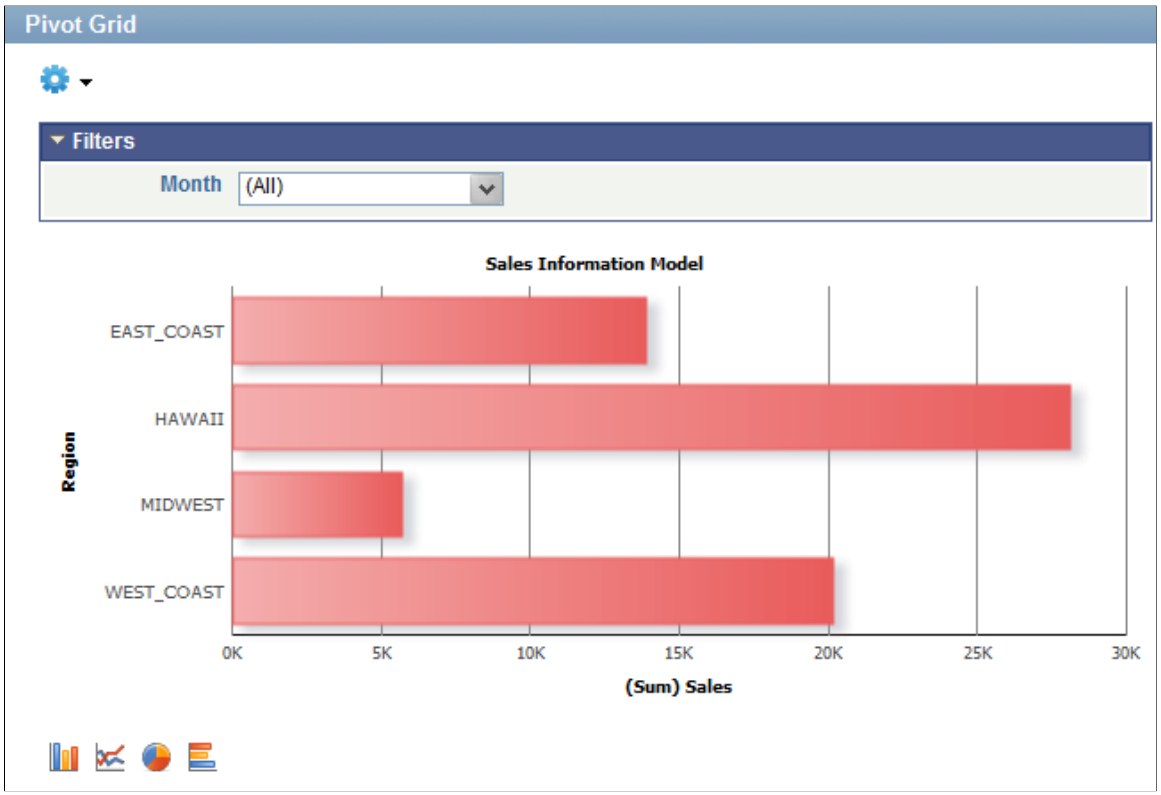
Image: Initial view of a Pivot Grid model in horizontal bar chart format when the display option is Chart Only

This example shows the initial view of a Pivot Grid model in horizontal bar chart format when the display option is Chart Only.



Drilling Down on a Region

Suppose you are drilling down on the chart for the HAWAII region. Click the HAWAII bar (for a bar chart; click the HAWAII slice for a pie chart, click the line for a line chart, or click the horizontal bar for a horizontal bar chart). Select the *Product* value for the Drilldown Field field; the chart now has:

- X axis is Product.
- Y axis is Unit Sales.
- Report filter 1 is Month, and that value is *01/01/2004*.
- Report filter 2 is Region, and that value is *EAST_COAST*.

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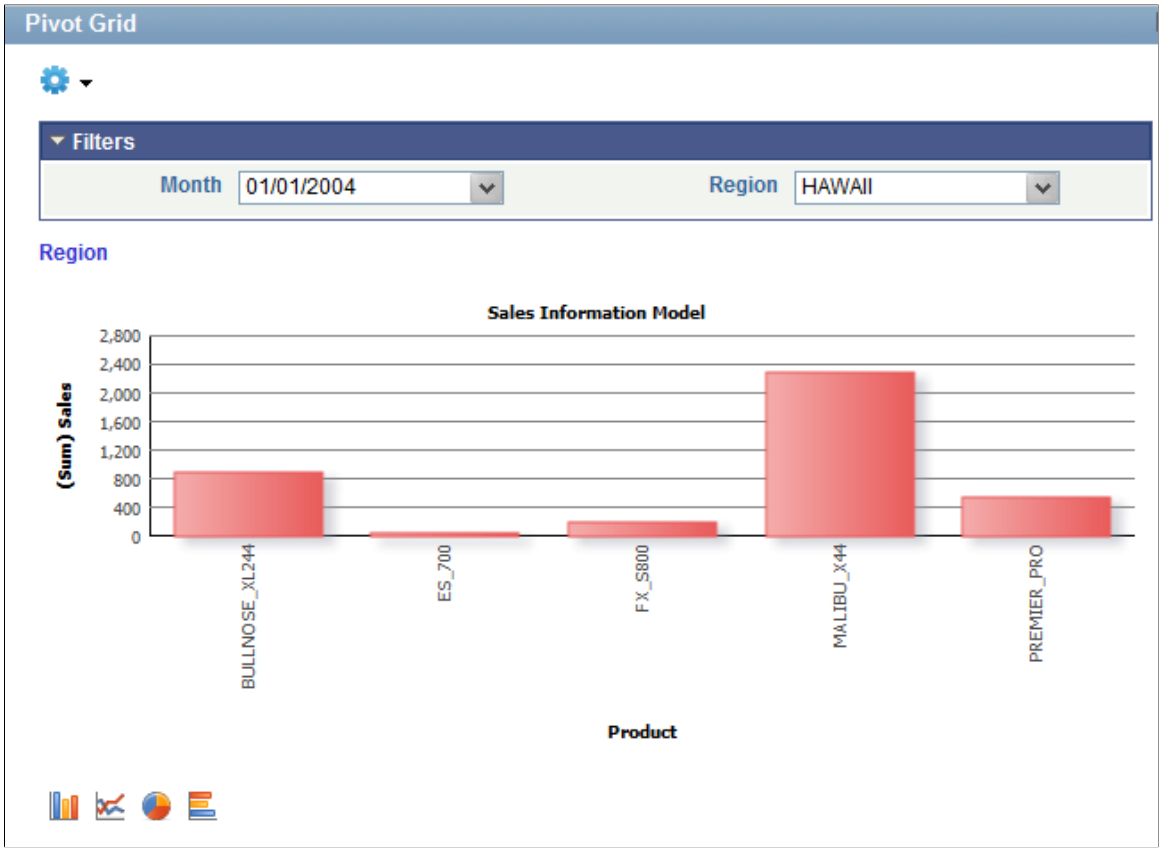
In this case, a locator link is automatically added on the right side above the chart for the Region member; if you click the locator link, the previous chart layout is restored.

Image: Chart with drilldown for Product and locator link for Region

This example shows a Pivot Grid model when the display option is Chart Only and drill down was on a Region.



Selecting a Series

In this example, the data model specifies Chart Only and is set up as follows:

- X axis is Region.
- Y axis is Unit Sales.
- Chart series is Product.

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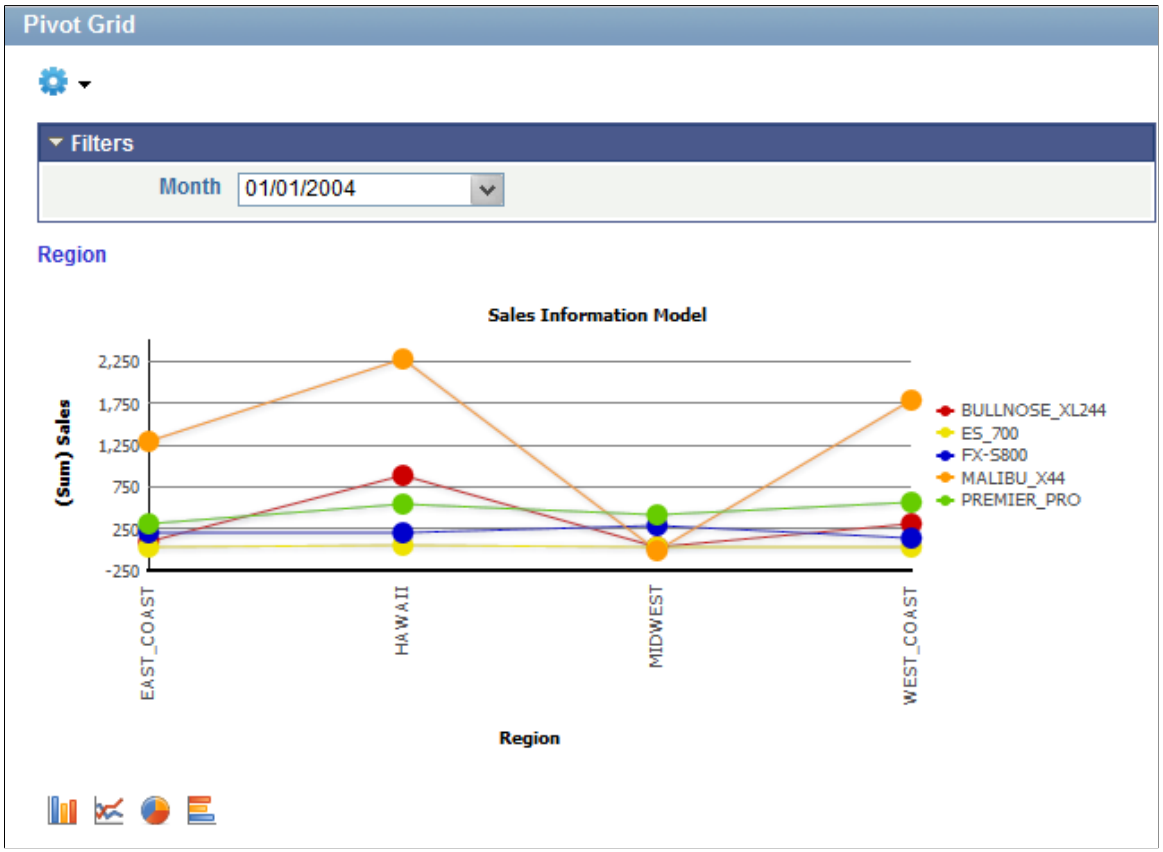
- Report filter is Month, and this value is *01/01/2004*.

Image: Chart display using a series on the Product field

This example shows the chart displaying each product with a legend.



Selecting an Overlay Field

You can select an overlay field that plots multiple charts based on the Y axis and the overlay field. If the Unit Cost field is selected as the overlay field, then the first chart is plotted with the Region field as the X axis and the Unit Sales field as the Y axis. The second chart is plotted with the Region field as the X axis and the Unit Cost field as the Y axis.

The chart has:

- X axis is Region.
- Y axis is Unit Cost.

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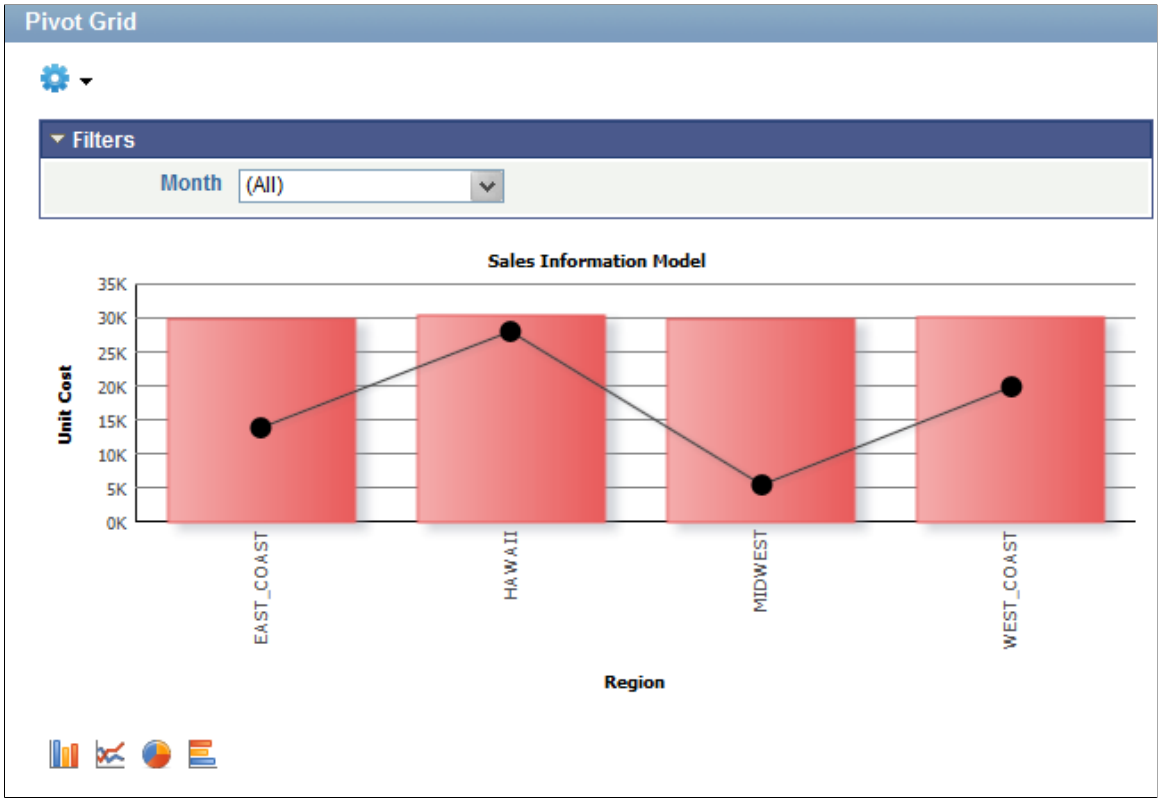
- Overlay field is Unit Sales.

Image: Example chart with the Region field as the X axis, the Unit Cost field as the Y axis, and Unit Sales as the overlay field

This example shows the chart with the Region field as the X axis, the Unit Cost field as the Y axis, and the Unit Sales field as the overlay field.



Note: Whenever you select an overlay field, the chart type is limited to Line chart; however, you are still able to select Bar and Pie charts, but these chart types do not display valid data.

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Chapter 6

Using Component Real-Time Search and Pivot Grids in Fluid Mode

Understanding Component Real Time Search Using Pivot Grid in the Fluid Mode

Fluid components should have the real-time search configured using Pivot Grid. To configure, application developer can use Pivot Grid Wizard to define Pivot Grid models by selecting component data source. The wizard creates a query behind the scenes with the same name of the component and associates it with the model. This query is based only on the search record of the component. The keys of the search record become the prompts for the model.

Note that:

- The component data source models are always set to Chart Only view.
- Only one Pivot Grid model can be associated to the component.
- Within a database, you'll not be able to copy the component data source models using Pivot Grid Administration, but you can copy a fluid component along with the associated Pivot Grid model between databases.

  See the Copying the Fluid Component Between Databases section in Copying Pivot Grid Model.

  Only default view for the Pivot Grid model is associated to the component. Additional non-default views for the component model have no effect on the component search page.
- Component developers should create additional joins to the query so that component search using the Pivot Grid model return better results. For example, the developer can add more facts and filter dimensions to the query and use it in the model.
- Additional custom security-joins that are needed for the component should be performed on the auto-generated query. When the auto-generated query is modified, you must modify the model using the Pivot Grid Wizard to include the newly joined fields.

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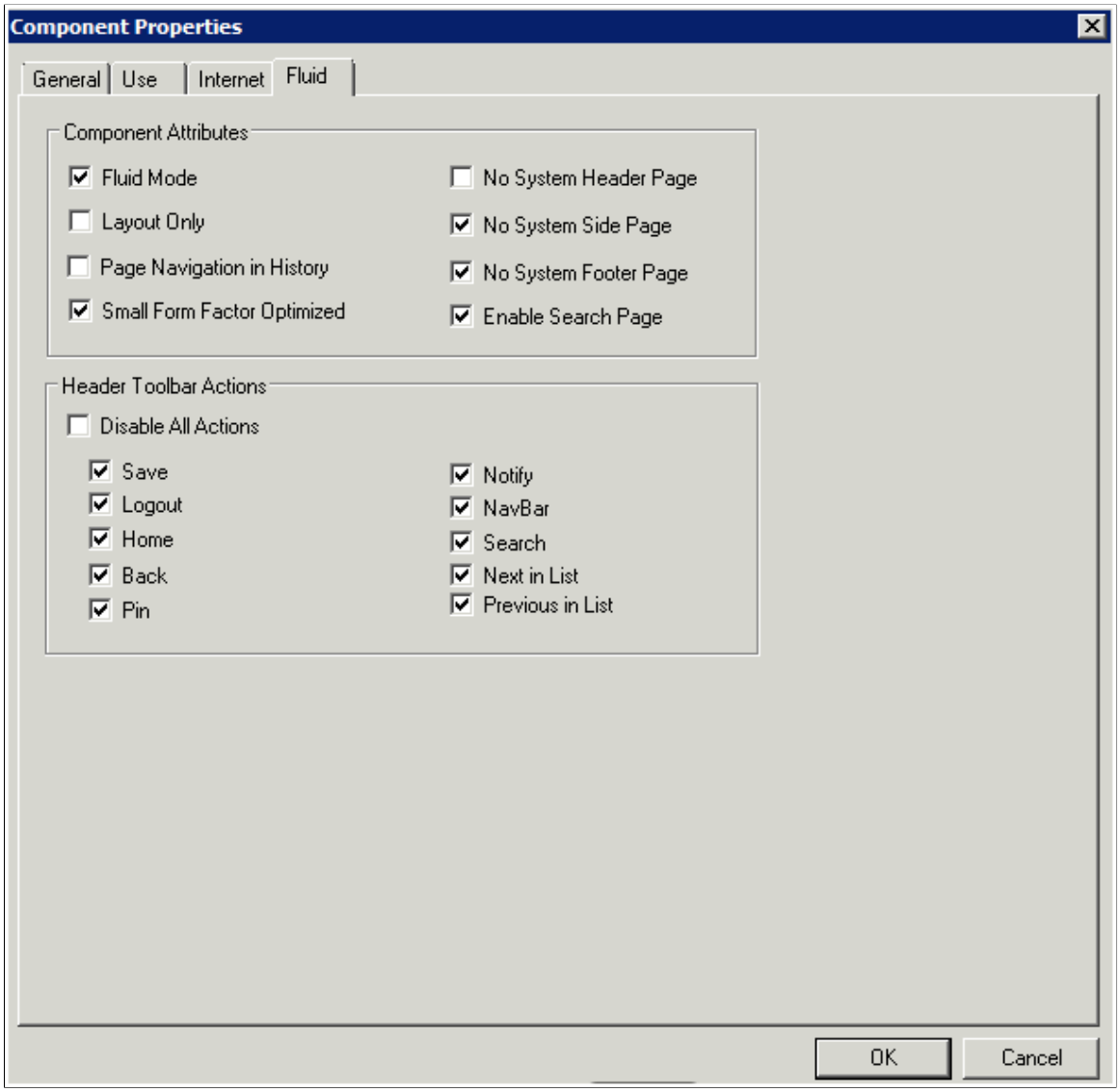
Setting the Fluid Component Real Time Search

Component developers should set the Fluid properties before they register the component.

Image: Component Properties dialog box

This example shows the Component Properties dialog box, where component developers can set the component properties to use in Pivot Grid. Note that the Fluid Mode and Enable Search Page options are selected.



Security for Real Time Component Search

These are the security settings for real time component search:

- When users – including the Pivot Grid administrators – access a component that they are not granted permission, an error message appears.
- When users create a component data source Pivot Grid model in Pivot Grid Wizard using a component that they do not have the permission to access, an error message appears.

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Note that Pivot Grid Administrators can create the Pivot Grid model for any component.

- The values of the Query Access Tree and Access Group fields in the Pivot Grid Wizard - Select Data Source page are applied for each permission that is associated to the component when the component data source model is created. These settings ensure the query executes successfully when authorized users access the component.
- If a new permission is added to a component, the query access tree and access group must also be added to the permission. Otherwise, any user who has the access only to the newly added permission cannot view the search results.
- When you create a Pivot Grid model using a component as the data source, clicking the Apply button in the Pivot Grid Wizard - Select Data Source page automatically generates a query with the same name as the component, adds the search record to the selected Query Access Tree, and enables all authorized users for the component to access the Query Access Tree and the Search Record.

  If authorized users also have access to Query Manager, they may edit and run the auto-generated query and may view all rows of search results. To avoid exposing confidential data, you must ensure that sensitive columns are not included in the search record.

  In addition, deselecting columns in the Pivot Grid Wizard - Select Data Source page for a component data source model does not exclude those columns from the auto-generated query, and users can view that column data using Query Viewer and Query Manager. Therefore, you must not use deselecting columns in the Pivot Grid Wizard - Select Data Source page as a security measure for hiding sensitive data. Instead, you must remove columns that contain confidential data manually from the search record.

See the Copying the Fluid Component Between Databases section in Copying Pivot Grid Model.

Creating a Component Pivot Grid Model Using the Pivot Grid Wizard

This topic discusses how to:

- Specify Pivot Grid properties.
- Select a data source.
- Specify data model values.
- Specify data model options.
- View Pivot Grid displays.

Specifying Pivot Grid Properties

Use the Specify Pivot Grid Properties page (PTPG_WIZ_INFO) to identify and categorize the data model for the Pivot Grid.

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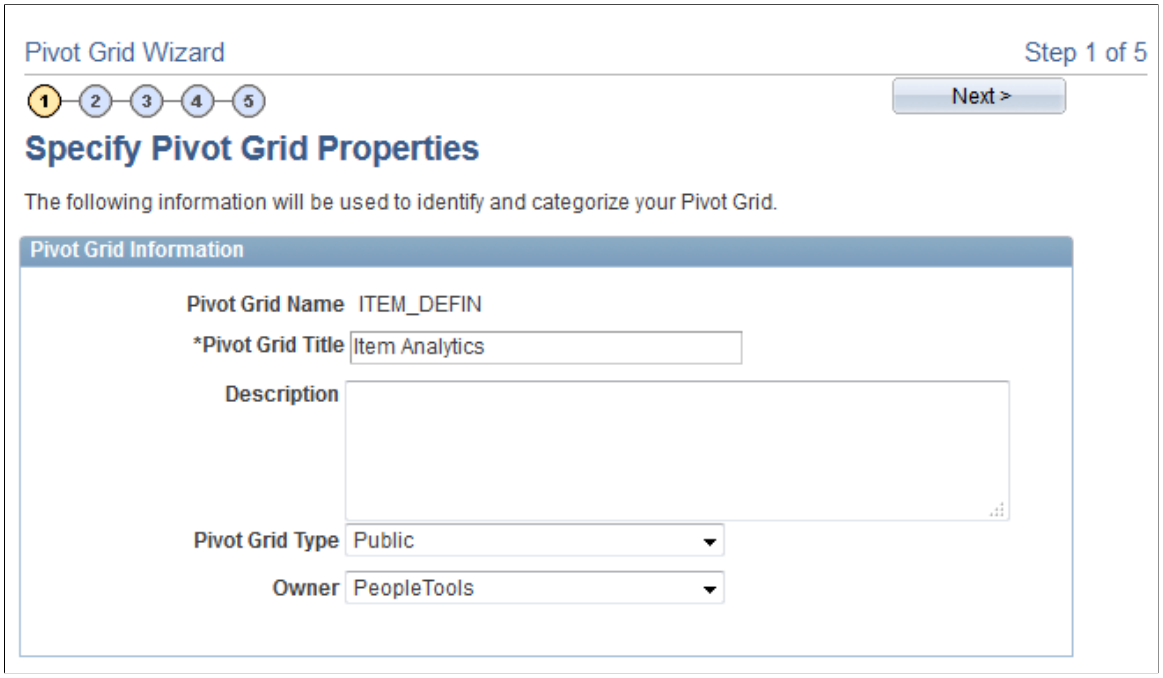
Navigation

Access the Specify Pivot Grid Properties page by selecting Reporting Tools, Pivot Grid, Pivot Grid Wizard.

Image: Specify Pivot Grid Properties page

This example illustrates the fields and controls on the Specify Pivot Grid Properties page. Definitions for the fields and controls appear following the example.



Pivot Grid Title Enter a title for the pivot grid. This field is required.

Pivot Grid Type Select whether the Pivot Grid model is *Private* or *Public.*

- Private models are only available to the users who created the model and the users who have the PivotGridAdmin role.
- Public models are available to administrators and power users for updating, and they are accessible to all users for viewing.

Next

Note: The Next button is available after you enter the title of the pivot grid in the Pivot Grid Title field and move to any other field.

Click to advance the wizard to the next page.

Selecting a Data Source

Use the Select Data Source (PTPG_WIZ_DATASRC) page to select the data source and output columns.

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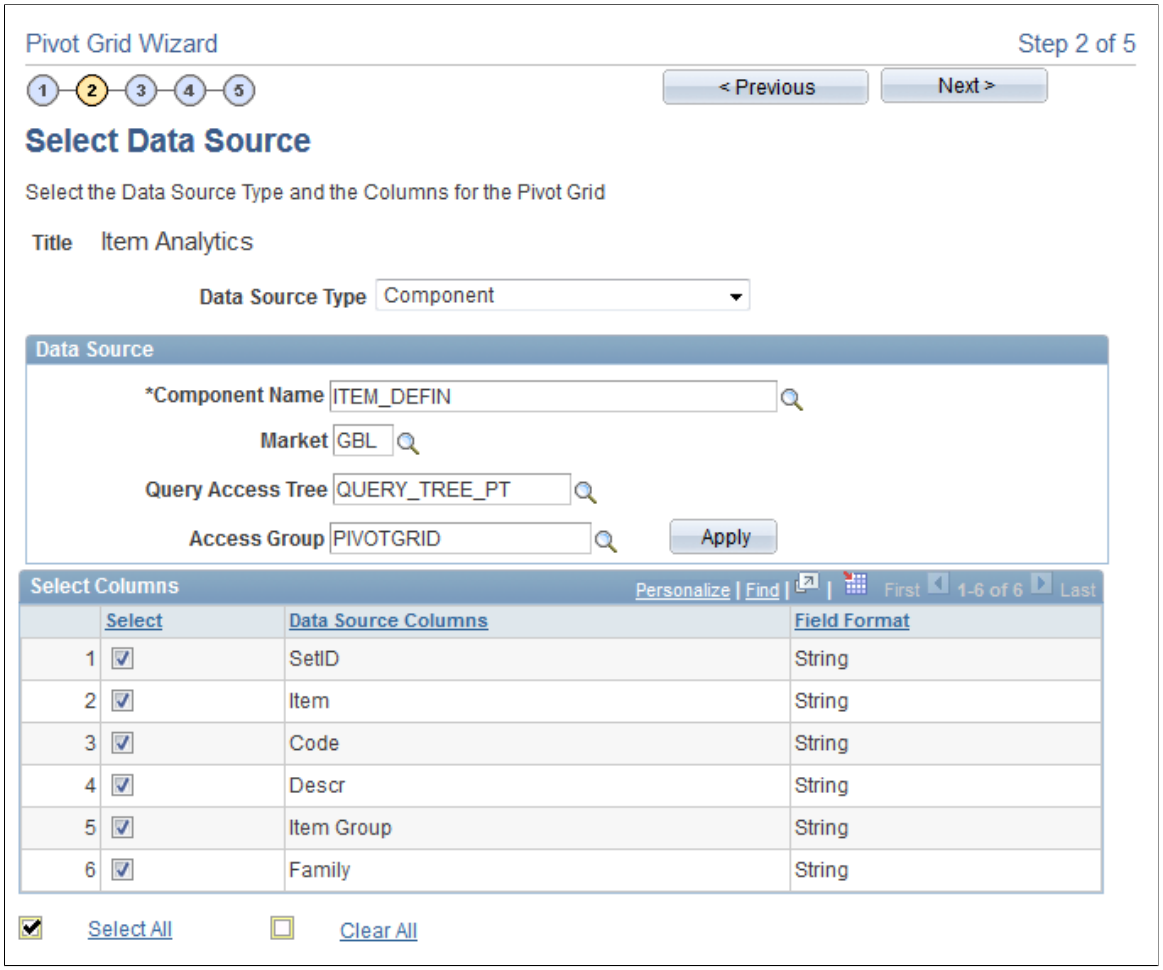
Navigation

Access the Select Data Source page by selecting the Next button on the Specify Pivot Grid Properties page.

Image: Select Data Source page - Component

This example illustrates the fields and controls on the Select Data Source page when the Data Source Type is set to *Component.*



Data Source Type Available options are *Component* and *PS Query.*

See Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard

Component Name This field is available if the Data Source Type is set to *Component.*

Click the search icon to select a Fluid component that needs to be configured for Real Time Search.

Market This field is available after you select a component name. The market value is set to *GBL* by default. You can optionally change the value of this field to the market of the component for which real time search is being configured.

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Query Access Tree

This field is available if the Data Source Type is set to *Component.*

Select a Query Access Tree value that the search record needs to be associated.

Access Group

This field is available if the Data Source Type is set to *Component.*

Select a Access Group value which the search record needs to be associated.

Apply

Click to add the search record under the selected query access tree and access group, which are added to each of the permission list that is associated to the component and also to the Pivot Grid Administrator permission (PTPT4600).

After the data source is applied, a query is created for the search record. By default, all key fields are added as the optional prompts and all search record fields are added as dimensions for the model.

Note that, an appropriate error message appears after you click the Apply button if:

- You don't have the permission to access the selected component.
- Another Pivot Grid model is already associated with the selected component.
- The search record is not a SQL table or SQL view, but it is a dynamic view.

Note: Only SQL tables or SQL views can be associated with the component Pivot Grid model.

Select Columns

Select the output columns to be plotted in the Pivot Grid model.

Note: The Select Columns region is available after you click the Apply button.
You must select at least two output columns.

Next

Click to advance the wizard to the next page.

Note: The Next button is available after you select at least two columns in the Select Columns region.

Specifying Data Model Values

Use the Specify Data Model Values page (PTPG_WIZ_MODEL) to define the column type and aggregate functions for the selected data model.

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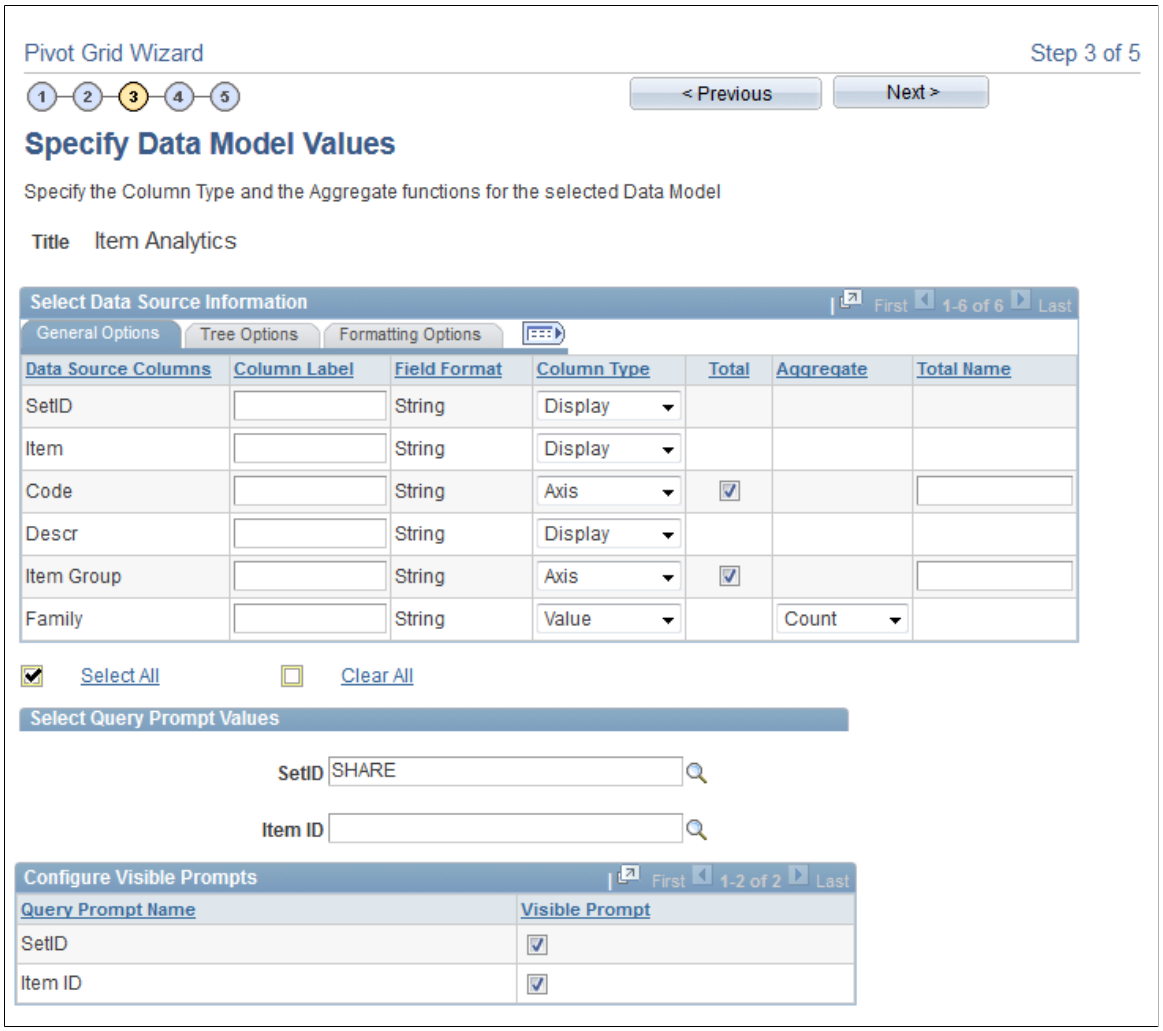
Navigation

Access the Specify Data Model Values page by selecting the Next button on the Select Data Source page.

Image: Specify Data Model Values page

This example illustrates the fields and controls on the Specify Data Model Values page. Definitions for the fields and controls appear following the example.



Column Label

Optionally, specify the labels for columns (dimensions or facts). The labels apply to grids and charts.

Note: Column labels must be unique. No two data source columns can have the same label.

Column Type

Define the axis, value, or display members for a column.

Select the *Display* option to enable the column to appear in the detailed-data view of the grid and the chart.

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	Note: At least one *Axis* and one *Value* member are required. You can also select this column as a related action parameter for a Pivot Grid model in the detailed-data view.
Total	Select which *Axis* members have the Total (All) attribute enabled.
	Note: This column is available only for the data source column with column type *Axis.*
Aggregate	Define the aggregate functions for the *Value* type members. Available options are *Avg, Count, Max, Min,* and *Sum.*
	Note: This column is only available for the data source column with column type *Value.* Value members of type *Number* and *Signed Number* can be associated with any of the aggregate functions. Value members of any other type can only be associated with the Count aggregate function. If there is no numeric dimension, the system set the Aggregate value of one data source columns to *Count.*
Total Name	Optionally, specify the total names, which override the default All string.
Select Query Prompt Values	Enter the default values for the PSQuery runtime prompts.
	Note: This region is only available when the selected query has prompts attached. The default value in the Select Query Prompt Values region is blank and you are able to define your prompt values. If the required prompt fields are blank or if the format of data entered is incorrect, Pivot Grid Wizard displays a validation error.
Configure Visible Prompts	Select a check box in the Visible Prompt column for the query prompts that will be visible to the viewers. Otherwise, clear the Visible Prompt check box for the query prompts that will be hidden from viewers. If all prompts are set to be invisible, the Prompts option will not appear in the Options menu in Pivot Grid Viewer.
	Note: This region is only available when the selected query has prompts attached.
Next	Click this button to advance the wizard to the next page.

Specifying Data Model Options

Use the Specify Data Model Options (PTPG_WIZ_OPT) page to define the initial layout of the grid and the chart.

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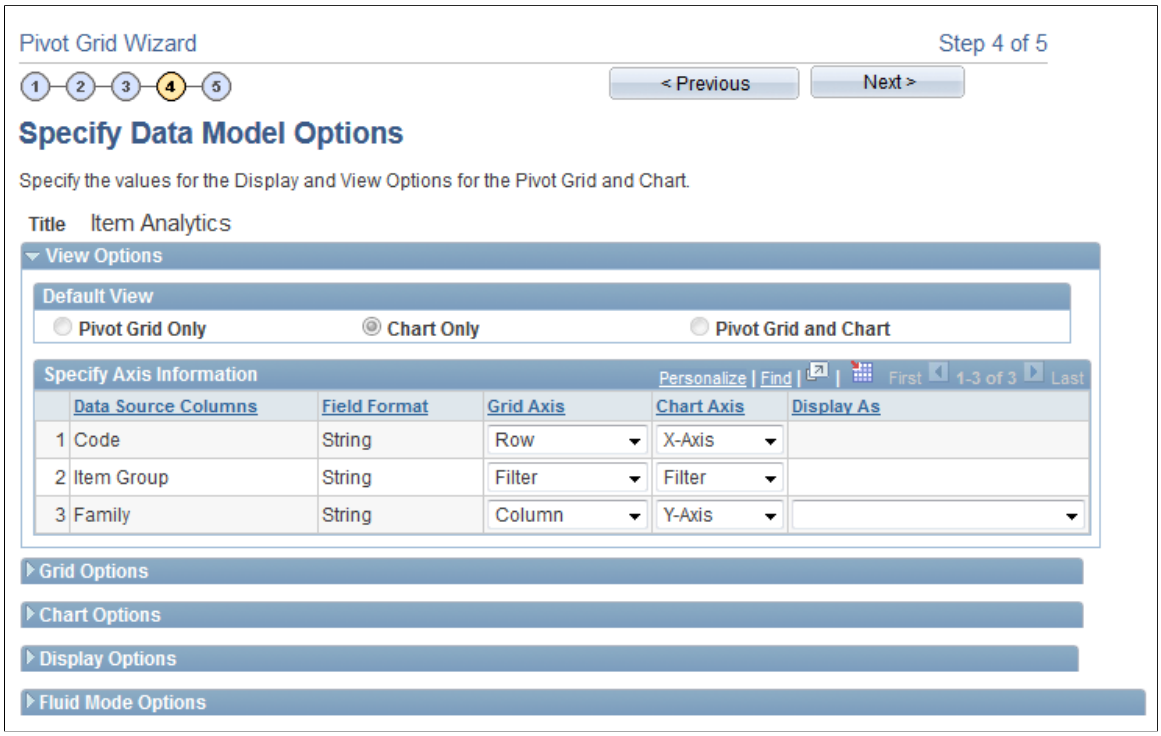
Note: The only default view that is available for the component data source models is Chart Only. In other words, when the Data Source Type field is set to Component, the Chart Only option is selected for the default view and you cannot change this selection.

Navigation

Access the Specify Data Model Options page by selecting the Next button on the Specify Data Model Values page.

Image: Specify Data Model Options page

This example illustrates the fields and controls on the Specify Data Model Options page. Definitions for the fields and controls appear following the example.



This page has five main sections: View Options, Grid Options, Chart Options, Display Options, and Fluid Mode Options. Each section can be expanded or collapsed.

View Options

Expand to display the view options.

Default View — You must set the component data source models to Chart Only view.

Grid Axis and Chart Axis — Select the initial chart layout. Note that:

- Both grid and chart axes must be selected, irrespective of the display option selected. Both grid and chart have the same filters. All the Value type columns lie on one axis in the pivot grid.

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- For the chart, Axis type members can be selected as X axis and Series, whereas the Value type members can be selected as Y axis and Overlay.
- You can select only one X axis, Y Axis, Series, or Overlay member.

Display As

The Display As column is available only for number (facts) fields.

Select either the *Percentage* or the *Percentage Grand Total* option to display the number (fact) values in the grid and chart.

You are able to apply or remove this calculation option using the Options Menu icon in the Pivot Grid Viewer.

Grid Options

Use the Grid Options section to define Pivot Grid view options for the grid and the chart.

Chart Options

Expand the Chart Options section to enter additional chart options.

Display Options

Use the Display Options section to hide chart icon shortcuts and to disable menu options in the Pivot Grid display. This configuration is at the model level and is applicable for all views.

For example, if the Hide Chart, Pie Chart, and Horizontal Bar Chart options are deselected in the Display Options section, then in the Pivot Grid display, the Hide Chart option in the Option Menu drop-down list is disabled and the Pie Chart and the Horizontal Bar Chart icons are invisible.

Fluid Mode Options

You use the Fluid Mode Options section to define the display the view of the Pivot Grid models in the Fluid mode.

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Fluid Mode Options

You use the Fluid Mode Options section to define the display the view of the Pivot Grid models in the Fluid mode.

Image: Fluid Mode Options – List View Options

This example illustrates the fields and controls on the Specify Data Model Options page - Fluid Mode Options - List View Options section. If the component is needed to be accessed on smart phones (or any small form factor devices), it is mandatory to configure list view for those models.

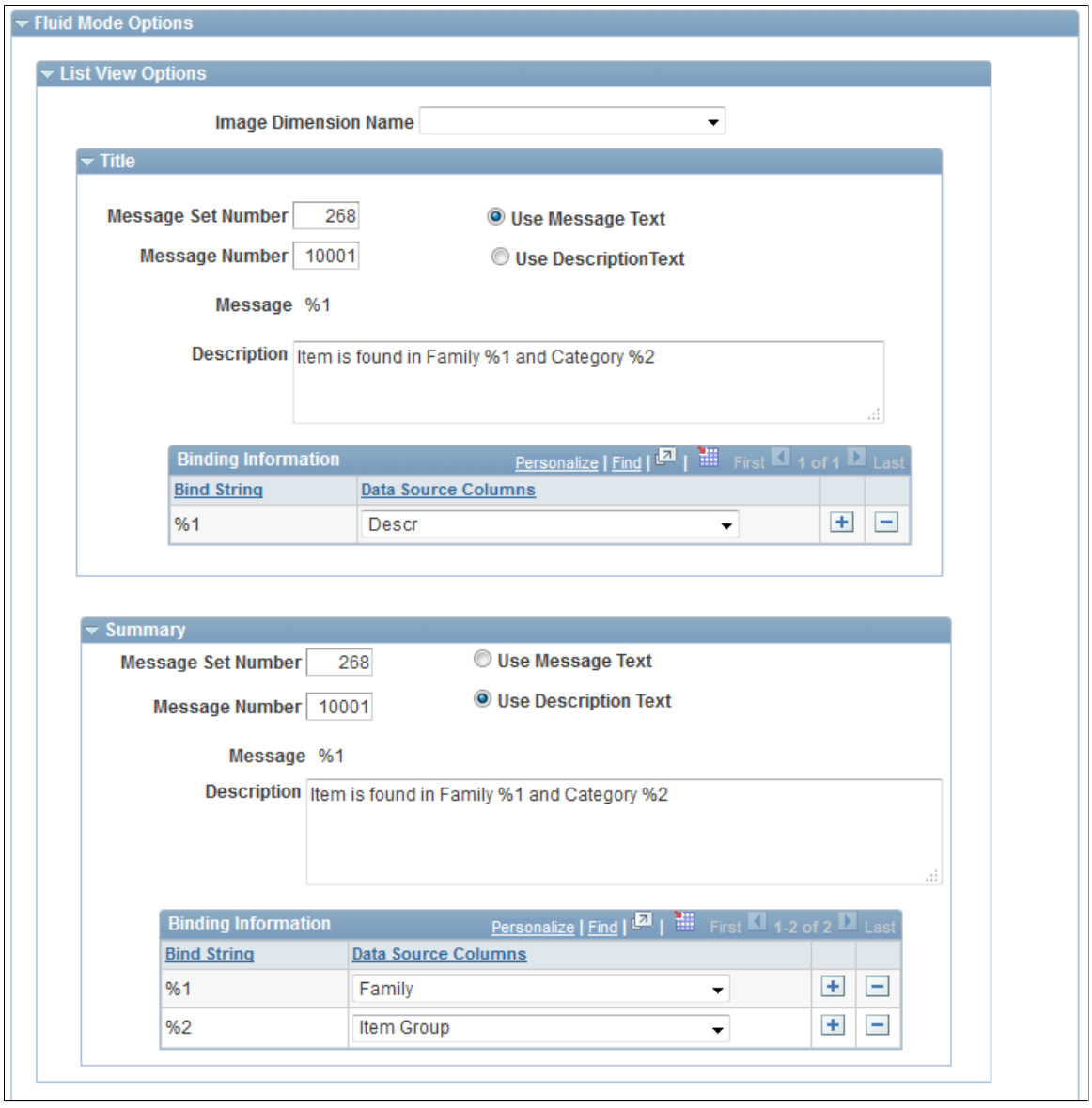

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Image: Fluid Mode Options – View Options

This example illustrates the fields and controls on the Specify Data Model Options page - Fluid Mode Options section - Viewer Options region.

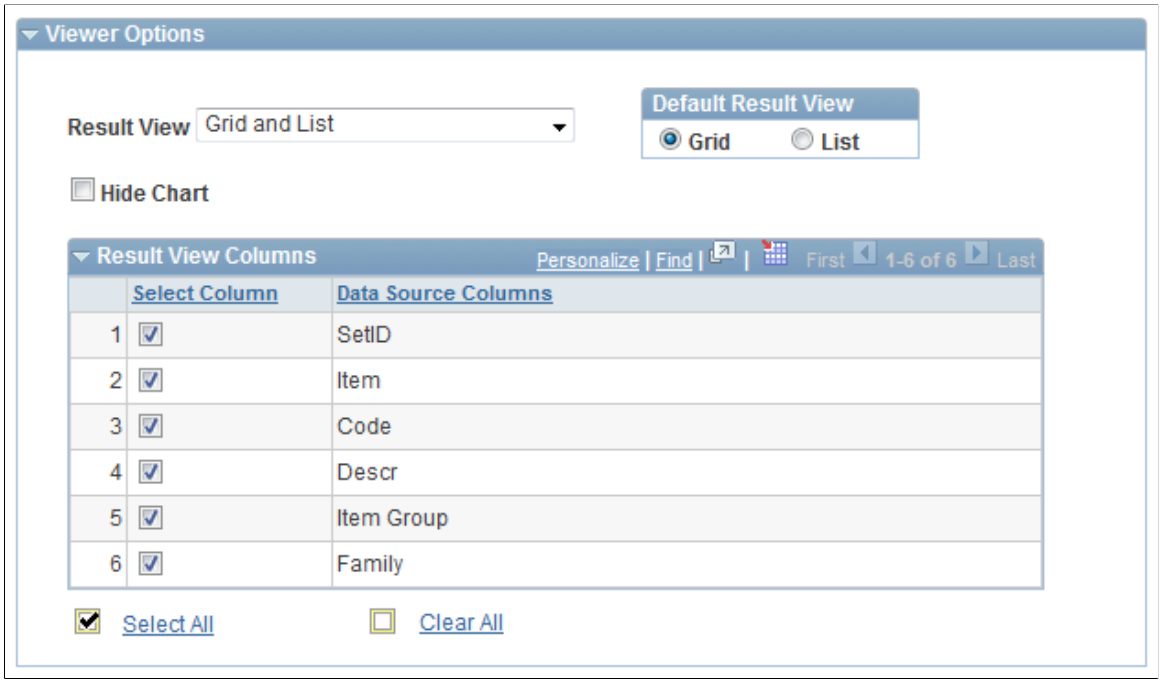

Image Dimension Name

The Image Dimension Name field is a query column that includes the image information. The image dimension determines the image corresponding to each list view result row. This field is defined as part of the query and be available for component search as well as fluid pivot grid viewer.

Note: Image property should be set to hyperlink in Query Manager, and the image dimension should only be used for the *Display* type column in Pivot Grid Wizard.

List View Options

You use List View Options section to define the list view options for the Pivot Grid model. The list view options include:

- The title for each row of result.
- The summary for each row of result.

The Title and Summary sections use the dimension values that are part of the detail grid. While designing the Pivot Grid model, application developers create the title and summary text from message catalog entries. The bind values for the message catalog are passed from the dimensions, facts, and display columns.

The List View Options are also available at the Views Configuration page. These properties can be configured at each view level.

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See the Specifying Data Model Options section in Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard.

Viewer Options

The Results View can be set to Grid, List or Grid and List.

- If the Result View option is set to *Grid and List* for the Fluid mode, the Default Result View section enables the application developer to configure whether the list view, grid view, or both views should be available on the detail view.

  The Default Result View section enables the application developer to configure whether the list view or grid view should show up by default in the detail view.

- You can deselect any column in the Result View Columns grid to hide that column. By default, all the display type columns, axis rows, filters, and facet fields appear in the detail view (as in classic Pivot Grid Viewer).

- In the component data source models or the *Chart Only* Pivot Grid models, the chart can be hidden using the Hide Chart option.

- The detail view of the *Chart Only* models are shown on the face of the viewer. In the *Pivot Grid and Chart* models and *Pivot Grid Only* models, the detail view show up in full page modal window.

- The *Chart Only* model can also have the Result View value set to *None.*

  In this case, the Detail View is not displayed on the face of the viewer, but it is displayed in a modal when the data point is selected.

  Note: The *None* option is not available for the component data source model. This option is available only for the *Chart Only* models that was created using PSQuery as data source.

Note: You can configure views at the model level as well as the view level. The Views Configuration page for pivot grids overrides the Fluid mode options at the view level.

See the Specifying Data Model Options section in Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard.

Facet Options

Used to define whether users can select a single or multiple selections when a specific dimension is displayed as a facet in the viewer. The settings in this section apply to both component search and Pivot Grid Viewer. This section is available for all model types in the Fluid mode. These settings are also available

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in the Views Configuration page, where you can set the facet property at each view level.

By default, all facets are set to show multiple selection.

See the Specifying Data Model Options section in Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard.

Viewing Pivot Grid Displays

Use the Pivot Grid Display page (PTPG_WIZ_DISP) to review the Pivot Grid model based on the display option and layout selected. Optionally, you can modify the Pivot Grid model to finalize the design and then click the Save button to save it. Pivot Grid model metadata is saved to the database.

Note that Pivot Grid displays the value 0 (zero) in the grid cell if:

- No data for the grid intersection point exists.

  In this case, Pivot Grid displays 0 as text, and you cannot drill down to details from this text.

- Aggregate function returns 0 for the grid intersection. A common use case could be *+ve* and *-ve* values adding up to 0 for the Sum aggregate.

  In this case, Pivot Grid displays 0 as a link, and you can drill down to details from this link.

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Navigation

Access the Pivot Grid Display page by selecting the Next button on the Specify Data Model Options page.

Image: Pivot Grid Display page

This example illustrates the fields and controls on the Pivot Grid Display page.

Note: When working with the Pivot Grid Wizard, you can modify your previous selections at any step by clicking the step number icons. Changes to your selections could change the Pivot Grid model.

See Creating a PSQuery Pivot Grid Model Using the Pivot Grid Wizard.

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Example: Views of Component Real Time Search Results in Fluid Mode

Image: Default grid view of Component Real Time Search results page in fluid mode

This example shows the default grid view of Component Real Time Search page in fluid mode. When a list view is available, you can use the Grid icon or List icon on the top-left of the grid to switch between the grid and the list view.

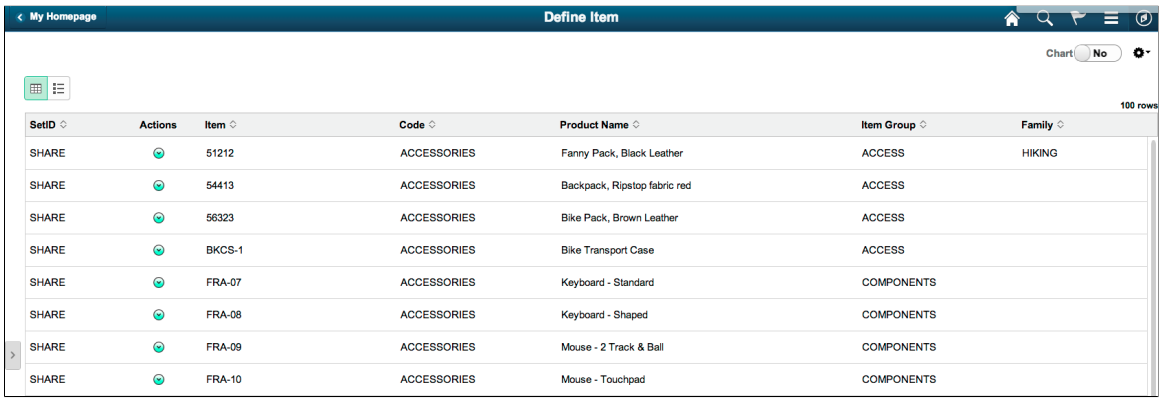

Image: List View of Component Real Time Search results page in fluid mode

This example shows the list view of Component Real Time Search results page in fluid mode.

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Image: View with the left pane expanded

In this example, the left pane is expanded to display the options to change the prompts, search, or apply Filters on the search results. You can also clicking any row of result to open the transaction page that corresponds to the row you selected.

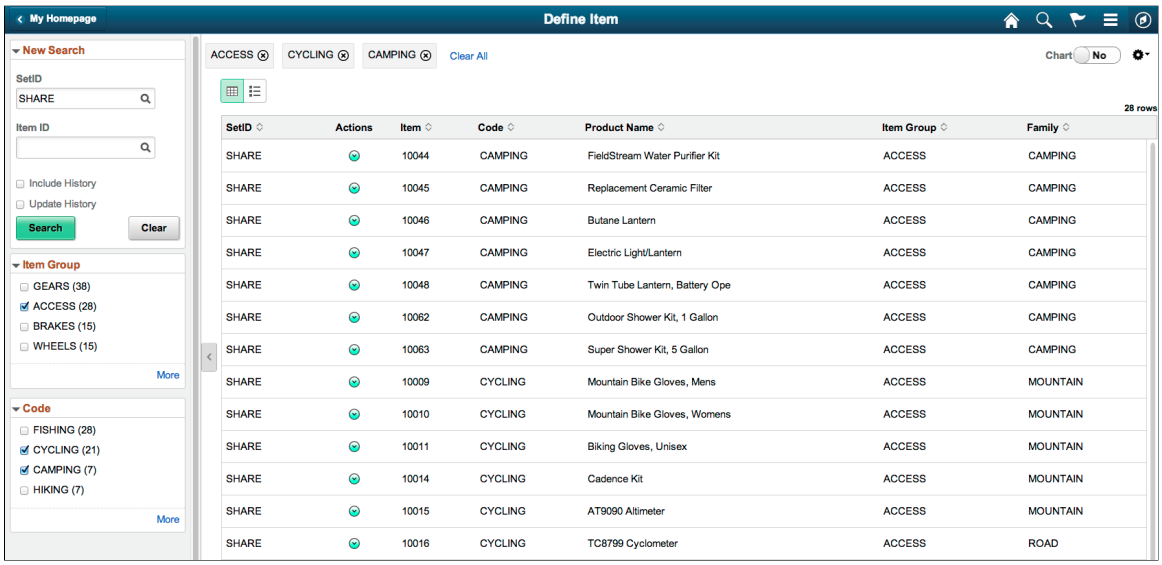
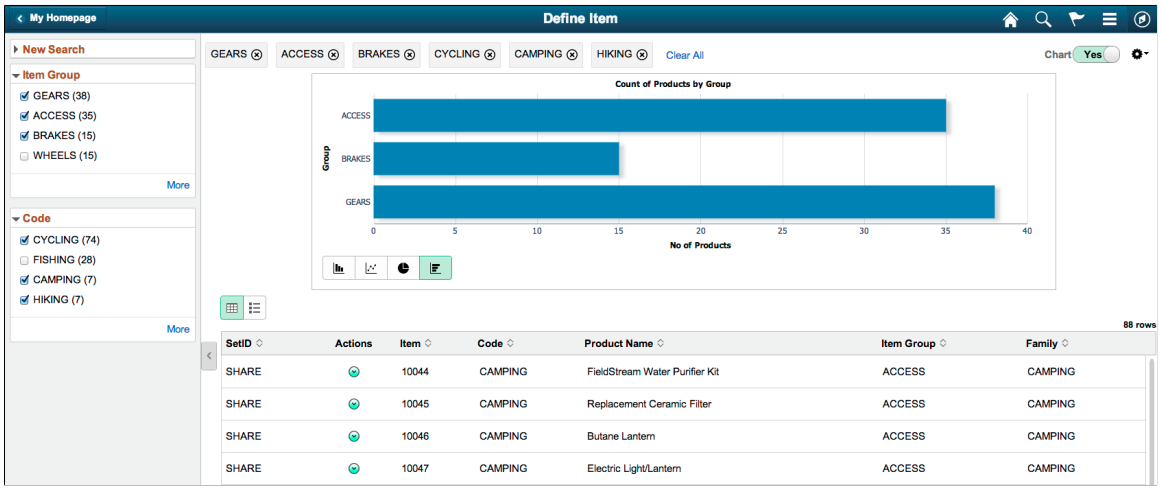


Image: Viewer options in the Fluid mode

In this example, charts can be turned on anytime for analytics. Standard Pivot Grid viewer options such as drill to dimension, detail view for a chart data point, aggregate actions, view pivot grid for the chart, update filters, chart options, save, reset layout, and export data are also available in the search view.



Note: The search page displays related actions configured at the component level. The Pivot Grid related actions does not apply in component search context.

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Viewing Pivot Grid Models in Fluid Mode

Pivot Grid Fluid mode, or Pivot Grid Fluid Viewer, represents the Pivot Grid models in a touch friendly and responsive user interface. All Pivot Grid models, including the existing Pivot Grid models created in an earlier release and the currently created models, can be viewed in the Fluid Viewer component.

You can access the Pivot Grid Fluid Viewer component for a model using Pivot Grid grouplet, related actions, or the URL to the Pivot Grid Fluid Viewer component constructed with the following information:

- Component: PTPG_NUI
- Market: GBL
- Page: PTPG_NUI_VWR
- Menu: PTPG_WIZ_MENU

The component processes PGNAME (the model name) and VIEWNAME (view name) as parameters in the URL. If the view name is not passed, or if an incorrect view name is passed, then the default view is invoked.

Note: The Pivot Grid Name (PGNAME) is mandatory to be passed if accessed by URL.
You can embed Pivot Grid Fluid Viewer subpages within application pages. See Embedding Pivot Grid Fluid Subpages in Application Pages

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This topic discusses the user interface, its behavior, and the Fluid Pivot Grid Viewer components, including:

- Facets (or Filters).
- Prompts.
- Chart.
- Pivot Grid View.
- Detail grid and list view.
- Row-level, bulk, and aggregate-related actions.
- Menu Options.

Facets (or Filters)

Pivot Grid filter dimensions appear as facets in the left panel of the Fluid Viewer. The facet count corresponds to the number of result rows, which corresponds to the specific facet value.

The chart X-axis, Series, and the grid rows are available as facets by default in the Fluid Viewer. You will be able to filter the results, the chart, and the grid on these dimensions.

Progressive filtering, which is similar to the filters in the classic Pivot Grid Viewer, is also available in the Fluid Viewer.

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Facets can be configured to enable single-select and multi-select filters at the model and the view levels. The Update Filters option in the menu enables you to add or remove existing facets in the model.

Image: Single-select facet with counts

This example illustrates a single-select facet with counts.

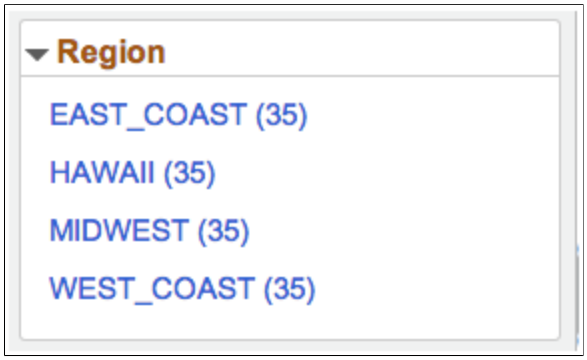
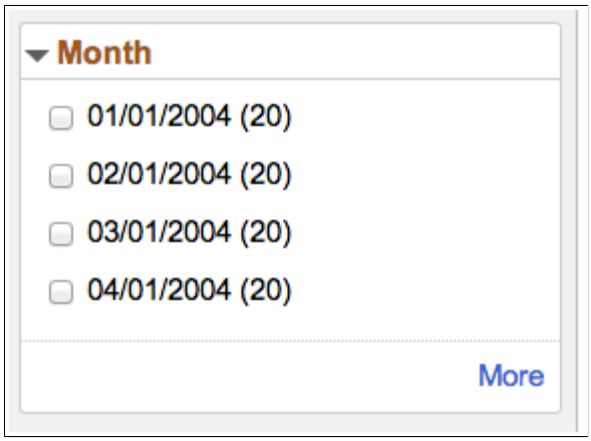


Image: Multi-select facet with counts

This example illustrates a multi-select facet with counts.



Note: The facets initially display the first four values. You can click the More link to view all available facet values.

Prompts

Pivot Grid prompts appear on the left panel of the Fluid Viewer. All types of prompts — including prompt table with edits, prompt table with no edits, translate prompts, and date prompts — can be displayed. The

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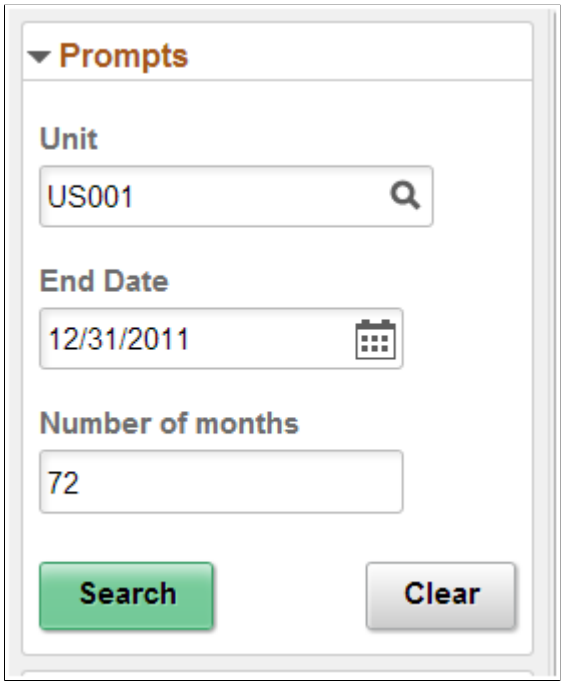
right panel and facet area are not refreshed on each prompt change, which happens only after you select the prompt and click the Search button.

Image: Prompts on the facet of the Fluid Viewer

This example illustrates the prompts on the facet of the Fluid Viewer. You can click the Search button to remove the applied facets and rerun the query using the new prompt values, or you can use the Clear button to clear all available prompt values.



Chart

The chart view is available as part of the Pivot Grid models that have the default view set to *Chart Only* or *Pivot Grid and Chart*. The chart view appears in the right panel of the viewer. The chart can include series, overlay, and legends. The charts in the Fluid mode are able to resize based on the view port.

Similar to classic Pivot Grid Viewer, the chart options in the menu control the various chart parameters. You can also use the Bar, Line, Pie, and Horizontal Bar icons on the face of the viewer to change the chart display.

Actionable Chart Data Points

In a *Chart Only* view, clicking the chart data point enables you to drill down to the Detail View, drill to available dimensions, and perform aggregate-related actions when available. After you perform drill-downs on the dimensions, the Previous pop-up option appears, enabling you to drill out to the initial view. These actions are similar to the ones in the classic Pivot Grid Viewer. When you click the Detailed View option, the selected data point is highlighted and the detail results grid and list view are shown based on the selected data point. When you click outside the data points within the chart area, the Detail View to the original state, and the highlight on the data point is removed.

If the Pivot Grid model view is set to *Chart Only*, selecting the chart data point populates the menu that includes these options:

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- Detailed View

  Selecting the Detailed View option displays the data that corresponds to the selected chart data point.

- Drilldown To

  Selecting the Drilldown To option displays all available dimensions for the current chart data point. Note that when you drill down to a dimension, you set that dimension as the new X-axis on the chart and the existing X-axis value is added as a facet.

- Actions (for example, Aggregate Related Actions, if configured)

  Selecting the Actions option displays the aggregate related action menu.

Note: If there are no dimensions to drill down to and if there are no aggregate related actions, then selecting a data point will not display the actions menu but will display the detail view corresponding to the data point selected.

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These options are similar to the ones in the classic Pivot Grid Viewer.

Image: Chart menu after clicking a chart data point

This example shows the chart menu after clicking the chart data point on a Pivot Grid model that has the related action configured.

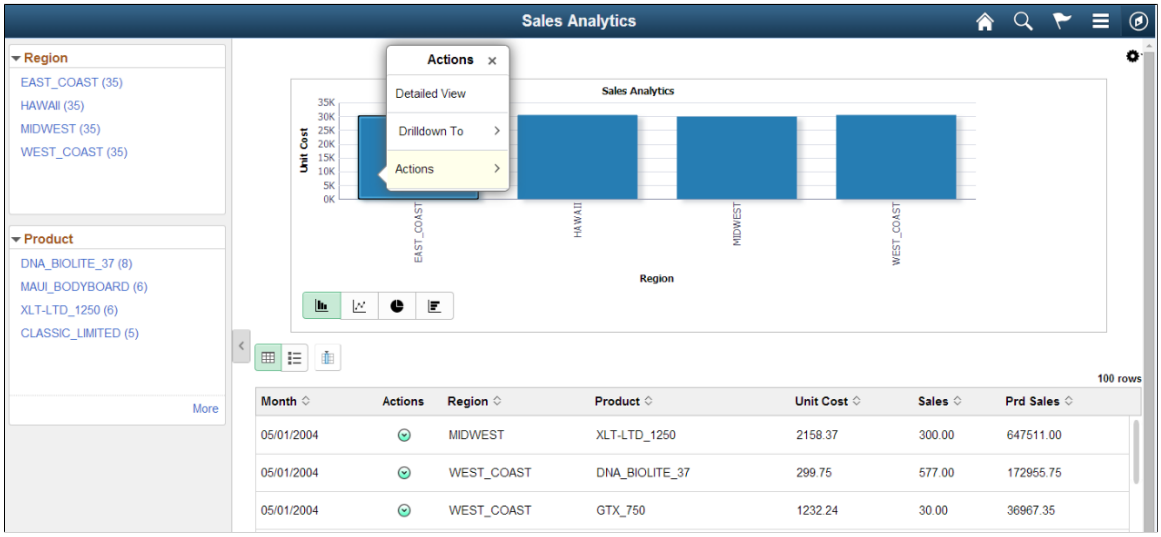

Image: Drilldown To menu listing available dimensions

This example shows the Drilldown To menu that lists all dimensions on which a drilldown can be performed.

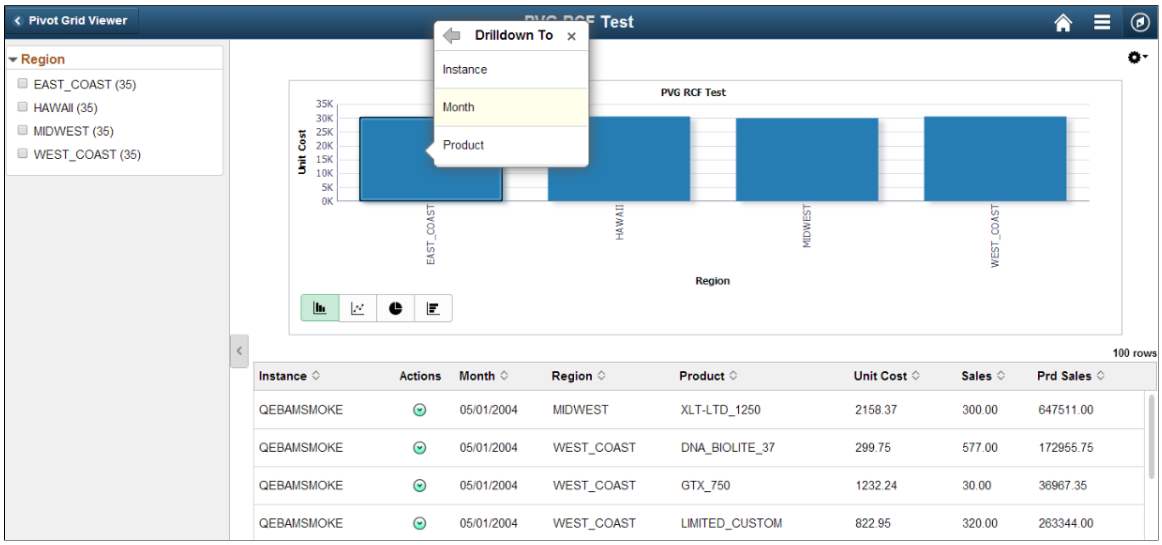

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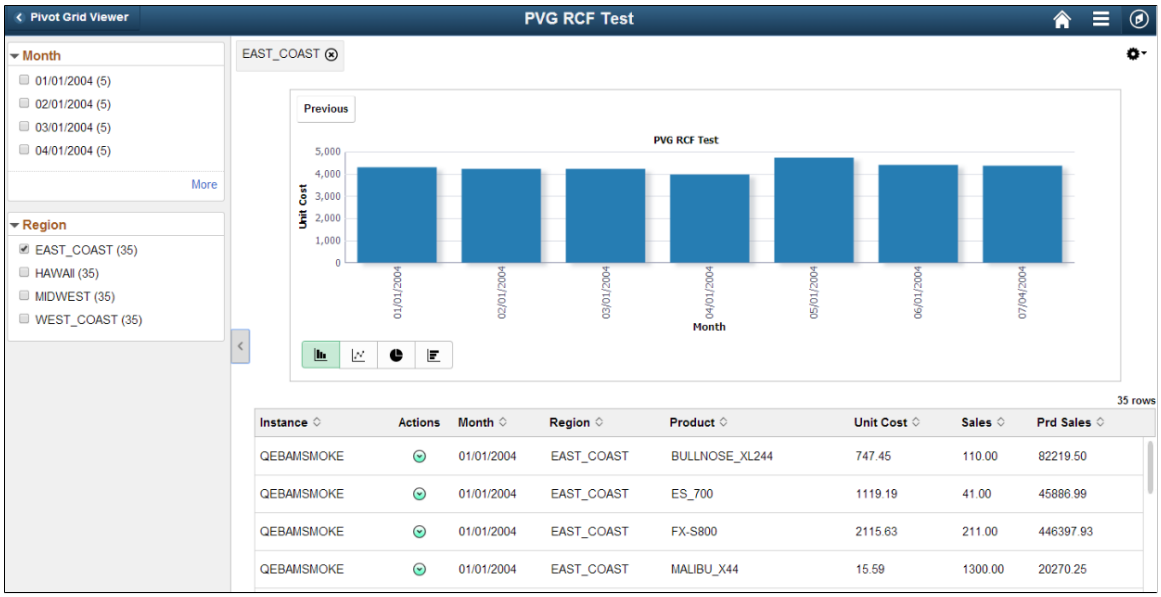
Image: Pivot Grid model after it is drilled down to Month

This example shows the Pivot Grid model after it is drilled down to Month. Month is the new X-axis on the chart and Month and Region are now added as facets. When you click the locator button (Previous), a list of the previous dimensions appears enabling you to drill out to the previous selection.



Pivot Grid View

When the Pivot Grid models have the default view set to Pivot Grid, select the Open in Fluid Mode option in the Pivot Grid Viewer search page to view these models in the fluid interface.

To view the model in the Fluid interface:

1. Access the Pivot Grid Viewer search page by selecting Reporting Tools, Pivot Grid, Pivot Grid Viewer.
2. Select the Open in Fluid Mode option for the model that you want to view.
3. Click the Pivot Grid name link.

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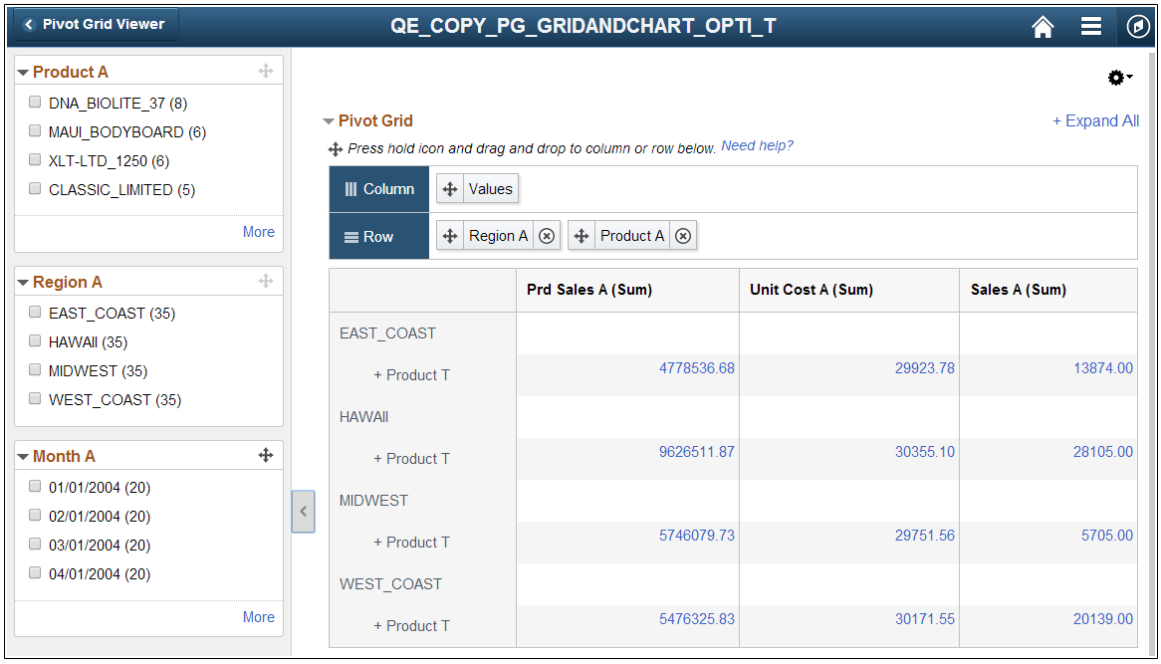
Note: You can also use home page tiles (or grouplets) or related actions to view a Pivot Grid model in the Fluid mode.

Image: Pivot Grid model in the Fluid interface

This example illustrates a Pivot Grid model in the Fluid interface.



When the number of columns in the grid is less than the width of the view port, the grid expands to fill the space. However, when the number of columns is more than can be accommodated in the view port, a horizontal scrollbar is available for you to scroll among columns.

You can click the Need Help link in the grid region to view the help message for the drag-and-drop function.

Actionable Grid Fact Data Point

The grid fact data points are actionable. When bulk-related actions are not configured, clicking the data point on the grid displays the Detail View in a modal for the *Grid and List* view model. When bulk related action is configured, clicking the data point populates a menu that enables you to either select an action or drill to the Detail View from that data point. These options are similar to the classic Pivot Grid Viewer.

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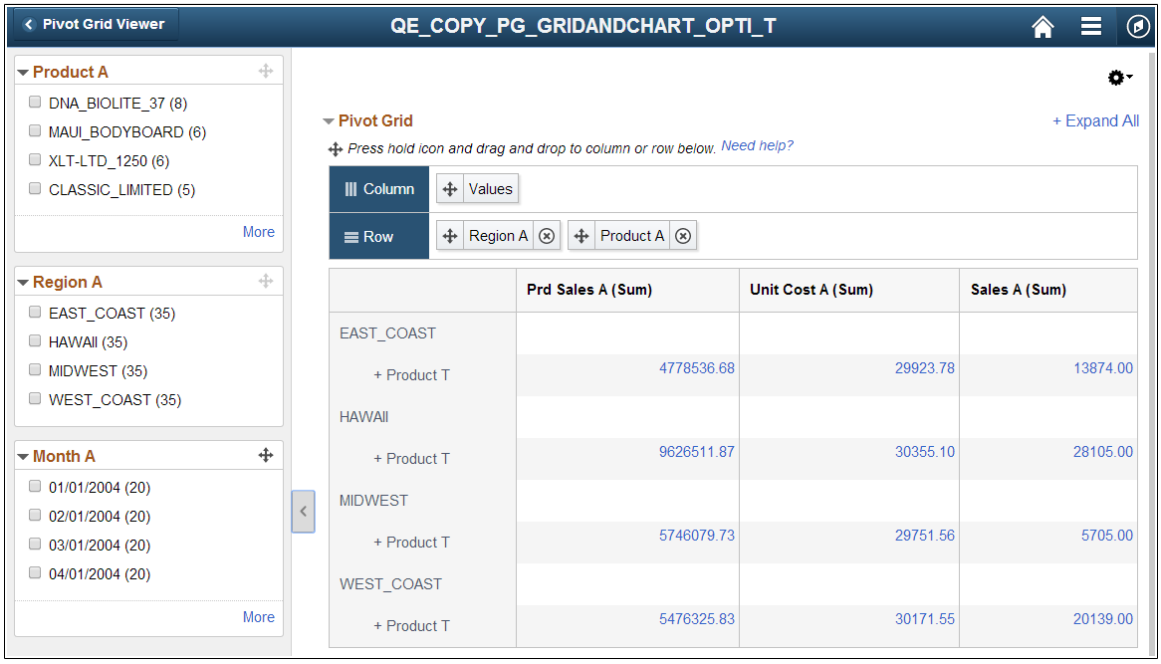
Dragging Filters to Column or Row Regions

The filters in the left panel of the Fluid mode can be dragged onto the regions that are marked with Column and Row labels. You cannot perform drag-and-drop on the filters that include a disabled Drag icon.

Image: Dragging filters to regions in Fluid mode

In this example, you cannot drag-and-drop the Product A and Region A regions because these regions include the disabled Drag icons, but you can drag-and-drop the Month A region because its Drag icon is active.



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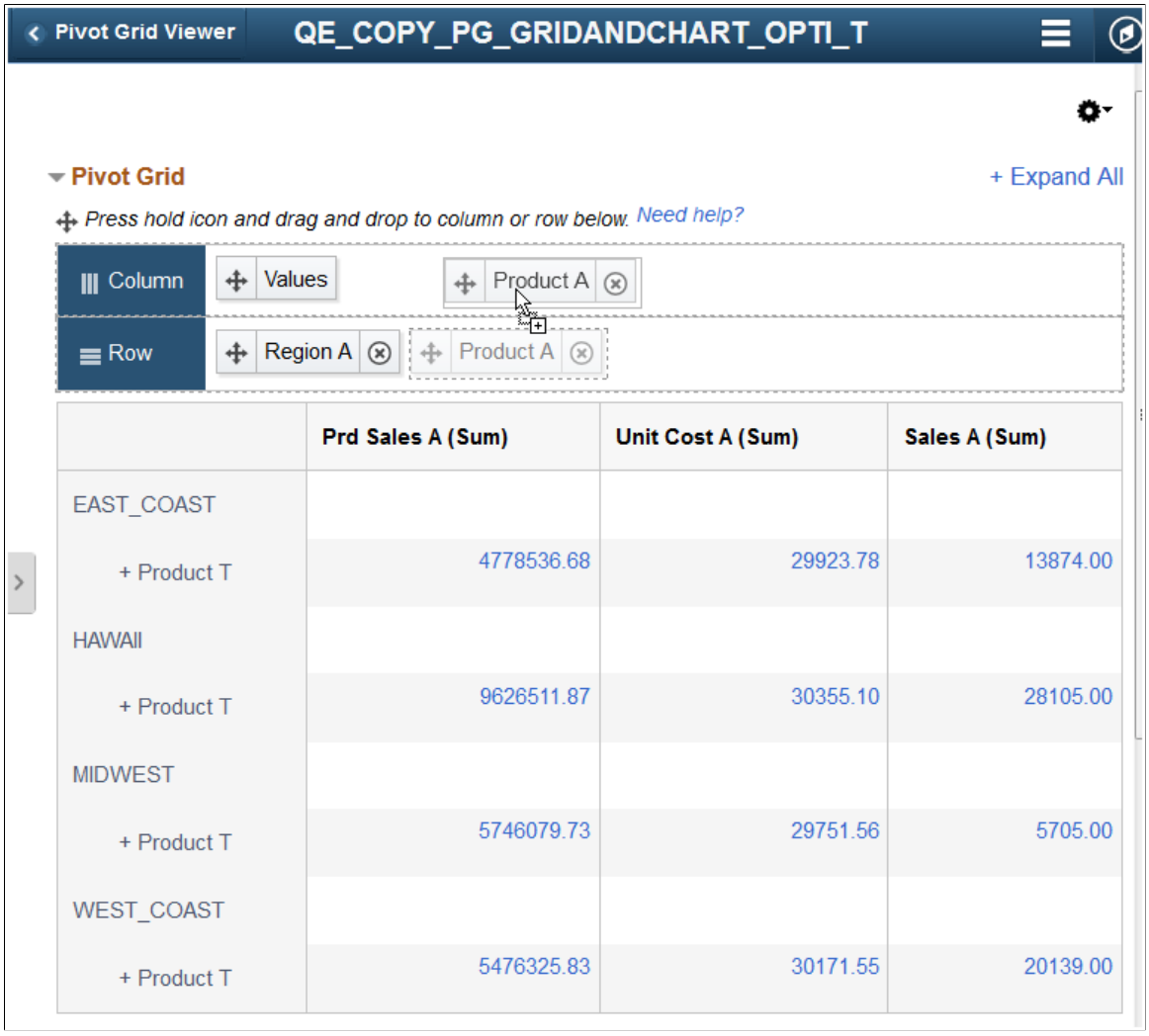
Dragging Axis Between Column and Row Regions

You can drag-and-drop the axis between the column and the row regions that are above the grid.

Image: Dragging Axis Between Column and Row Regions in Fluid mode

This example illustrates how the Product A axis is dragged from the Row region to the Column region.



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Changing the Axis Level

You can change the axis level by performing a dragging and dropping within row or column regions.

Image: Moving Product A axis to Region A

This example illustrates how to drag the Product A axis and move it to Region A. This move places Region A below the Product A axis.

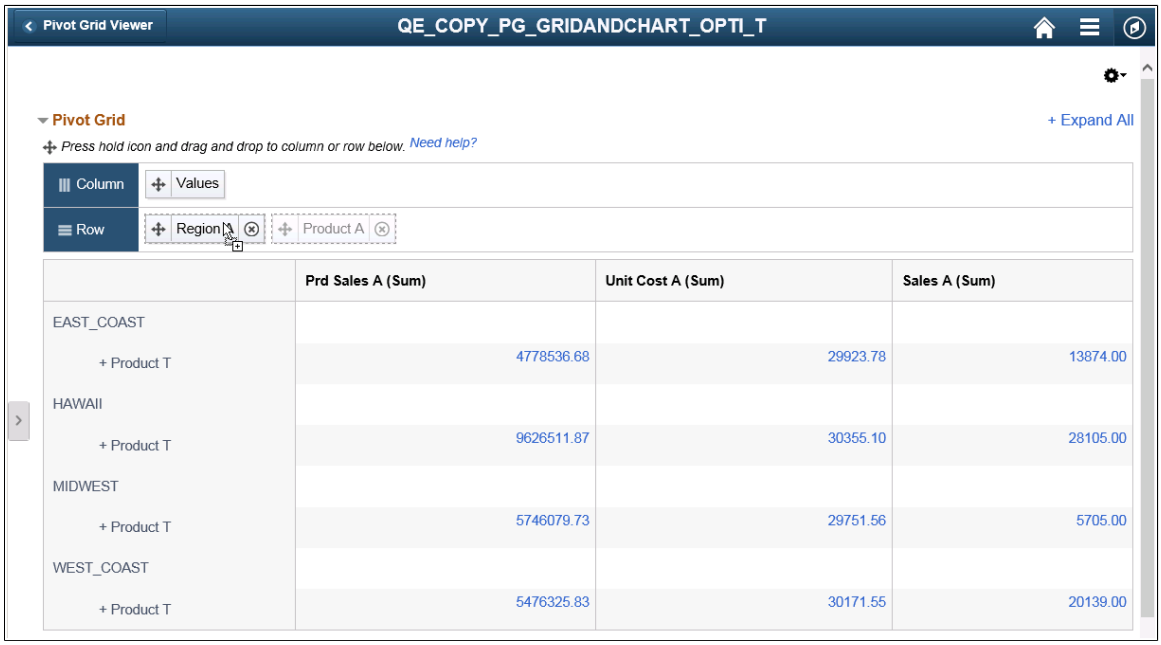
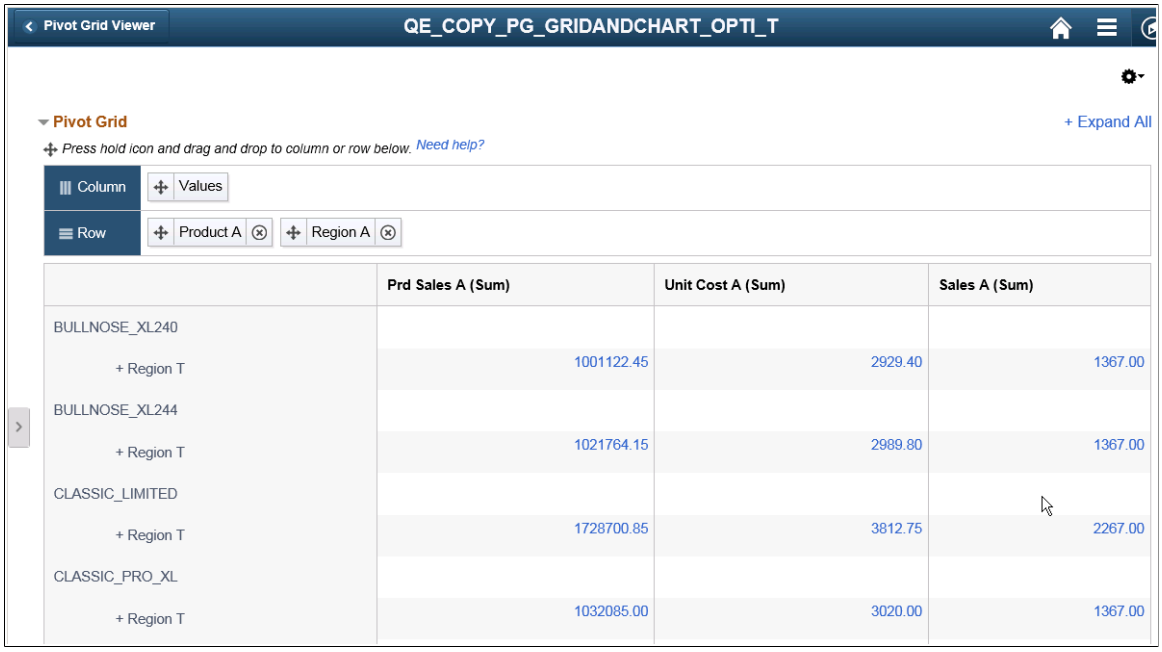


Image: Results of changing the axis level

This example shows the Pivot Grid after you drag Product A axis and drop it on Region A.



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Dragging Filters to Rows or Columns

Image: Dragging filters to rows or columns

This example illustrates how to drag the Month A filters and move them to the Row region or the Column region.

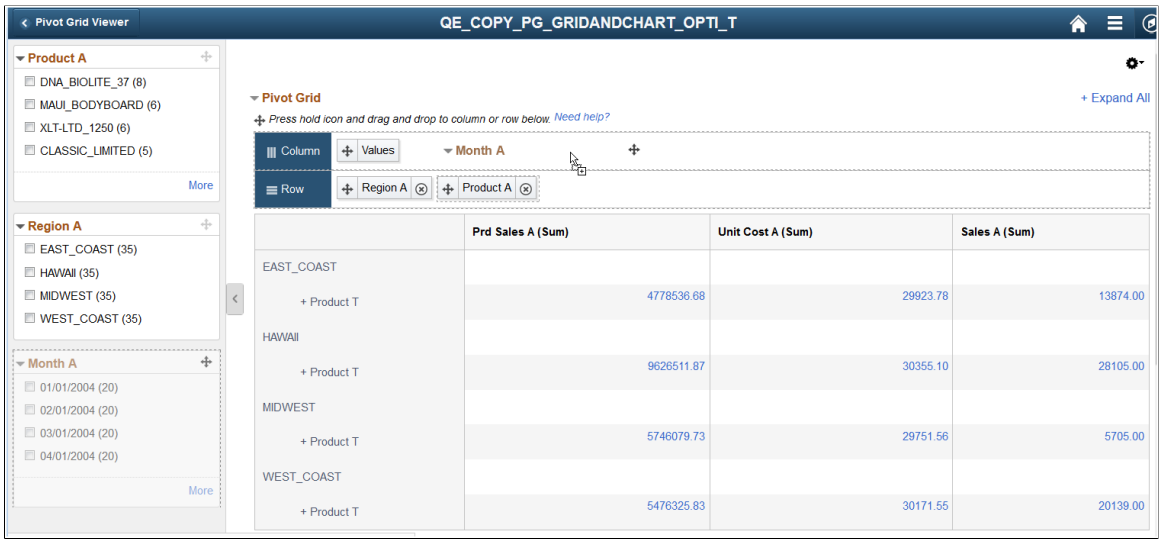

Image: Results of dragging filters to rows or columns

This example shows the Pivot Grid after the Month A filters are dropped on the Column axis.

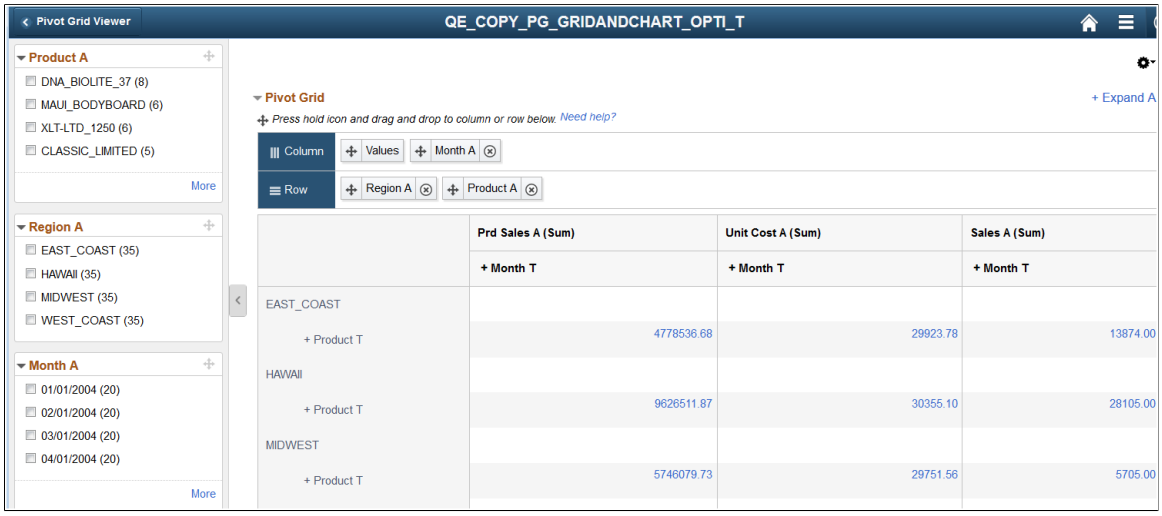

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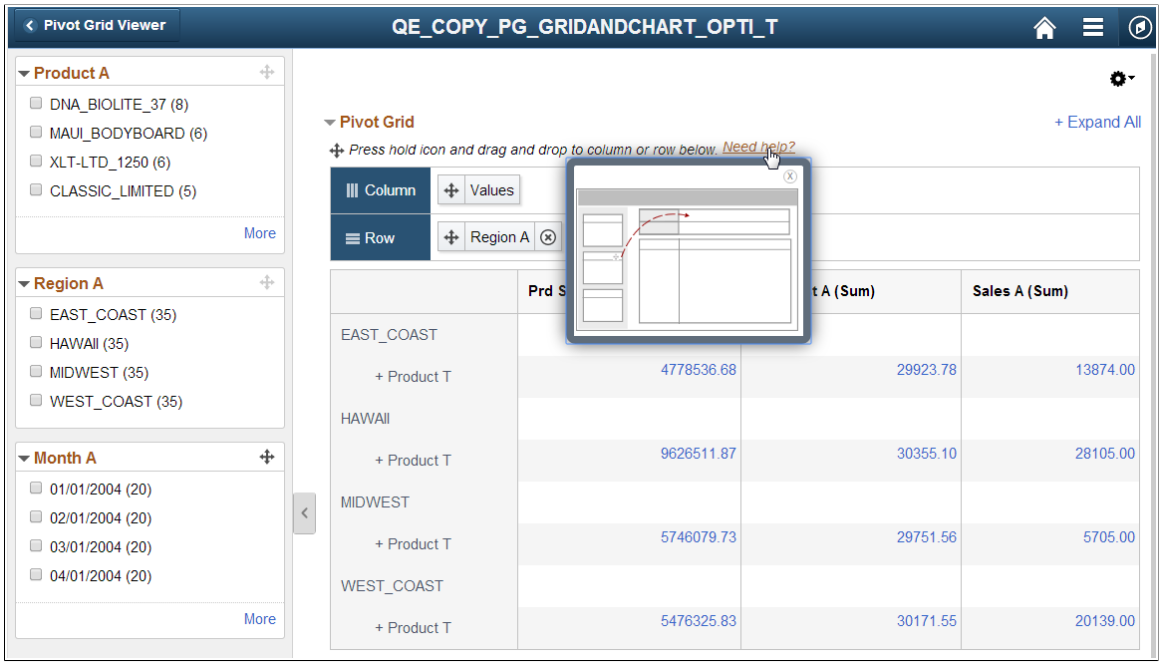
Image: Need Help window

This example illustrates the Need Help window when you click the *Need help?* link. Use the Need Help window to view how to drag filter to row or column.

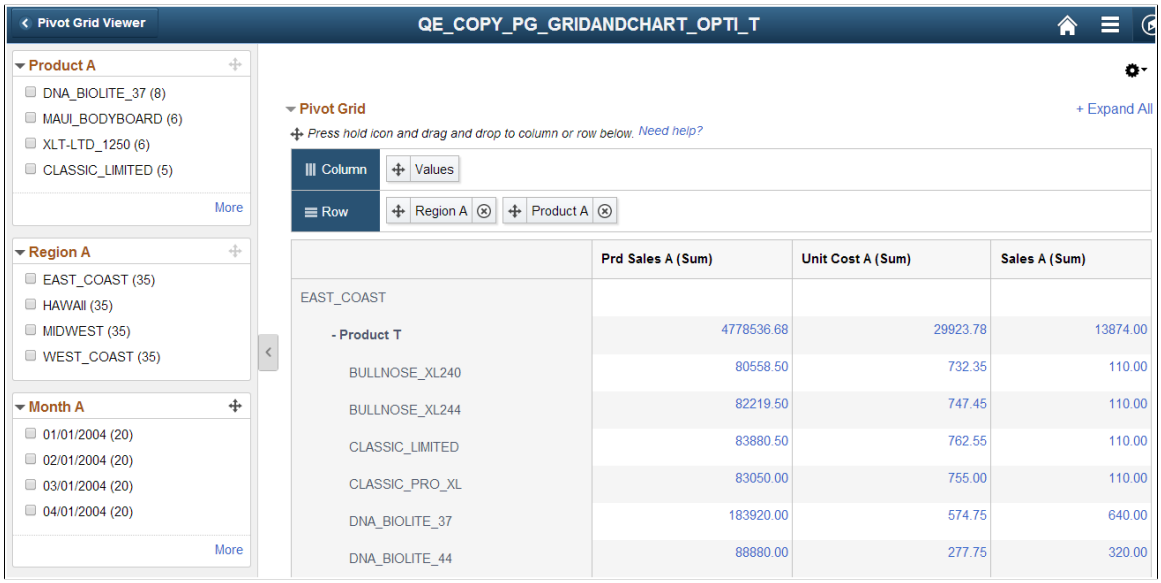


Expanding or Collapsing Nodes in a Grid

You can use the Expand All or Collapse All link at the top right of the grid to expand or collapse all nodes in the grid. This function is similar to that in the classic Pivot Grid Viewer. However, to expand or collapse a single node in the grid, you must click its node label.

Image: Expanding node

This example shows the Pivot Grid after Product T node is expanded.



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Interactive Chart Data points for Pivot Grid and Chart model

If the Pivot Grid model is set to Pivot Grid and Chart, clicking on the chart data point displays the detail view for the data point in a full page modal when there are no aggregate actions. If aggregate action is configured for the Pivot Grid model, selecting the chart data point populates a menu to open the detail view and take aggregate actions.

Detail Grid and List View

Pivot Grid displays the Detail View differently for *Chart Only* models and *Pivot Grid and Chart* models.

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Viewing the Detail View of a Grid and List View on a Chart Only Model

On a *Chart Only* model, the Detail View appears below the chart on the face of the viewer. You can use the Grid and List icons at the top left of the Detail View to switch between the grid and the list views.

Image: Grid Detail View on the face of the viewer

This example shows the grid Detail View below the chart on the face of the viewer.

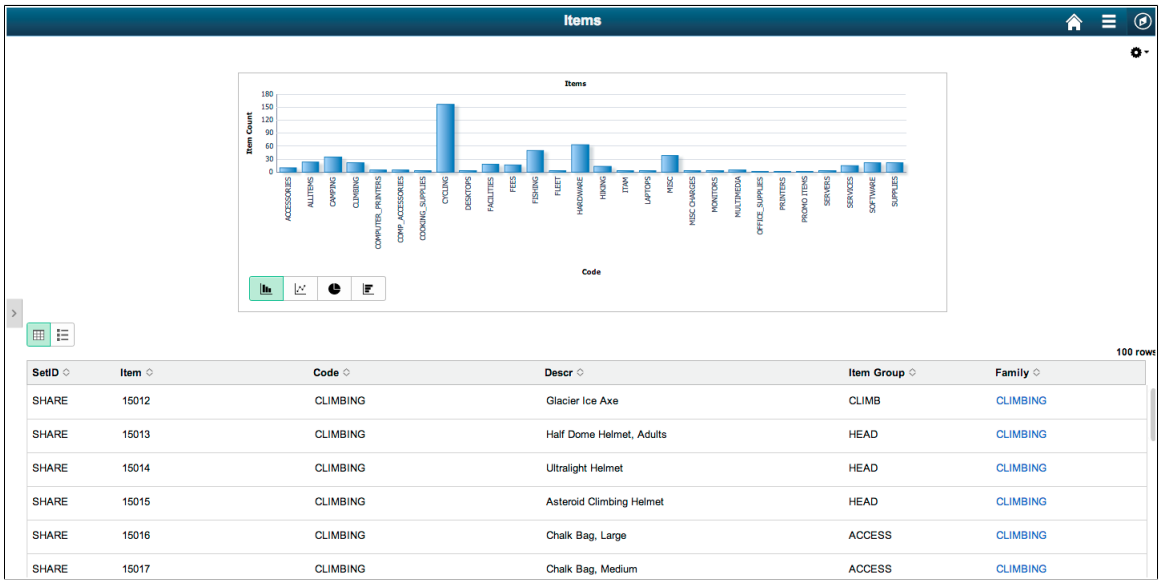
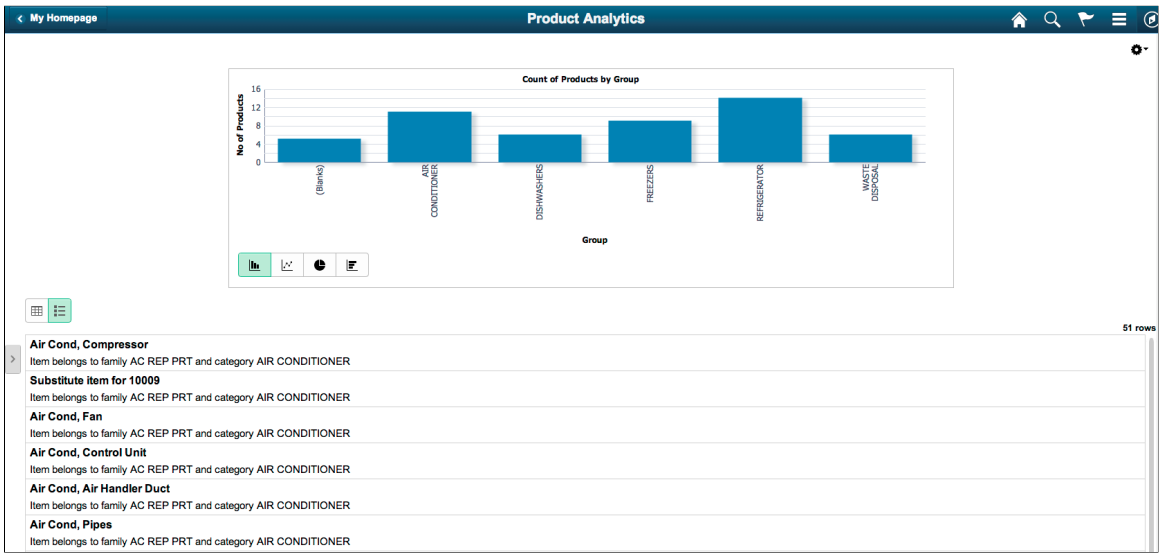


Image: List Detail View on the face of the viewer

This example shows the list Detail View below the chart on the face of the viewer.



When you click a data point in the chart and select the Detail View option, the selected data point is highlighted and the Detail View below the chart is filtered. When you click outside the data point but

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within the chart area, the highlight on the data point is removed and the Detail View is reset to its original state.

Image: Actions on the data point CYCLING

In this example, the data point CYCLING in the chart is selected and its Action list includes the Detail View option.

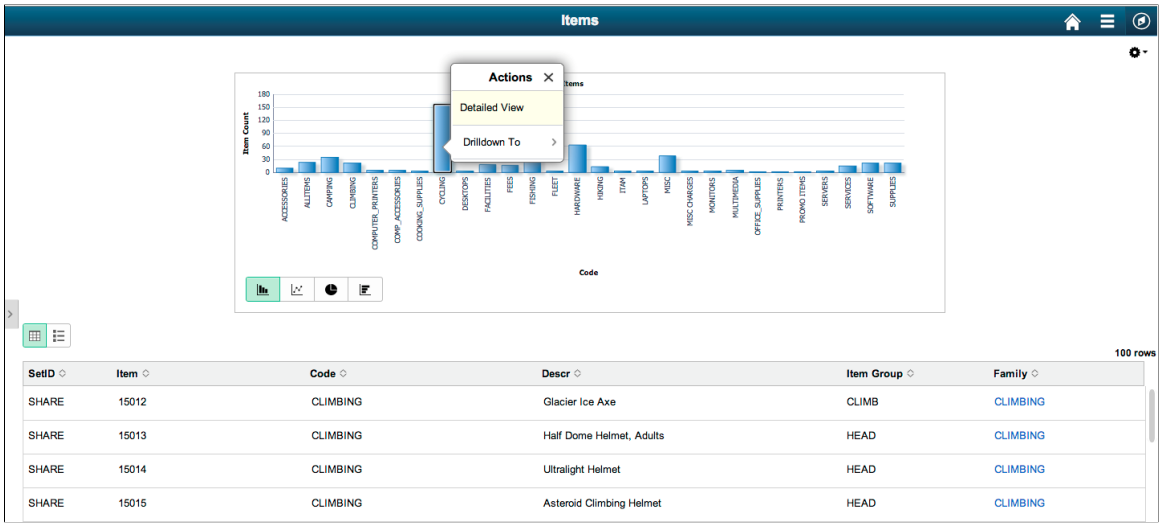
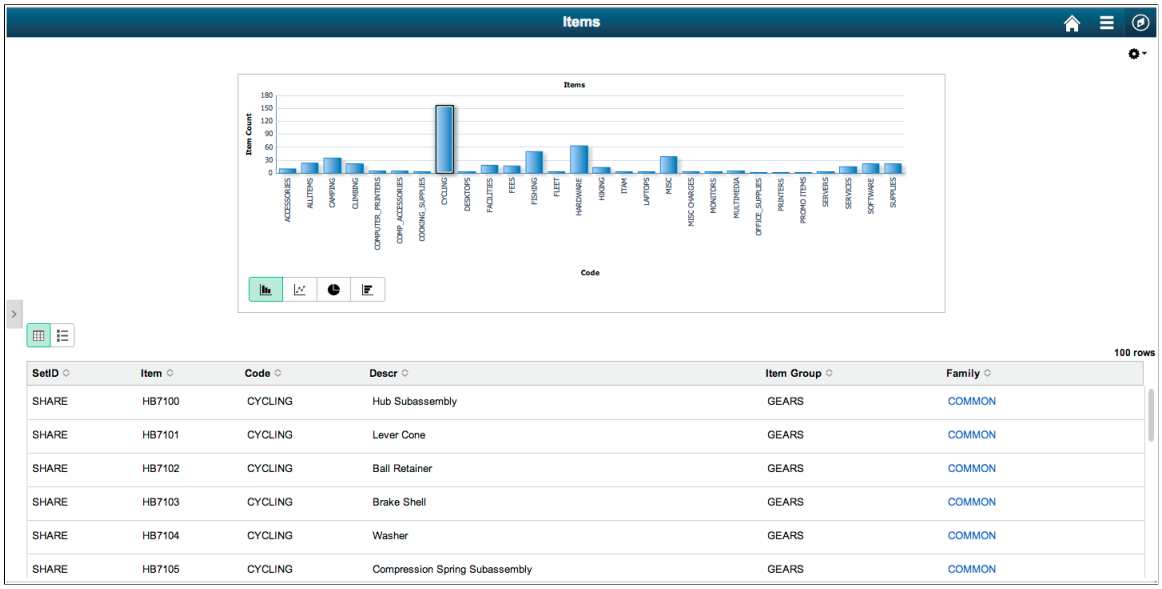


Image: Detail View is filtered to CYCLING

In this example, the data point CYCLING in the chart is highlighted and the Detail View below the chart is filtered to CYCLING.



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Viewing the Detail View of a Grid and List View on a Pivot Grid and Chart Model

On a *Pivot Grid and Chart* model, the Detail View does not appear on the face of the viewer. You can click the data point in the grid or in the chart to display the Detail View in a modal. If aggregate action is configured, a menu appears enabling you to select an aggregate action or open the Detail View.

Image: Grid and chart view of a Pivot Grid and Chart model

This example shows the grid and chart view for a *Pivot Grid and Chart* model.

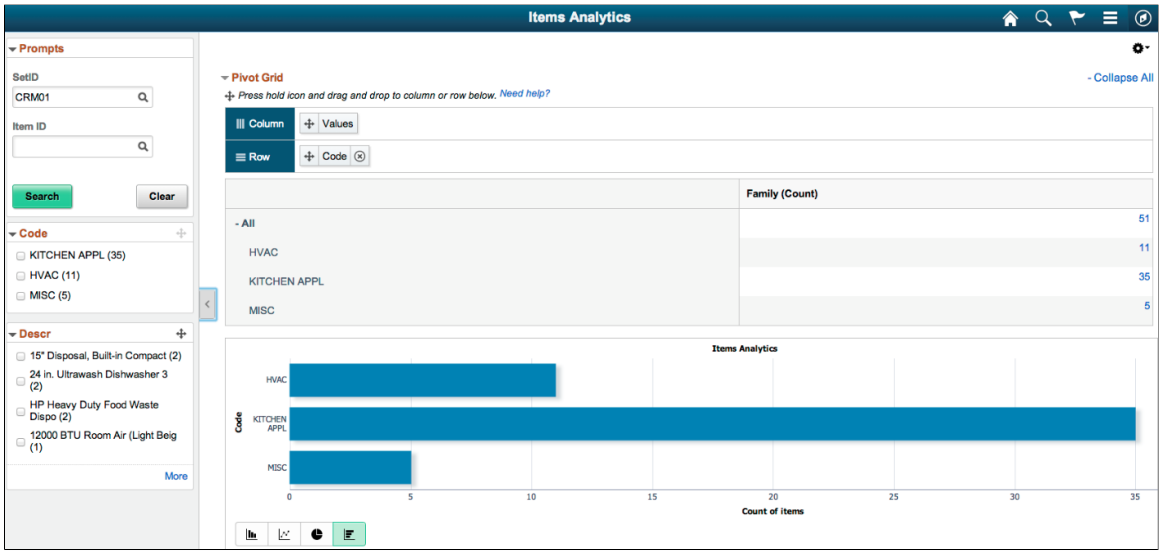


Image: Grid view in a modal filtered by HVAC

This example shows the Detail View in a modal after you click the data point HVAC in the pivot grid. When the row-level related action is configured, it appears in the second column in the Detail View.

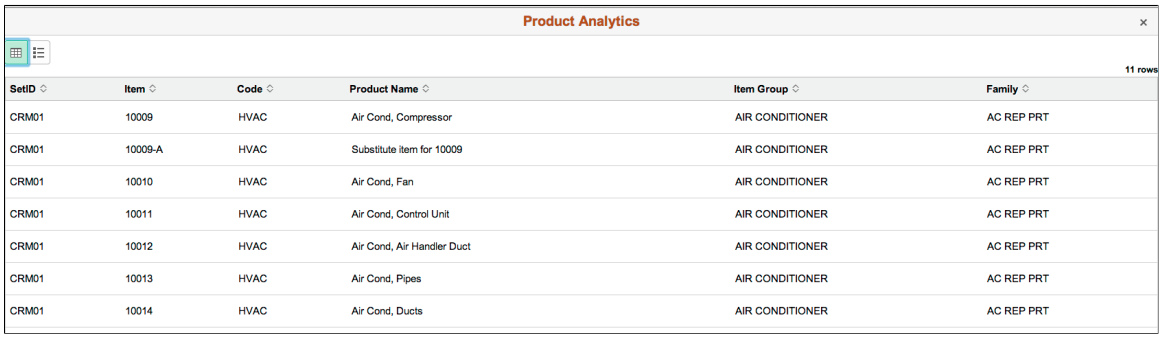
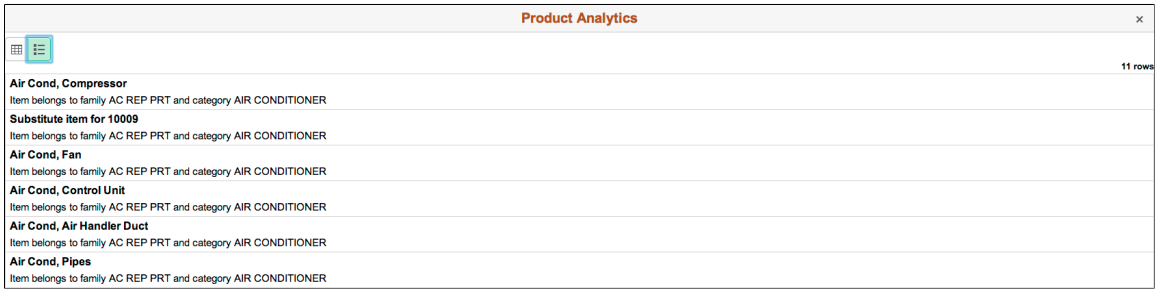


Image: List view in a modal filtered by HVAC

This example shows the list Detail View in a modal after you click the data point HVAC in the list view.



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Row-Level, Aggregate, and Bulk Related Actions

In the Fluid Viewer, you can set the row-level related action for the Pivot Grid model. Each row of data in the Detail View has an Actions option to perform the row-level action. The grid or list view can have multiple Select options, and the Actions button is used to perform the bulk related action for the selected rows if configured. Clicking the chart data point or the fact in a grid shows the aggregate related actions if configured.

The functionality for these related actions is similar to that in the classic Pivot Grid Viewer.

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See Using and Configuring the Related Actions Menu

Image: Row-level related actions for a grid view

This example shows the row-level related actions for a grid view. Each row of data in the Detail View has an Actions option that is used to perform a row-level action.

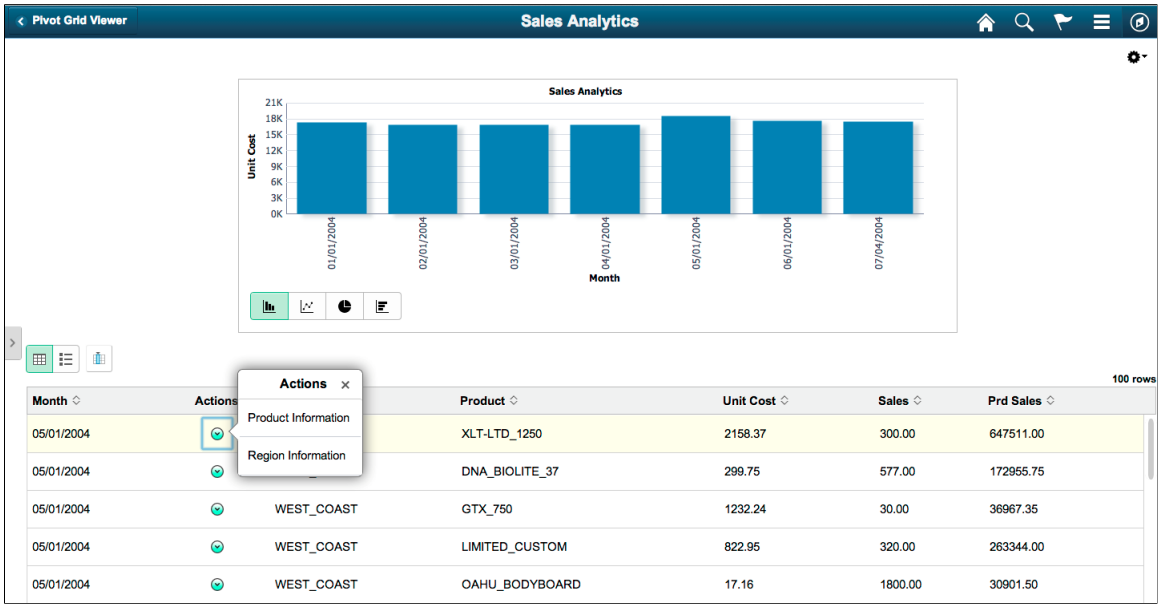

Image: Row-level related actions for a list view

This example shows the row-level related actions for a list view. Each row in the detail view can be configured to have the row-level related action.

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Image: Bulk-related actions for a list view

This example shows the bulk-related actions for a list view. The Bulk Mode option is selected and the Action button is available. When the rows are selected using the check box, clicking the Actions button enables you to perform the bulk-related action for the selected rows.

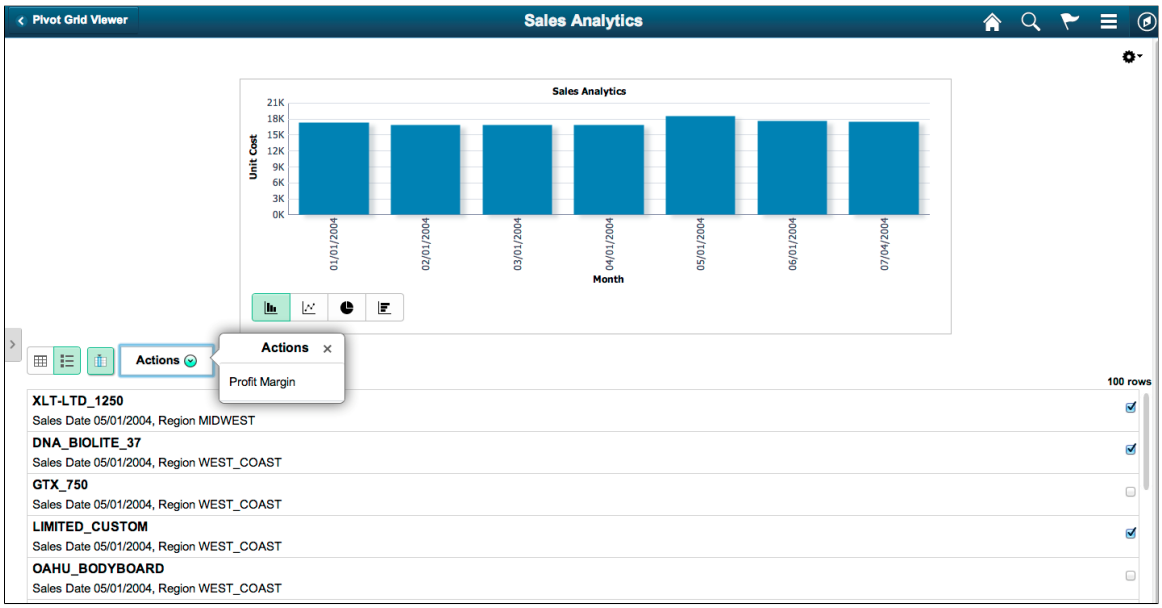
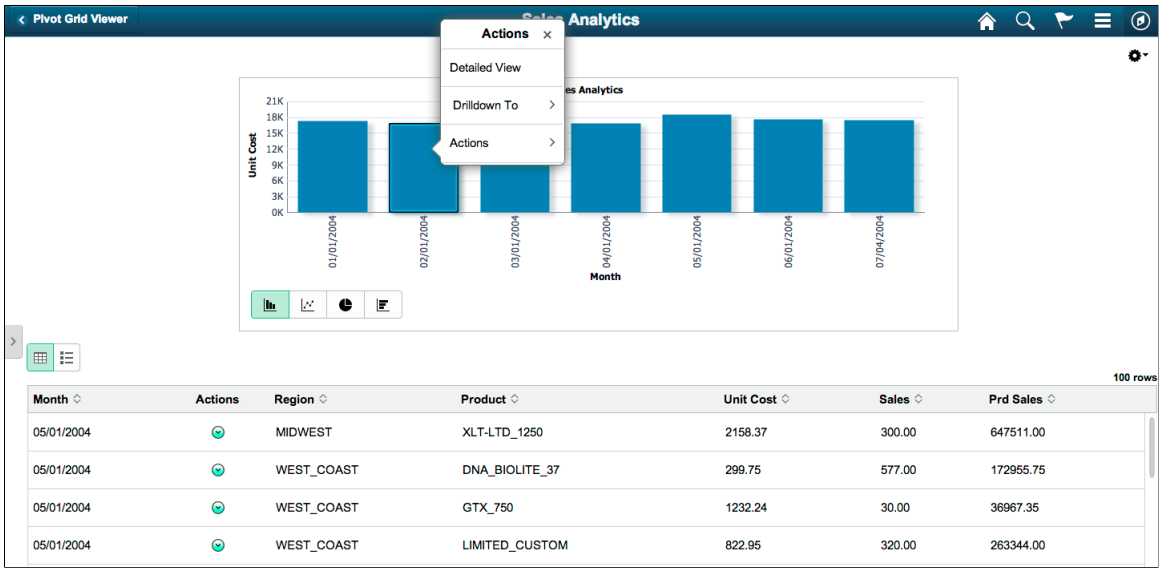


Image: Aggregate-related actions when you click the chart data point

This example shows the aggregate-related actions when you click the chart data point.



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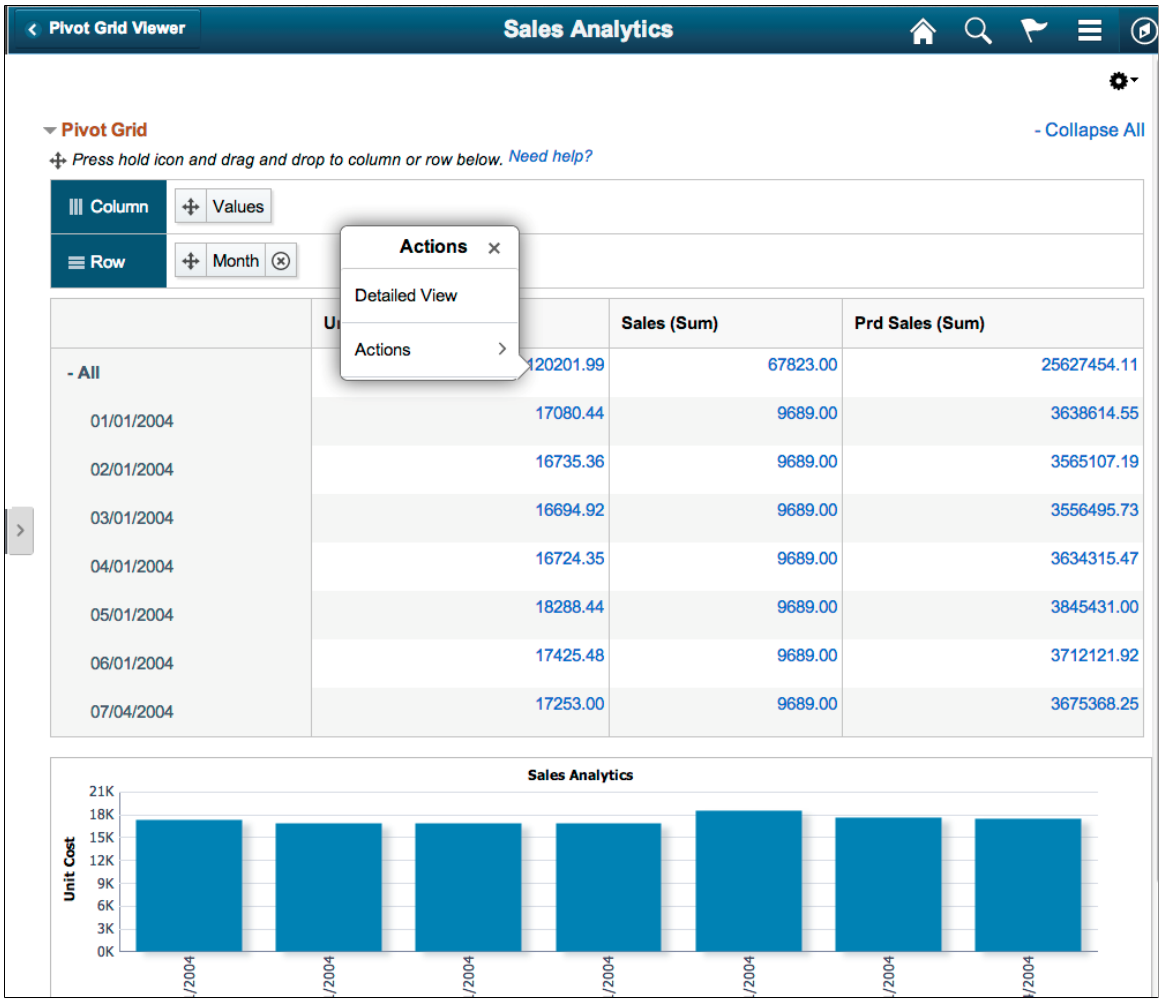
Note: The configuration for related actions for the fluid viewer is same as the configuration steps for the classic viewer. The option to configure related actions is in Step 5 of the Pivot Grid Wizard. See Using and Configuring the Related Actions Menu.

Image: Aggregate-related actions when you click a fact in the grid view

This example shows the aggregate-related actions when you click a fact in the grid view.



Related Links

"Defining Related Content Services" (PeopleTools 8.54: Portal Technology)
"Managing Related Content" (PeopleTools 8.54: Portal Technology)

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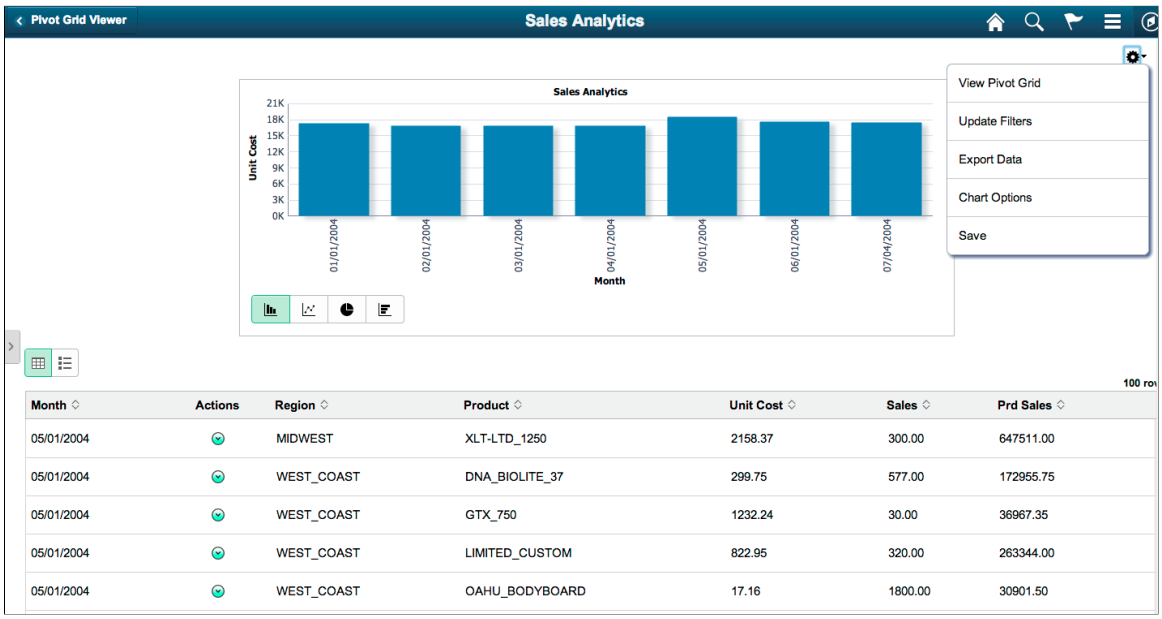
Menu Options

Image: Options in the Menu Options list

This example shows the options in the Menu Options list. The functionality of the *View Pivot Grid*, *Export Data*, *Chart Options*, *Save*, and *Reset* options are similar to the ones in the classic Pivot Grid Viewer.



View Pivot Grid Option

When the Pivot Grid model is set to *Chart Only*, selecting the View Pivot Grid option in the Menu Options list displays a Pviot Grid view that presents the chart data in a full-page modal. You can select to slice and dice the data in the grid by dragging the facet dimensions from the left panel to the grid columns and rows. In addition, you can change prompts and facet values to analyze the data. When you click the Apply button in the top left of the modal, the chart is refreshed based on the current layout of the grid. Otherwise, when you click the Cancel button in the top right of the modal, it is closed and the chart layout is not changed.

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This functionality is similar to that in the classic Pivot Grid Viewer.

Image: Grid view in a modal

This example shows the grid view in a modal after you select the View Pivot Grid option in the Menu Options list. Note that the chart X-axis appears as the row, the Y-axis appears as the column, and the facets in the left panel are available to apply to the data as well as to drag to the row or column.

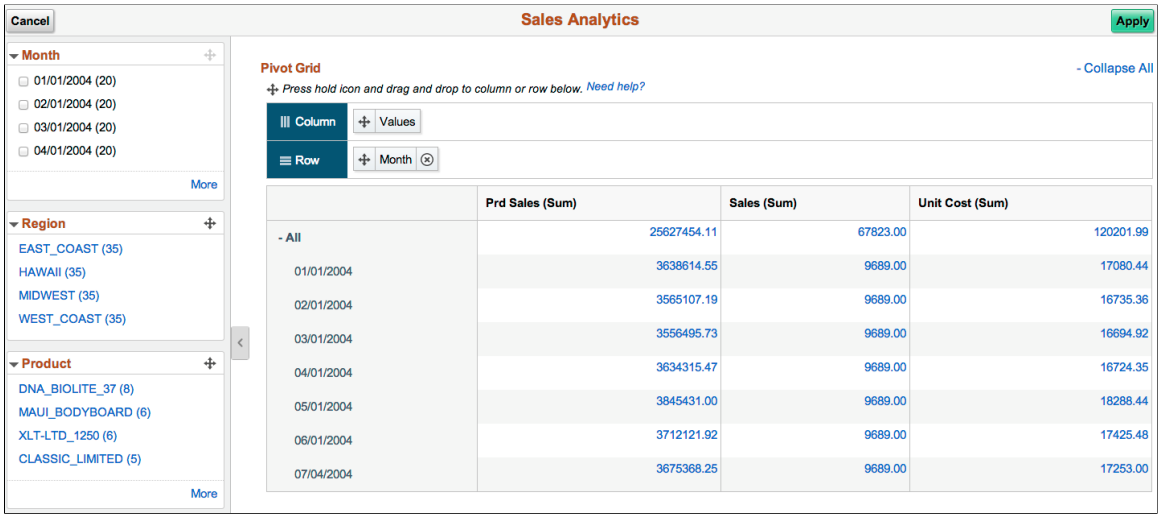

Image: Results after slice and dice the data

This example shows the results after Month is dragged from the Row area to the Column area, and the Region is dragged from the facet to the Row area. The selections on the Month dimension facet in the left panel are also applied. Note that if prompts are available for the Pivot Grid model, they appear in the left panel and the value of the prompts can also be changed to refresh the grid. Clicking the data values within the pivot grid opens the detail view for the selected data point. Additionally, aggregate related actions can be applied if it is configured for the column.

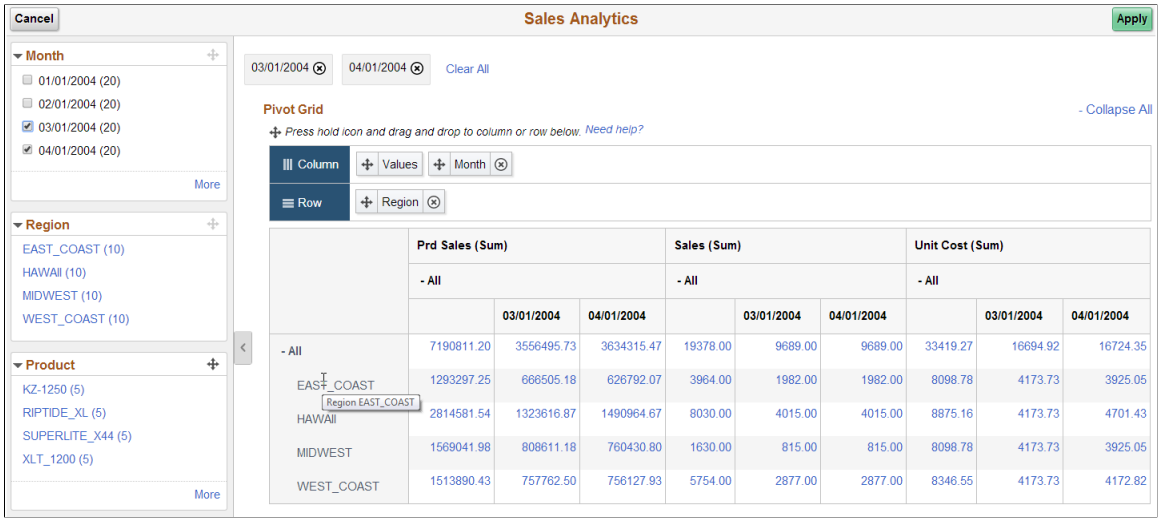

Image: Chart is refreshed based on the current layout of the grid

This example shows the chart after you click the Apply button at the top left of the modal as shown in the previous example. The current row (Region) becomes the new X-axis, and the current column dimension (Month) becomes the series. If more than one row and column dimension is available, the first dimension

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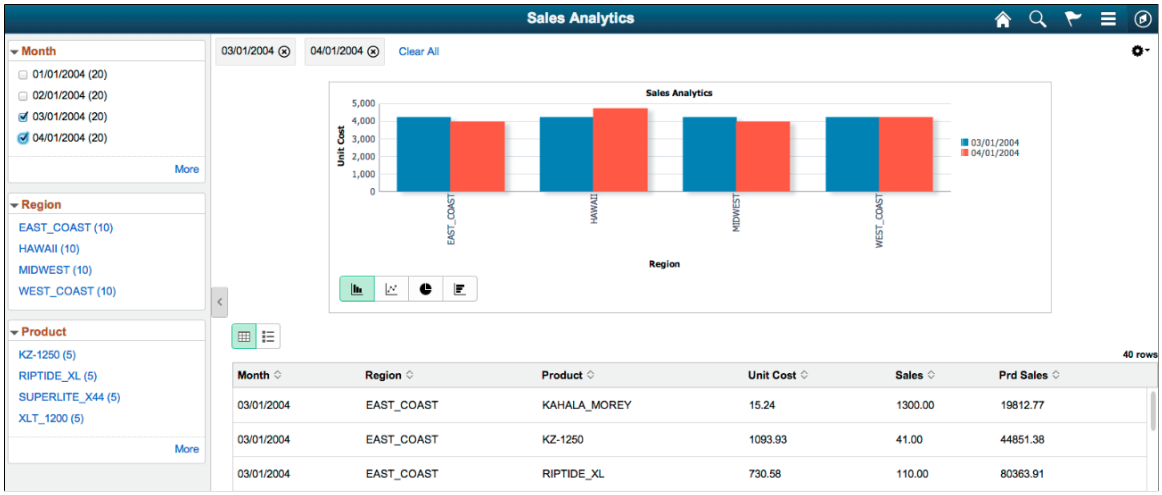
in the list becomes the chart X-axis and series, respectively. The applied prompts and facet values are carried over from the View Pivot Grid modal.



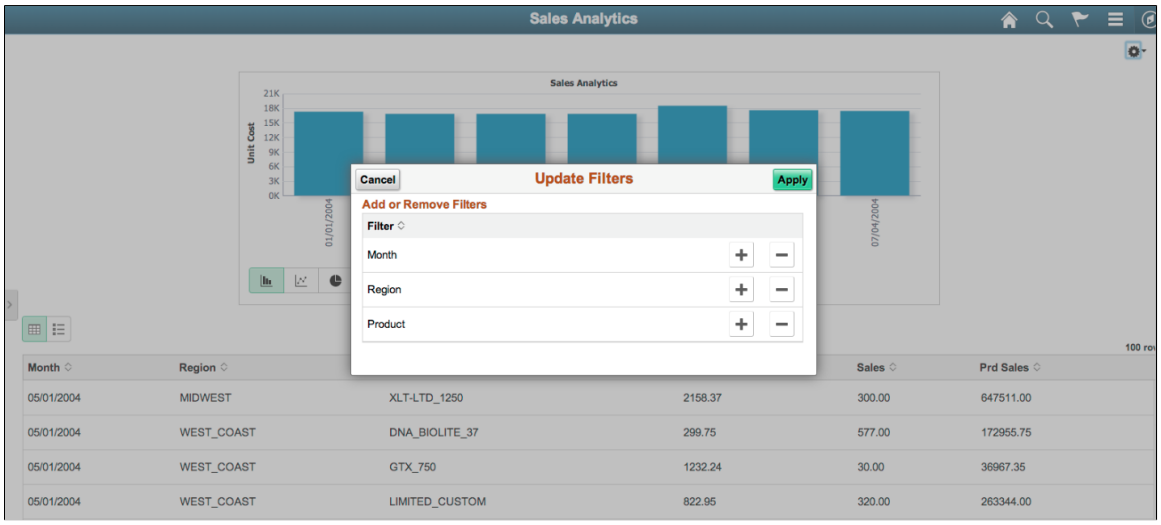
Update Filters Option

Selecting the Update Filters option in the Menu Options list displays the Update Filters dialog box, which enables you to add or remove a filter for a model. The dimensions that are configured with blank values for axis in Step 4 of the Pivot Grid Wizard will be available to add as additional filters (in addition to the default filter dimensions).

By default, the Update Filters option is available for all Pivot Grid models in Fluid Viewer, but you can hide this option for a model. To hide it, use the Display Options section in the Pivot Grid Wizard, Step 4.

Image: Update Filters dialog box

This example shows the Update Filters dialog box. After you modify the facet list, click the Apply button to refresh the facets that appear in the Fluid Viewer.



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Publishing Pivot Grid Fluid Views as Grouplets

You can publish a Pivot Grid Fluid view as a grouplet. The grouplet tile can contain the pivot chart as dynamic tile content. Note that the chart dynamic tile content cannot be used with a Pivot Grid model that is set to Pivot Grid Only. Each grouplet is associated with the URL that corresponds to the Pivot Grid Fluid Viewer component for that model. The grouplet are not actionable; for example, you cannot drill to dimension from chart. However, you can click the grouplet tile to open the Fluid viewer component for the Pivot Grid model.

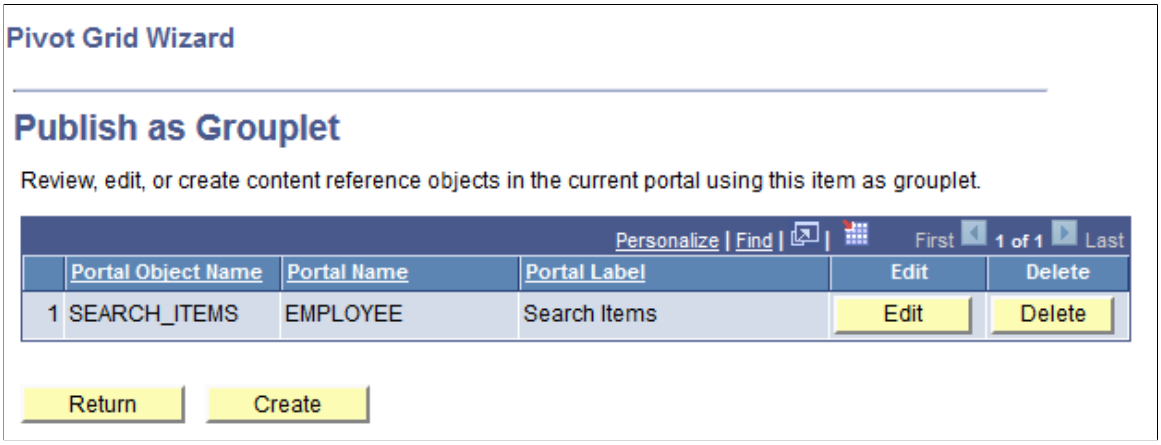
To publish the Pivot Grid Fluid view as a grouplet:

1. Create a new Pivot Grid model or open an existing one using Pivot Grid Wizard (by selecting Reporting Tools, Pivot Grid, Pivot Grid Wizard.
2. Access the Pivot Grid Display page, Step 5 of the Pivot Grid Wizard.
3. Click the Publish as Grouplet link at the bottom of the Pivot Grid Display page.

   If this is the first time you are publishing the current Pivot Model as a grouplet, the Publish Grouplet Definition page appears. Otherwise, the Publish as Grouplet page appears listing the published content reference objects that use this Pivot Grid model as a grouplet.

   Image: Publish as Grouplet page

   This example illustrates the fields and controls on the Publish as Grouplet page. You can use this page to create new grouplet definitions, or edit and delete the existing ones.



4. If applicable, click the Create button on the Publish as Grouplet page.

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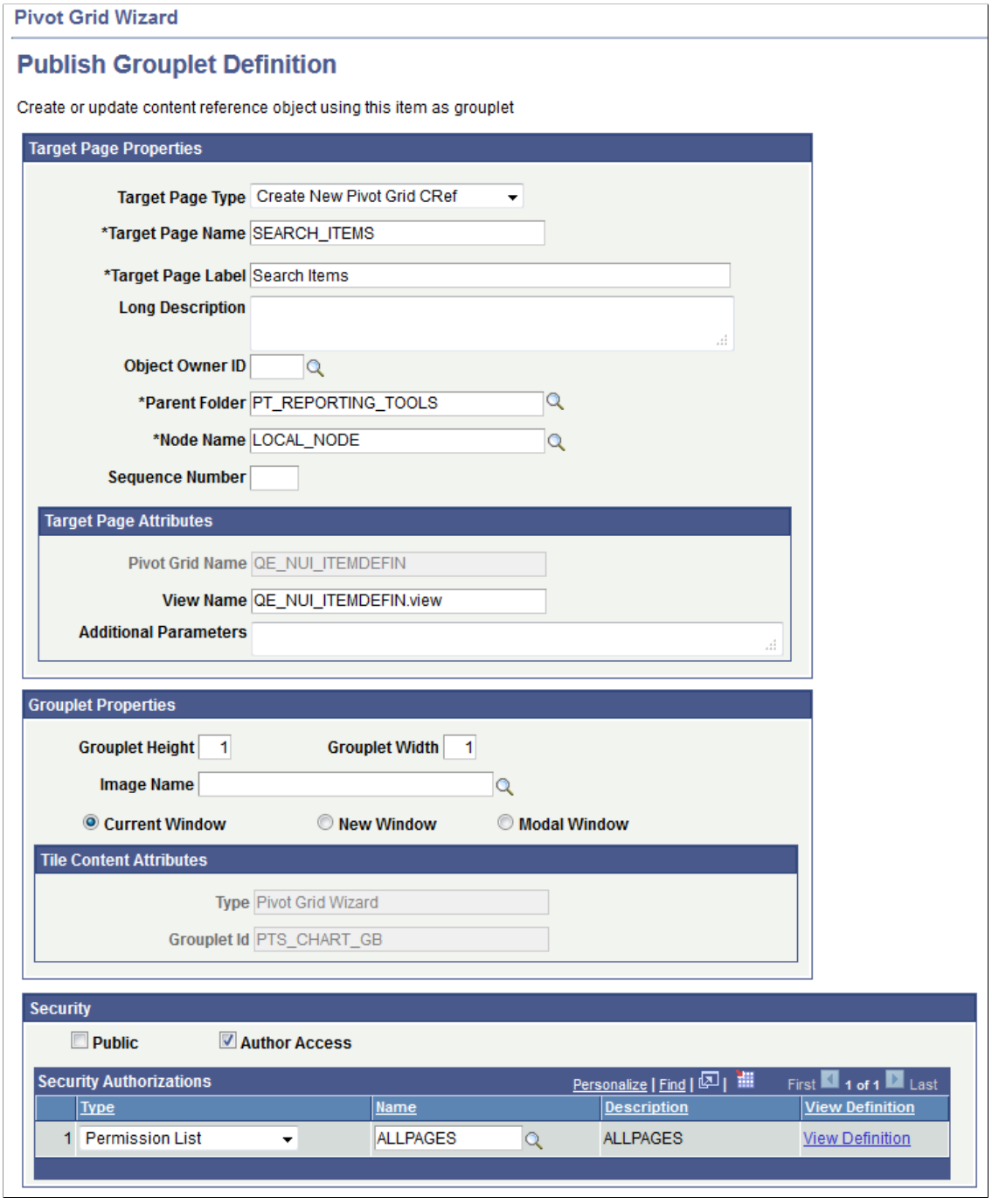
The Publish Grouplet Definition page appears.

Image: Publish Grouplet Definition page

This example illustrates the fields and controls on the Publish Grouplet Definition page. The system populates the values in this page, such as the title, name, node name, and grouplet dimensions. The View Name field displays the default view, and you can change the default view to any other available view.



5. Enter the required values and save the grouplet.

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Note: By default, the Public option in the Security section is selected and no Pivot Grid Viewer component security is enforced. However, when you select the Author Access option, only the selected permissions and roles can access the grouplet. If you select the Author Access option, you must also add these selected permissions and roles to the Pivot Grid Viewer security component to allow these permissions and roles to also have the access to the Pivot Grid Viewer component. All settings in the Security section will be populated in the Content Reference Security page (PeopleTools, Portal, Structure and Content, <label name>, Edit, General, Security).

See "Working with Grouplet PeopleCode" (PeopleTools 8.54: Fluid User Interface Developer's Guide).

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6. When you access the Fluid homepage, the newly created grouplet is available for you to add it to the Fluid homepage.

Image: Fluid homepage displaying grouplets

This example illustrates the landing page with the Add Tile window. You can add tiles in the Add Tile window to the landing homepage.

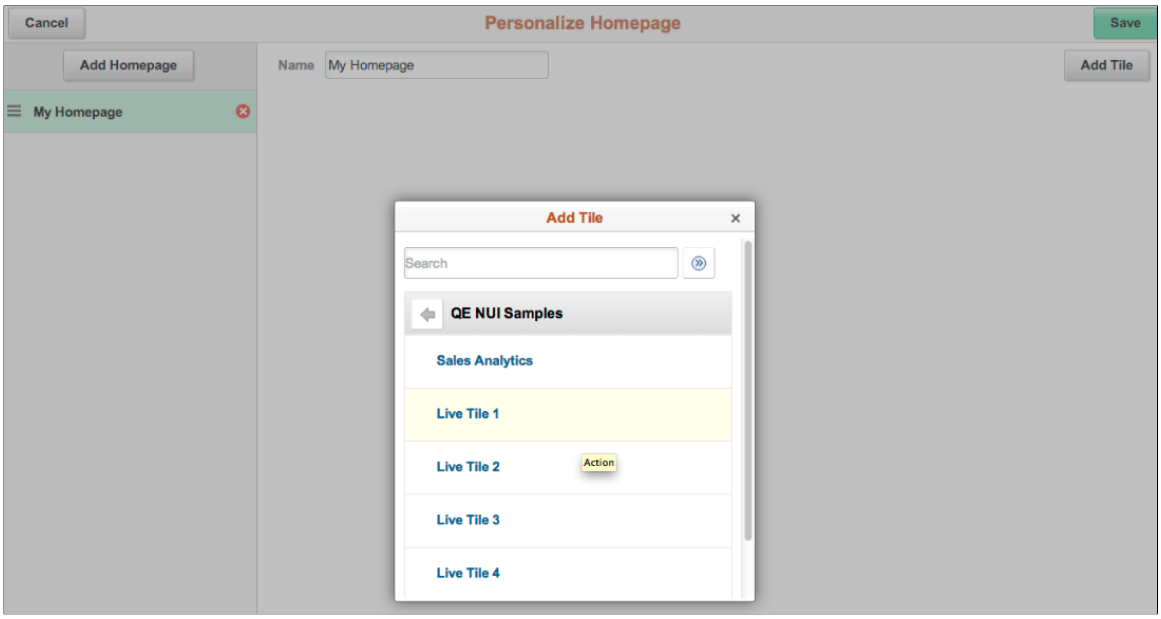
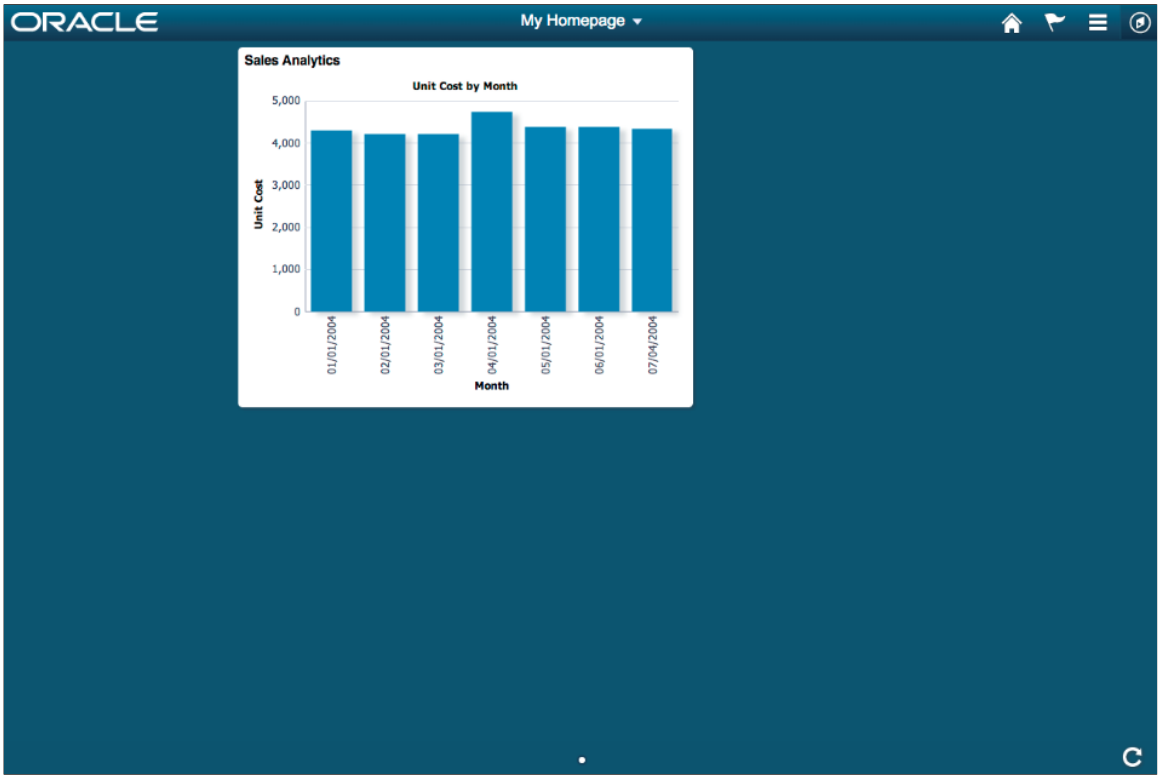


Image: Landing page with a tile

This example shows the landing page with the added tile.



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Using the Fluid Component Real-Time Search and Fluid Pivot Grid in Smart Phones

You can use a smart phone (for example, a small form factor device) to view Pivot Grid models and perform Component Real-Time Search.

These are the functions and limitations of using a smart phone to view Pivot Grid models:

- Application developers must set the view of the Pivot Grid models as list views. Grid view is not available on a smart phone. The result view must be set to *List* mode or *List or Grid* mode.
- If the *List* view is not set for the Pivot Grid model, an error message appears on the Component search page. In the Fluid Pivot Grid Viewer, the detail view is not available and no error message is shown.
- The multi-dimensional grid view (that enables you to drag and drop and to pivot) is not available.
- If a *Pivot Grid Only* or a *Pivot Grid and Chart* model is viewed on a smart phone, it appears as a *Chart Only* view and you cannot save the chart layout. The Save Layout option is available in these cases.
- Chart data points are not actionable.
- Row-level, bulk, and aggregate related actions are not available.
- The chart is best viewed in landscape mode.
- The Chart Options, Update Filters, Save, and Reset options are available in the Options Menu list based on the settings in Pivot Grid Wizard, Step 4. The Export Data and View Pivot Grid options are not available.
- The facets and prompts appear in full page after you select these options.
- In the component transaction pages that are opened by users after the component real-time search, the Previous and Next in List options are not available.

This table lists the availability of Pivot Grid's features in smart phones, tablets, or desktops.

Feature	***Smart Phone***	***Tablet or Desktop***
Chart View	yes	yes
Chart Interaction	no	yes
Pivot Grid View	no	yes
Detail Grid View	no	yes
Detail List View **Note:** In Pivot Grid Wizard - Viewer Options section, the Result View list should be set to *List* or *Grid and List.*	yes	yes

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Feature	*Smart Phone*	*Tablet or Desktop*
Related Actions	no	yes
Filters	yes	yes
Prompts	yes	yes
View Pivot Grid (Chart Only model)	no	yes

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Example: Using the Component Real-Time Search and Pivot Grid in Smart Phones

Image: Detail View in a smart phone - List

This example shows the Detail View in a smart phone. In a component search, the detail list view appears by default when the page loads.

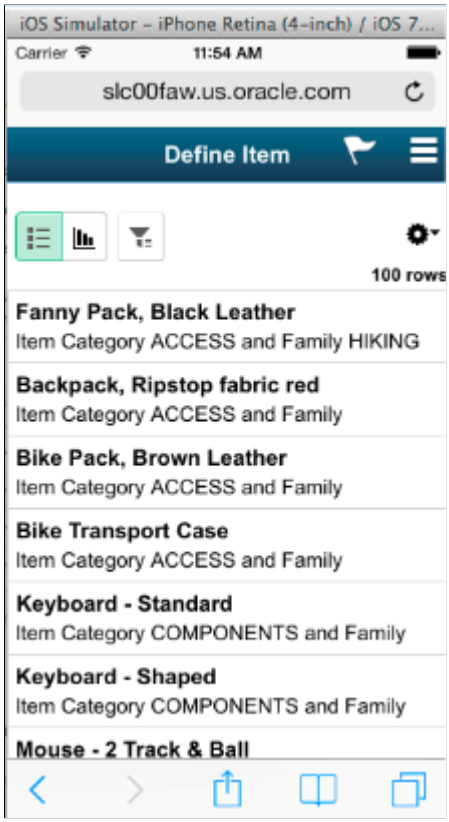

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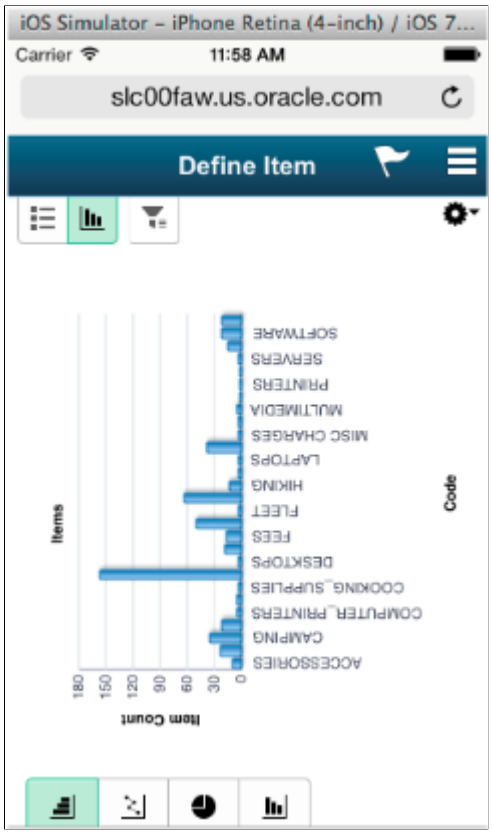
Image: Detail View in a smart phone - Chart

This example shows the Chart View in a smart phone. In the Pivot Grid Viewer (analytics use case), the chart appears when the page loads initially.



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When you click the Filters icon in a facet, the Modify Search option appears, enabling you to modify the search filter options.

Image: Modify Search option

This example shows the Filters and Modify Search options when you click the Funnel icon. Note that the Modify Search option is listed for Component Real Time search, but the Modify Prompts option is listed for the Pivot Grid Viewer.

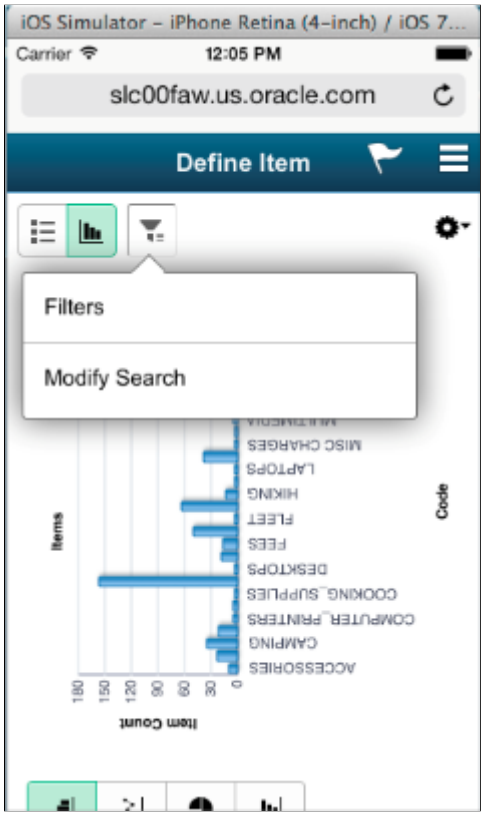

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Image: Search filter facets

This example shows the search filter facets after you select the Filters option.

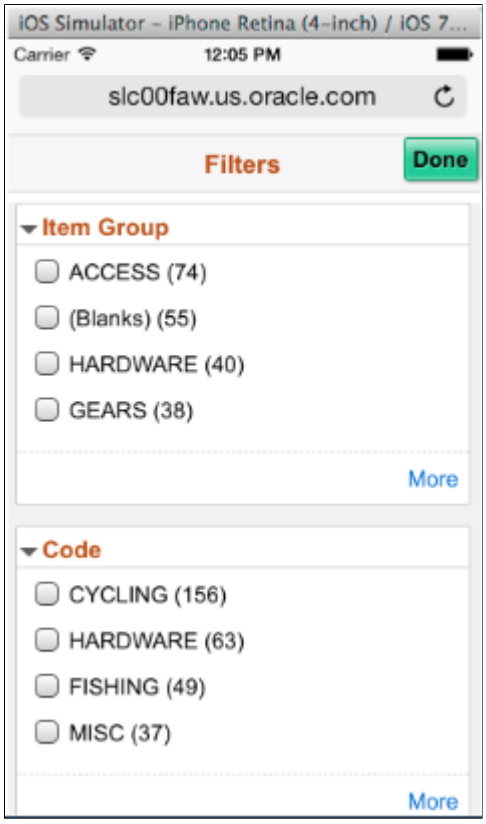

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Image: Selected Filters button on a filter facet

This example shows the Selected Filters button on a filter facet. When you click the Selected Filters button, all selected filters for the Pivot Grid model are listed.

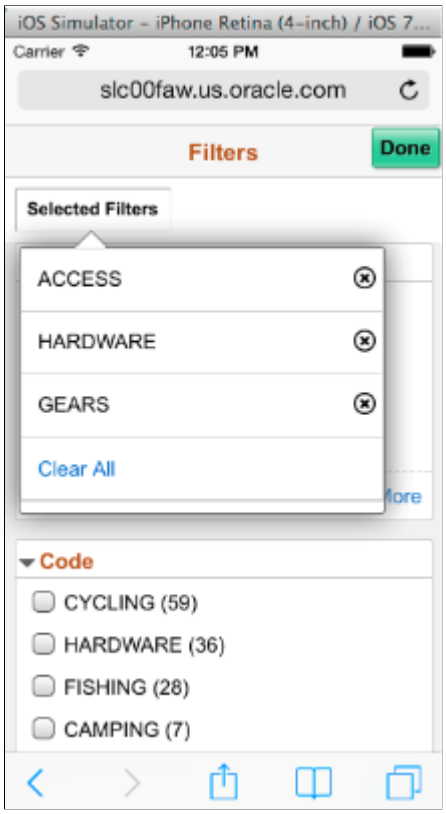

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Image: Selected Filters button on a chart facet

This example shows the Selected Filters button on a chart facet. When you click the Selected Filters button, all selected filters for the Pivot Grid model are listed.

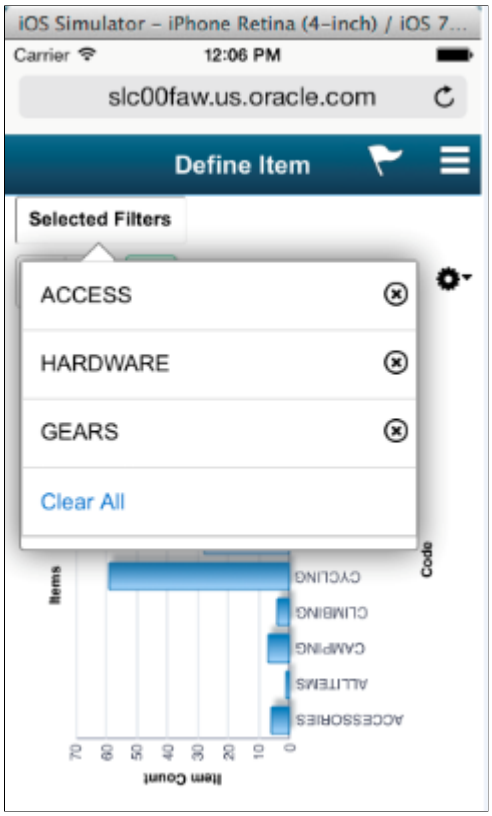

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Image: Search facet

This example shows the search page, where you can modify the search options (or prompts).

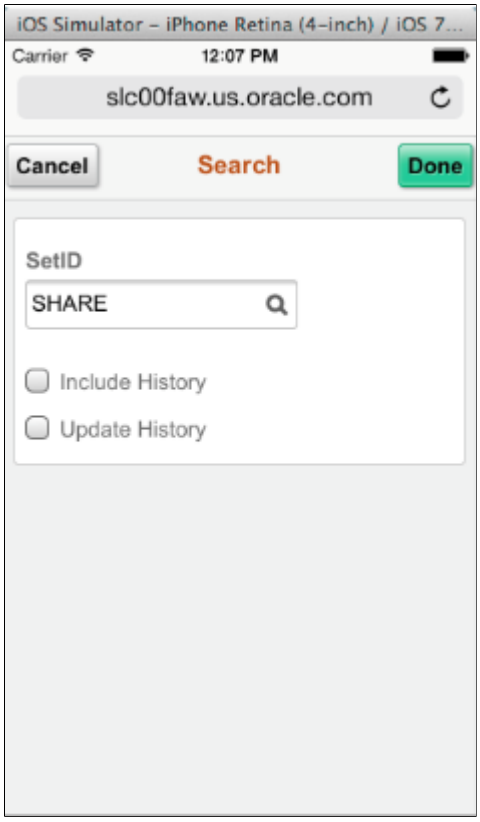

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Image: Define Item facet

This example shows the action options after you click the Options Menu list.

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Image: Chart Options facet

This example shows the Chart Options facet, where you can change the settings of the chart.

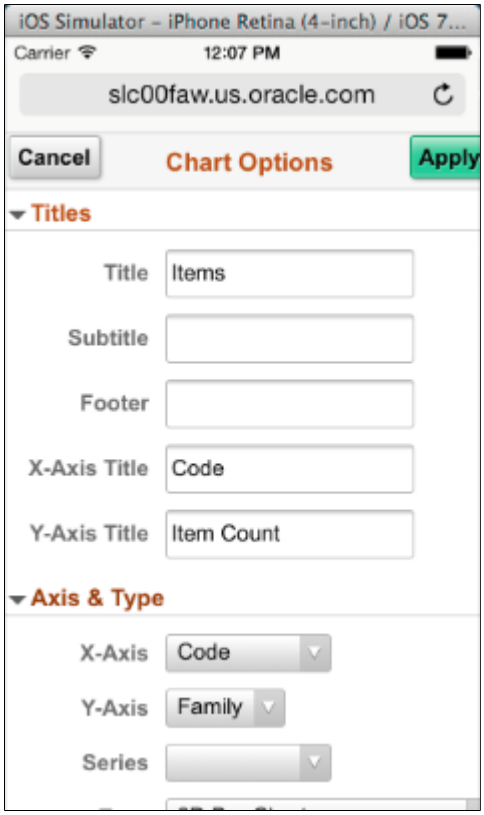

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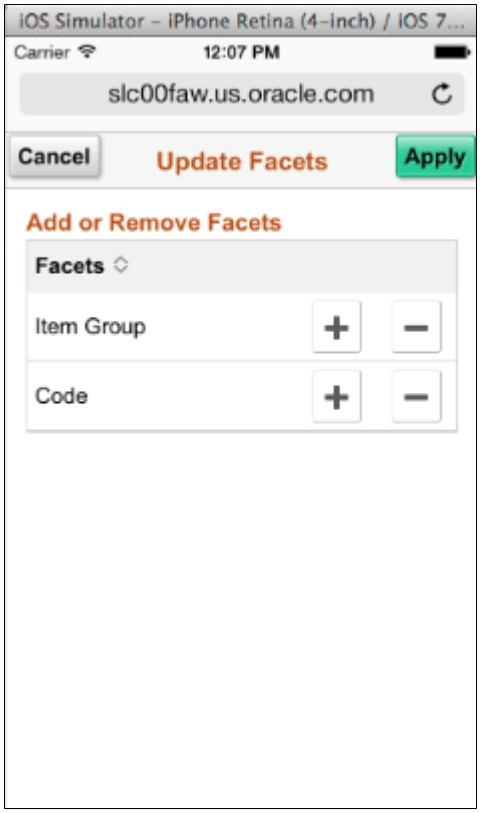
Image: Update Facets window

This example shows the Update Facets window, where you can add or remove facets from the viewer.



Embedding Pivot Grid Fluid Subpages in Application Pages

Application developers can embed multiple Pivot Grid fluid subpages inside any application Fluid page to display different views of the Pivot Grid model. For example, the Pivot Grid and Chart view and facets of the Current Head Count profile Pivot Grid model can be shown within the application page for Job Openings.

The available subpages that can be included on the application fluid page are:

- PTS_NUI_CHARTAREA – Chart area
- PTS_NUI_GRIDAREA – Grid area
- PTS_NUI_RSLTSBP - Result subpage (used to display the Detailed View)
- PTS_NUI_FACETSBP – Facet subpage
- PTS_NUI_FLTSBP – Filter (or prompt) subpage
- PTS_NUI_BCRUMBSBP – Breadcrumb (or locator link) subpage
- PTS_NUI_PHONEHDR – Phone specific subpage.

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This subpage contains the controls to switch between the detail view and the chart view. This subpage also contains the popup menu that opens the prompts and facets modals.

- PTS_NUI_SHOWFLTRS - Show Filters subpage.

  This subpage contains the button that expand or collapse the facets and filters on the left panel if there are two panel layout.

- PTS_NUI_HDR – The subpage that contains the Options Menu and the Expand and Collapse buttons for the facet.

- PTS_NUI_SRCHSBP – System search subpage

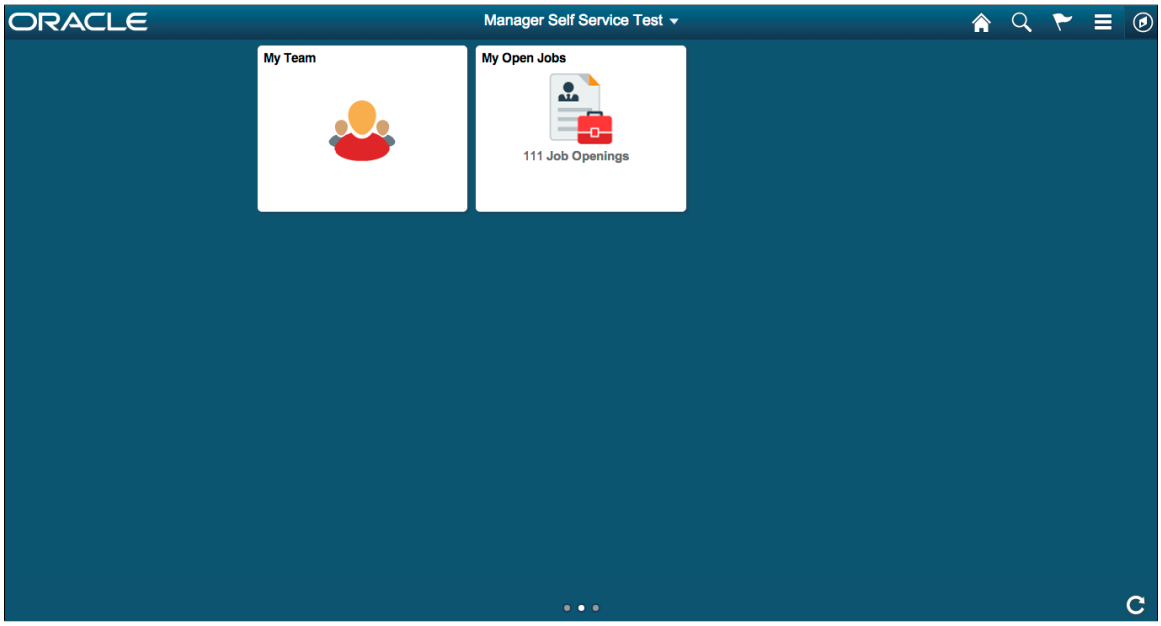
  This is a system search subpage that must be included and hidden in your application page at level 0.

Note: In smart phones or small form factors, the group box surrounding the Facets subpage, Show Filters subpage, Pivot Grid subpage, and locator link subpages (that are included on the of the application page) should be configured to be suppressed.
To create a two-panel layout that are similar to the classic Pivot Grid Viewer, you can clone (Save As option) the Pivot Grid Fluid Viewer (PTPG_NUI_VWR) page along with the styles to build the application page.

For example, suppose that the My Open Jobs application tile is available in the default HCM landing page.

Image: HCM Default Landing Page

This example shows the My Open Jobs application tile in the default HCM landing page.



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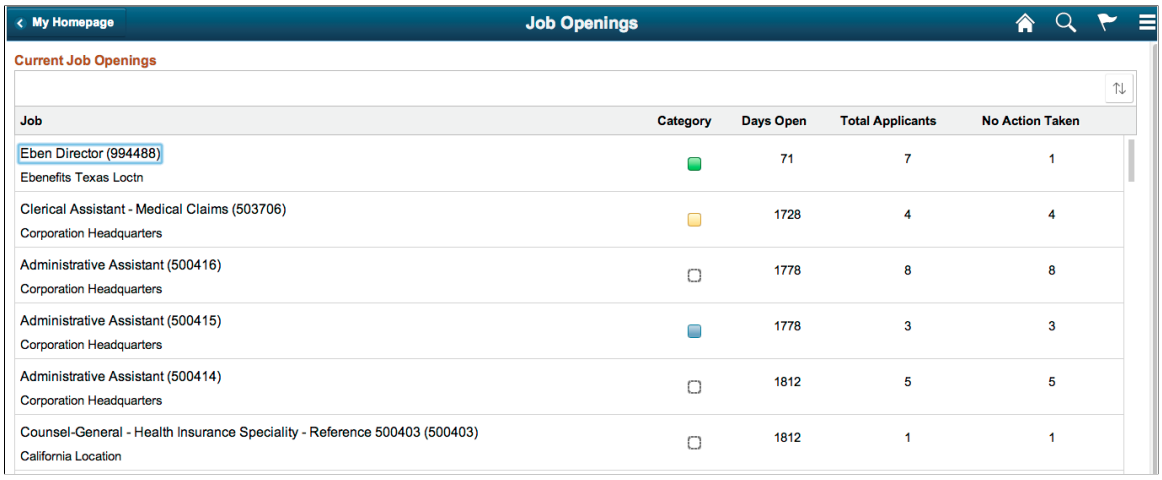
If you select My Open Jobs tile from the default HCM landing page, a fluid page with a list of open job positions, number of days open, number of people who have applied, and so on appears.

Image: Job Openings application fluid page

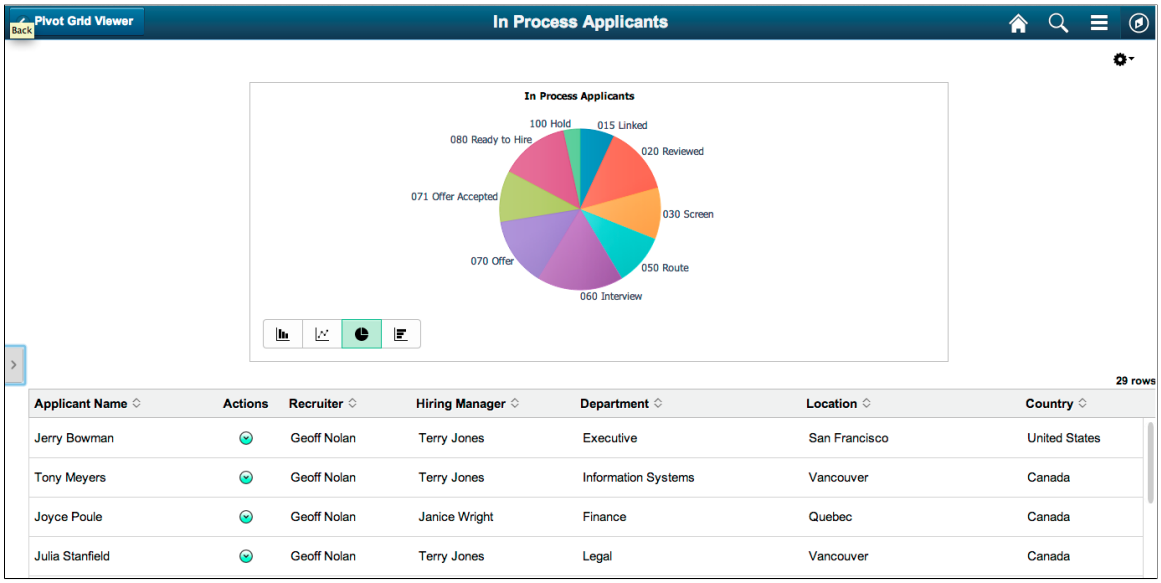
This example shows the Job Openings application fluid page listing open job positions, number of days open, number of people who have applied, and so on.



The HRMS analytics models include a *Chart Only* Pivot Grid model called In Process Applications. This model presents data of applicant count by Disposition by default. In addition, it has a collection of facets and prompts, such as Business Unit, County, From dates, To dates, and so on.

Image: In Process Applications

This example shows the *In Process Applications* Pivot Grid model.



Application developers can create and include various views or subpages from a Pivot Grid model on the application fluid page. These views can be constructed by laying out the subpages in different combinations. This section discusses example views that have:

- The *Chart Only* view and search options.
- The chart, facets, and locator links.

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- The chart, detail view results, and filters.
- The *Pivot Grid and Chart* view.
- The *Pivot Grid Only* view.
- The detail view results and facets.

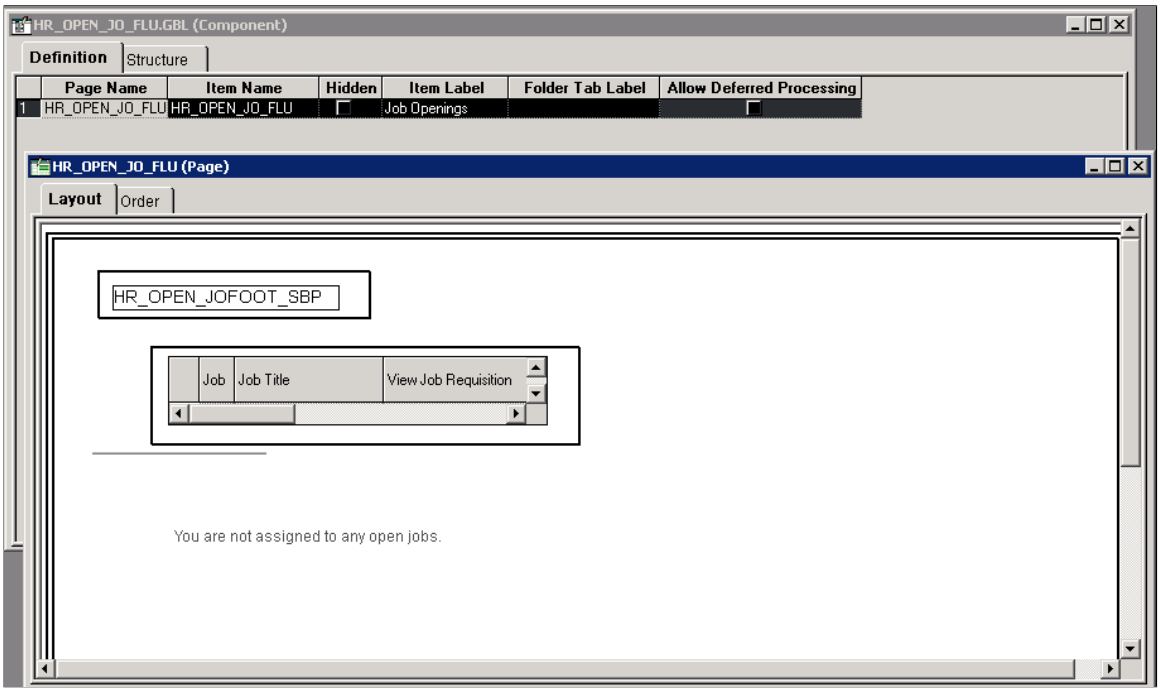
Including Chart Only View and Search Options on the Application Page

To include the *Chart Only* view and the search options of the *In Process Applications* Pivot Grid model in the Job Openings application page:

1. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

   Image: Application Developer - HR_OPEN_JO_FLU

   This example shows the Application Developer with the application page HR_OPEN_JO_FLU opened.



2. Insert the system search subpage PTS_NUI_SRCHSBP at level 0.

   Because the system search subpage PTS_NUI_SRCHSBP is not the search page, you should hide it using the psc_hidden style in the group box around this subpage.

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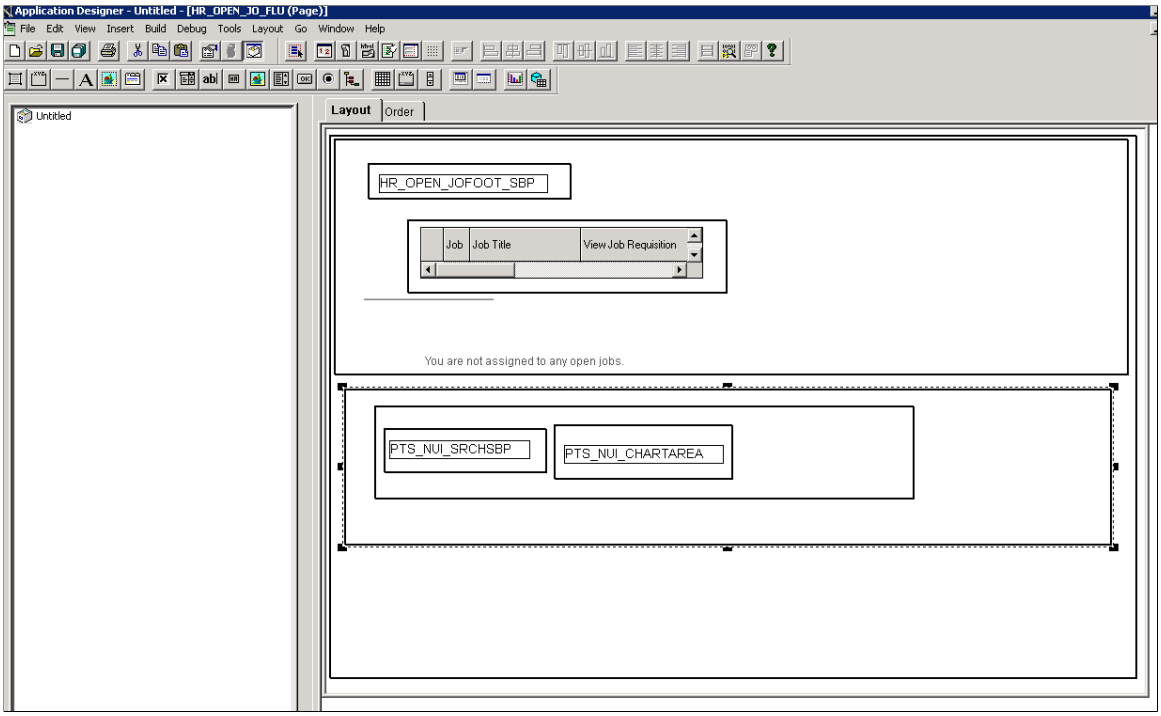
3. Insert the chart area PTS_NUI_CHARTAREA into the application page.

Image: Application Developer - PTS_NUI_SRCHSBP and PTS_NUI_CHARTAREA are inserted into the application page

This example shows the system search subpage PTS_NUI_SRCHSBP and chart area PTS_NUI_CHARTAREA inserted into the application page.



4. Add the following page activation PeopleCode to the application page HR_OPEN_JO_FLU.

Note: The name of the global variables has to match the one shown below. The APIs are reused for component searches as well as Fluid views in Pivot Grid, therefore the name of the classes and packages are named as follows in the sample code.

```
import PTS_SEARCH:PivotGridSearch;
import PTS_SEARCH:BaseSearch;
import PTS_SEARCH:Factory:DeviceSearchFactory;
ComponentLife PTS_SEARCH:BaseSearch &srch;
ComponentLife PTS_SEARCH:PivotGridSearch &srchPivotGrid;
ComponentLife string &sSrchPageName;
Declare Function HideChartSwitcher PeopleCode PTPG_NUI_WRK.PTPG_SHOWCHART
FieldFormula;
Local PTS_SEARCH:Factory:DeviceSearchFactory &deviceFactory =
create PTS_SEARCH:Factory:DeviceSearchFactory();
/*Initiate the pivot grid object. Pass the model and view name.
The third parameter is empty for non-search views*/
&srchPivotGrid = &deviceFactory.GetPivotGridSearchObject
(<Pivot Grid Name>, <View Name>, "");
&srchPivotGrid.loadJavaScript_CSS();
&srch = &srchPivotGrid;
&srch.bUsePhoneLayout = &deviceFactory.bUsePhoneLayout;
&srch.SetSearchType("R");
&srch.bViewerMode = True;
&sSrchPageName = %Page;
&srch.SetSearchPageName(&sSrchPageName);
/*Initiate the layout*/
&srch.Initiate();
```

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```
/*Render  the model*/
&srch.DoSearch();
/*Hide the chart on/off switcher.
This is needed only for search view, not for pivot grid view.*/
HideChartSwitcher();
```

5. Optionally, enable the Options Menu by:

   a. Adding the subpage PTS_NUI_HDR.

   b. Invoking `&srchPivotGrid.createOptionsMenu();` at the end of the page activate code.

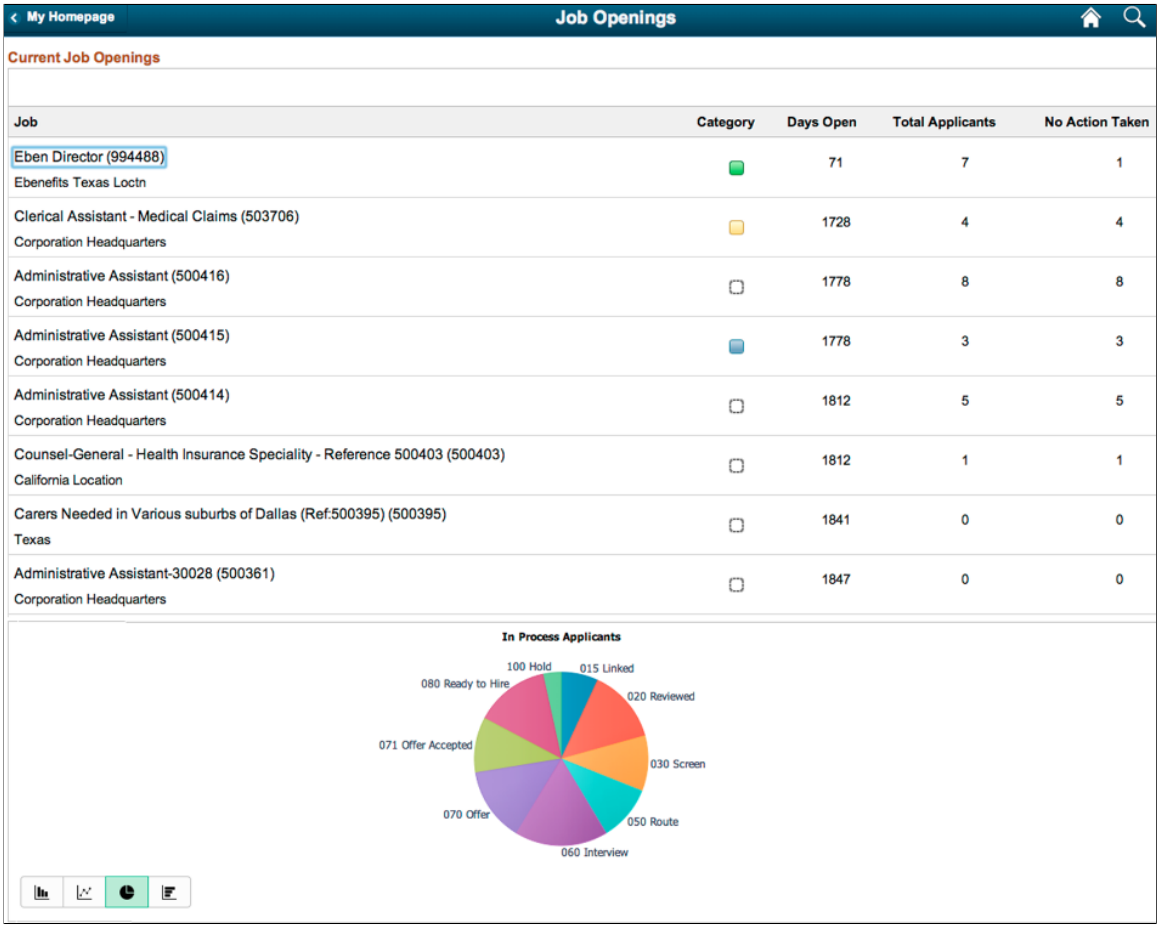
Note: To enable the View Pivot Grid layout on the Pivot Grid *Chart-Only* model, you need to enable the Options Menu that includes options to save the model, reset all personalizations, view the grid, download to Excel, and so on.

---

6. Return to the application fluid page Job Openings.

   Image: Job Openings after the chart and the search options were inserted into the application page

   This example shows the rendered application fluid page Job Openings after the chart and the search options were inserted into the application page.



7. Optionally, you can change the chart types and other chart options using the application fluid page.

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Including Chart, Facets, and Locator Links on the Application Page

To include the chart, facets, and locator links on the application page:

1. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

   Note: The application page HR_OPEN_JO_FLU already includes the system search subpage PTS_NUI_SRCHSBP and chart area PTS_NUI_CHARTAREA.

2. Insert the facet subpage PTS_NUI_FACETSBP and the locator link subpage PTS_NUI_BCRUMBSBP.

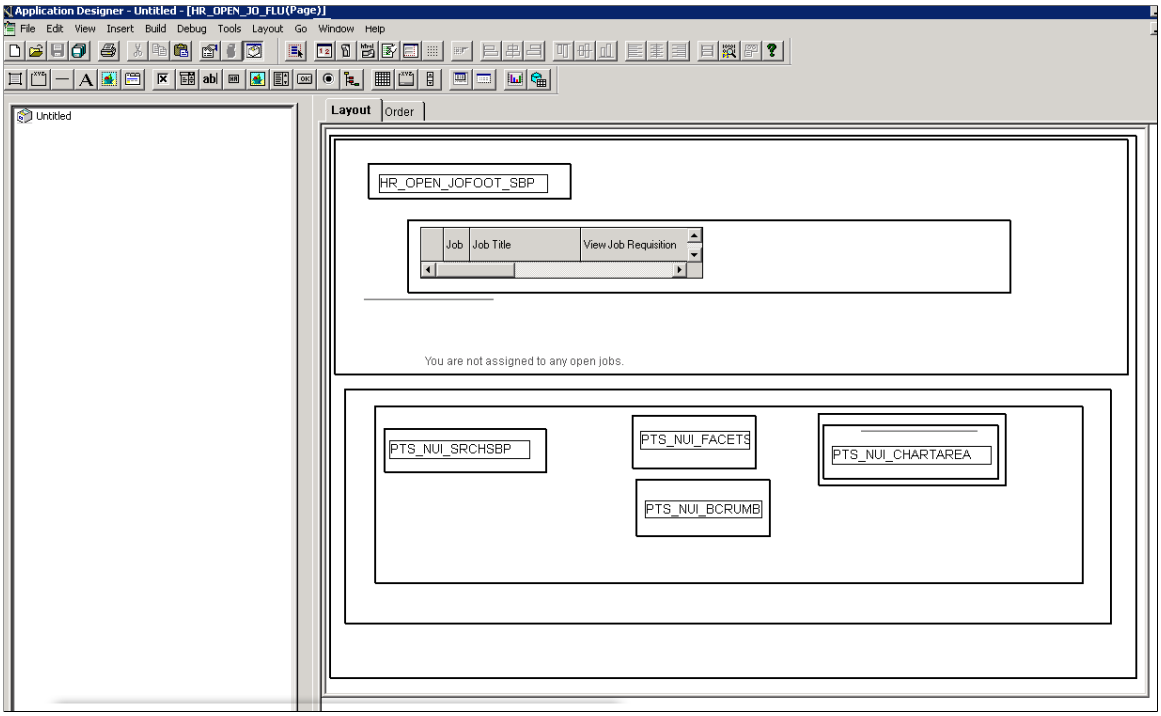
   Note: You can add the facet pane either before or after the chart area. If you add the facets before the chart in the layout order, remember to include a horizontal rule that is set to level zero before the chart area.

3. Optionally, you can select a horizontal or vertical layout for both the chart and the facet.

   Note: You can apply the layout for the subpages horizontally using the style ps_box_horizontal for the group box surrounding them. Otherwise, you can apply the layout for the subpages vertically by using the style ps_box_vertical for the group box surrounding them.

   Image: Application Developer - PTS_NUI_SRCHSBP, PTS_NUI_CHARTAREA, PTS_NUI_FACETSBP, and PTS_NUI_BCRUMBSBP are inserted into the application page

   This example shows the application page for Job Openings HR_OPEN_JO_FLU, including the system search subpage PTS_NUI_SRCHSBP, chart area PTS_NUI_CHARTAREA, facet subpage PTS_NUI_FACETSBP, and locator link subpage PTS_NUI_BCRUMBSBP. This example includes a horizontal layout that uses the ps_box_horizontal style around the group-box for the subpages.



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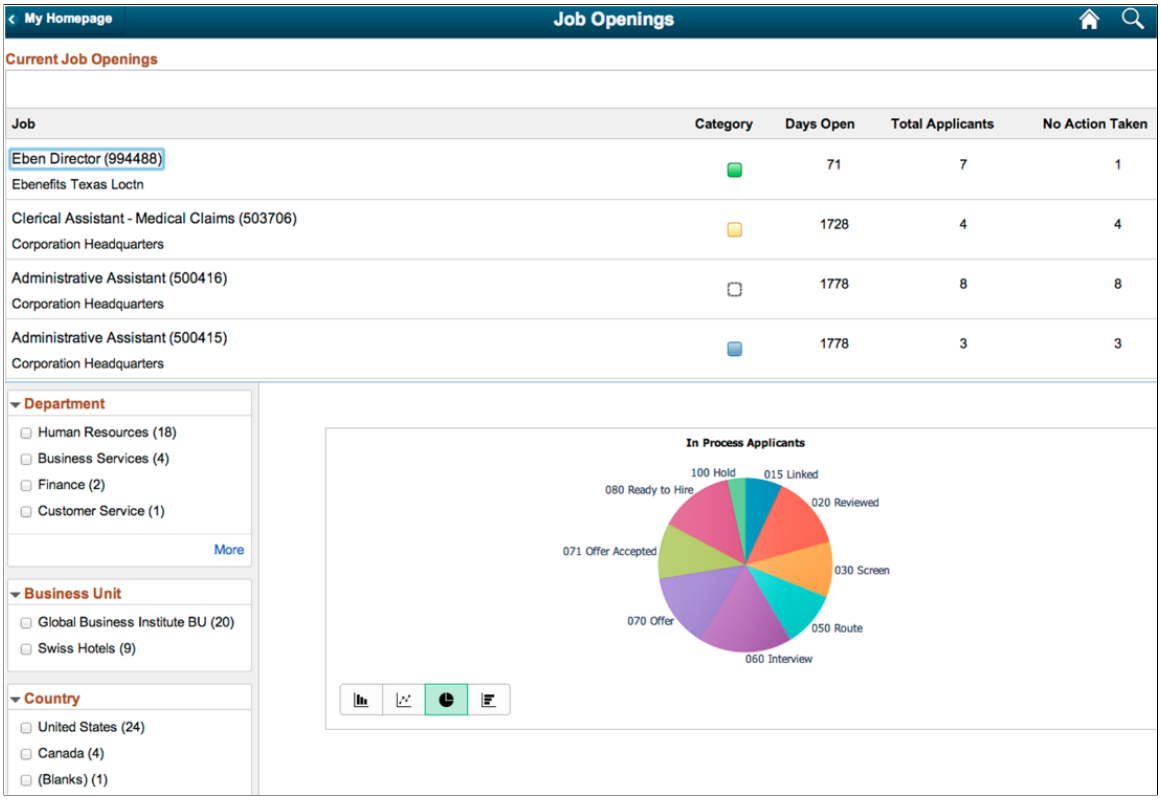
4. Return to the application fluid page Job Openings.

   Image: Job Openings application page

   This example shows the rendered application fluid page Job Openings. The application page includes subpages to show a chart, search options, a facet, and locator links.



5. Optionally, you can apply facets on the results to narrow the size of the chart and add the locator links as in the classic Pivot Grid Viewer.

Including Chart, Detail View Results, and Filters on the Application Page

To include the chart, detail view results, and filters (prompts) on the application page:

1. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

   Note: The application page HR_OPEN_JO_FLU already includes the system search subpage PTS_NUI_SRCHSBP, chart area PTS_NUI_CHARTAREA, facet subpage PTS_NUI_FACETSBP, and locator link subpage PTS_NUI_BCRUMBSBP.

2. Insert the results subpage PTS_NUI_RSLTSBP into the application page.

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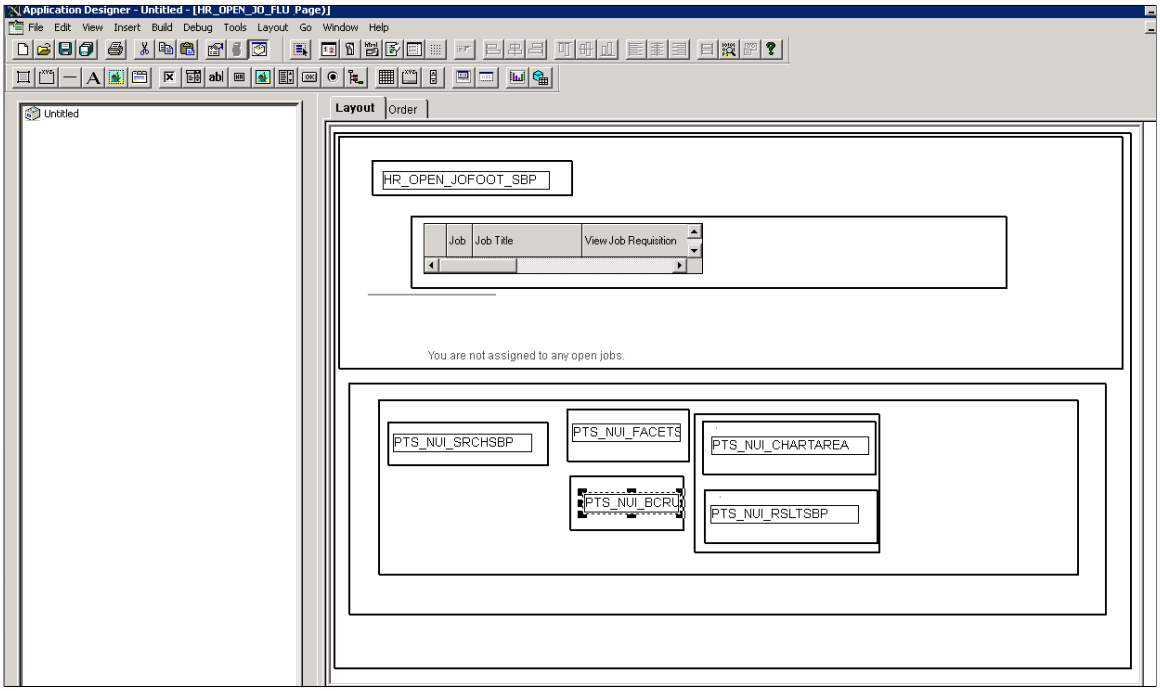
Note: You are not required to add a horizontal rule set to level 0 before the results subpage and before the chart area subpage.

Image: Application Developer - PTS_NUI_SRCHSBP, PTS_NUI_FACETSBP, PTS_NUI_BCRUMBSBP, PTS_NUI_CHARTAREA, and PTS_NUI_RSLTSBP are inserted into the application page

This example shows the application page for job opening HR_OPEN_JO_FLU, including the system search subpage PTS_NUI_SRCHSBP, facet subpage PTS_NUI_FACETSBP, locator link subpage PTS_NUI_BCRUMBSBP, chart area PTS_NUI_CHARTAREA, and result subpage PTS_NUI_RSLTSBP.



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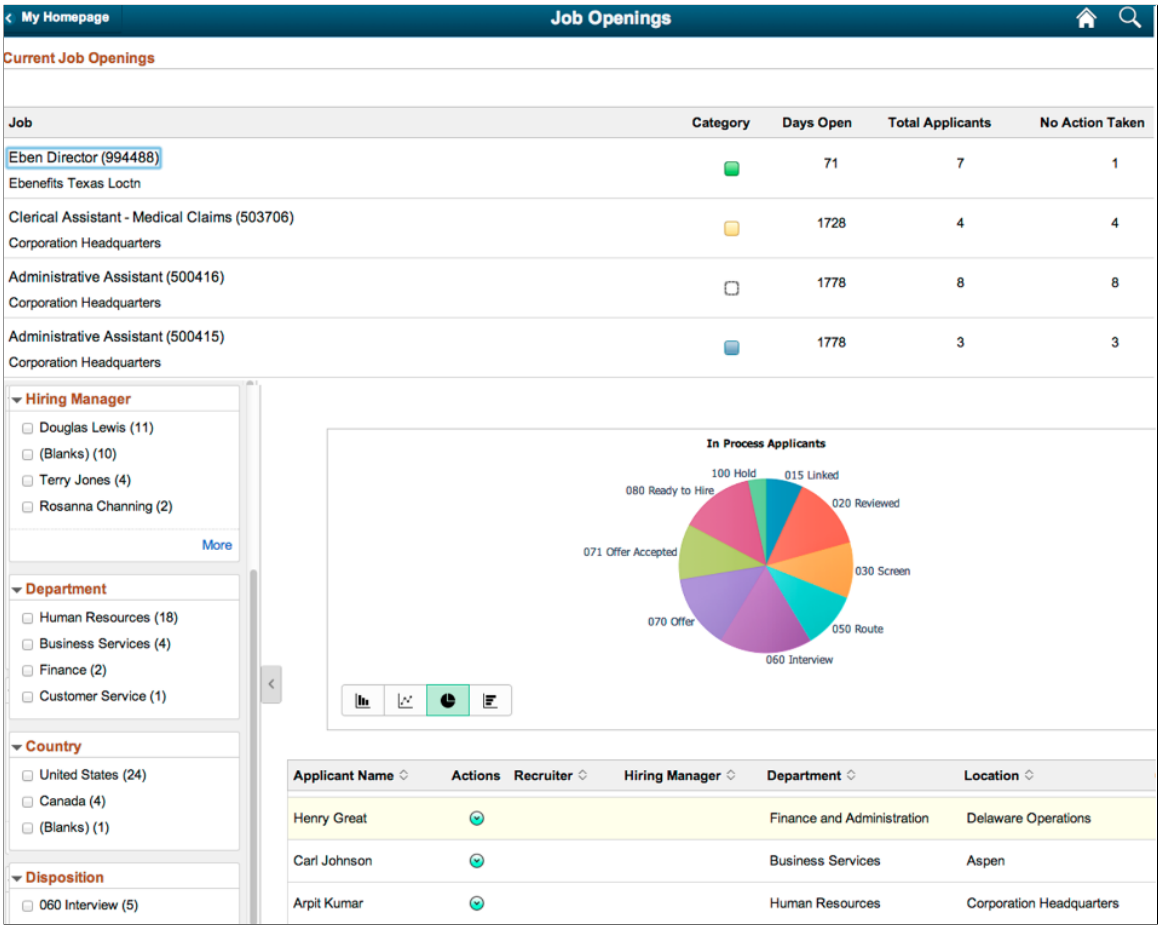
3. Return to the application fluid page Job Openings.

Image: Application fluid page Job Openings

This example shows the rendered application fluid page Job Openings. The application page includes subpages of search options, facet, locator links, chart, and detail results view.

Note: The facet will drive both the chart and the results view.



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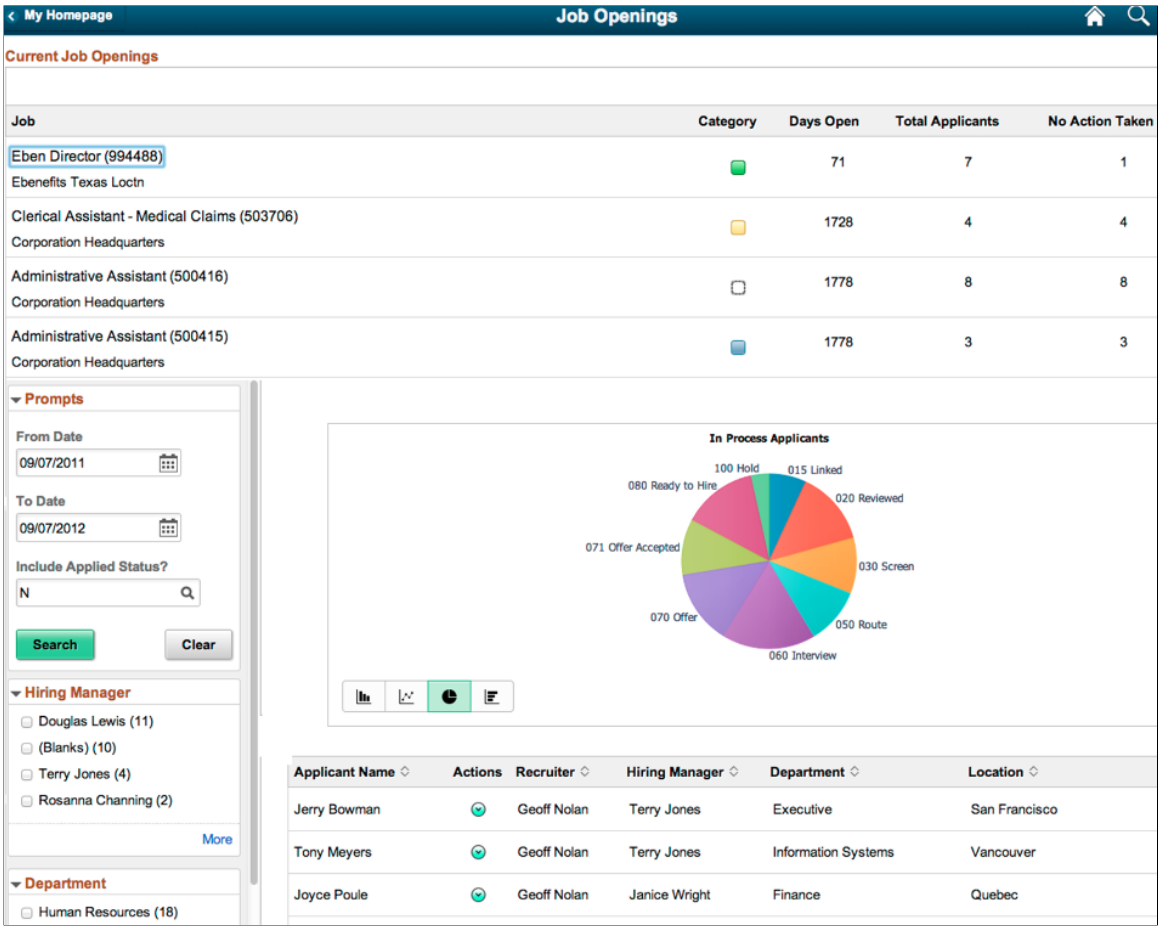
4. Optionally, you can remove the PTS_NUI_SRCHSBP subpage add the filter subpage PTS_NUI_FLTSBP to display the filters (prompts) in the view if the Pivot Grid model has prompts.

   Image: Application fluid page Job Openings

   This example shows the rendered application fluid page Job Openings. The application page includes subpages of prompts, facet, locator links, chart, and detail results view.



5. Optionally, enable the Options Menu icon to display the view Pivot Grid layout option on the Chart Only model.

   See the Enabling Option Menu section for more information.

Including Pivot Grid and Chart View on the Application Page

To include the Pivot Grid and Chart view on the application page:

1. Access the Pivot Grid Wizard by selecting Reporting Tools, Pivot Grid, Pivot Grid Wizard.
2. In the Pivot Grid Display page - Step 5, click the Configure Pivot Grid Views link to access the Pivot Grid View page and create an additional Pivot Grid and Chart view for the Pivot Grid model.

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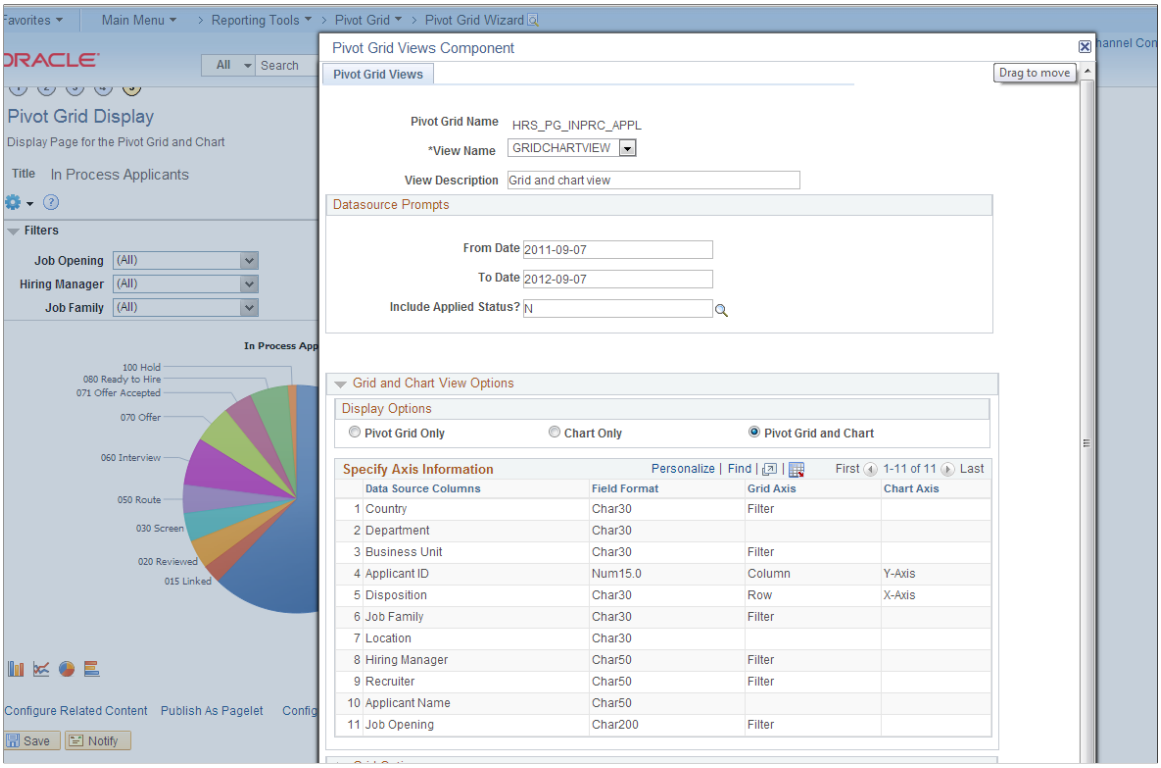
Alternatively, access the Specify Data Model Options page - Step 4 and change the default view of the Pivot Grid model to Pivot Grid and Chart.

Image: Pivot Grid Views page

This example shows the Pivot Grid Views page after you click the Configure Pivot Grid Views link in the Pivot Grid Display page. The name of the newly created view will be GRIDCHARTVIEW.



3. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

Note: The application page HR_OPEN_JO_FLU already includes the system search subpage PTS_NUI_SRCHSBP and chart area PTS_NUI_CHARTAREA.

---

4. Insert the grid area PTS_NUI_GRIDAREA next to the chart area PTS_NUI_CHARTAREA.
5. Insert the horizontal rule set to level 0 before PTS_NUI_GRIDAREA and PTS_NUI_CHARTAREA.

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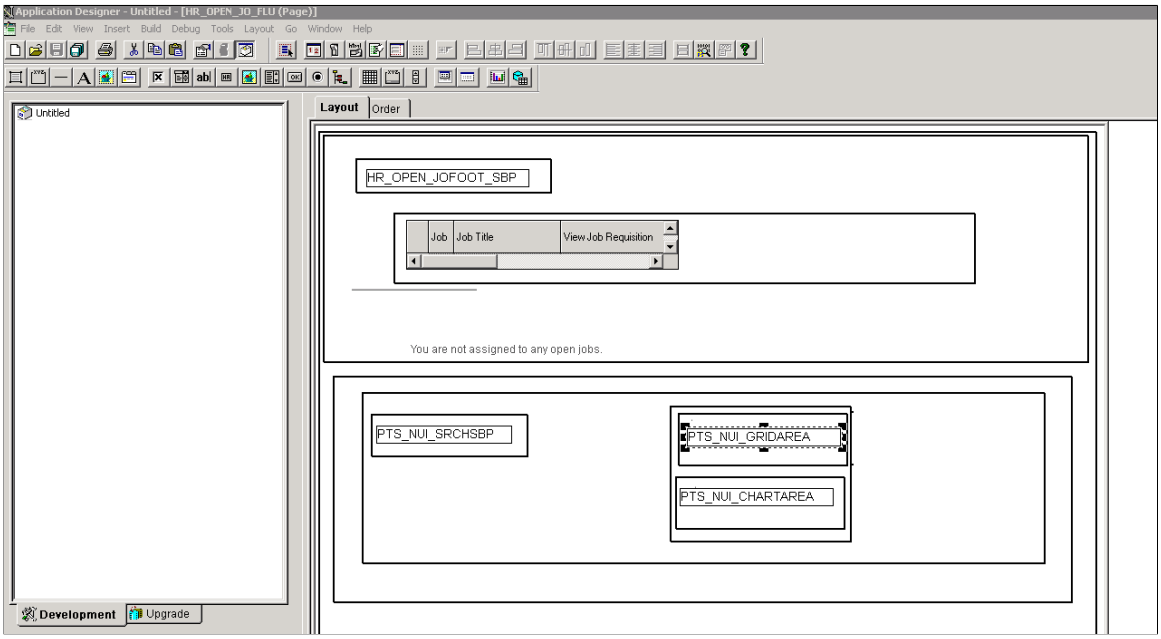
Note: You can apply the layout for the grid and chart areas horizontally using the style ps_box_horizontal for the group box surrounding them. Otherwise, you can apply the layout for the areas vertically by using the style ps_box_vertical for the group box surrounding them.

Image: Application Developer - PTS_NUI_SRCHSBP, PTS_NUI_CHARTAREA, and PTS_NUI_GRIDAREA are inserted into the application page

This example shows the application page for job opening HR_OPEN_JO_FLU, including the system search subpage PTS_NUI_SRCHSBP, chart area PTS_NUI_CHARTAREA, and grid area PTS_NUI_GRIDAREA. This example also includes a horizontal layout that uses the ps_box_horizontal style around the grid and chart areas.



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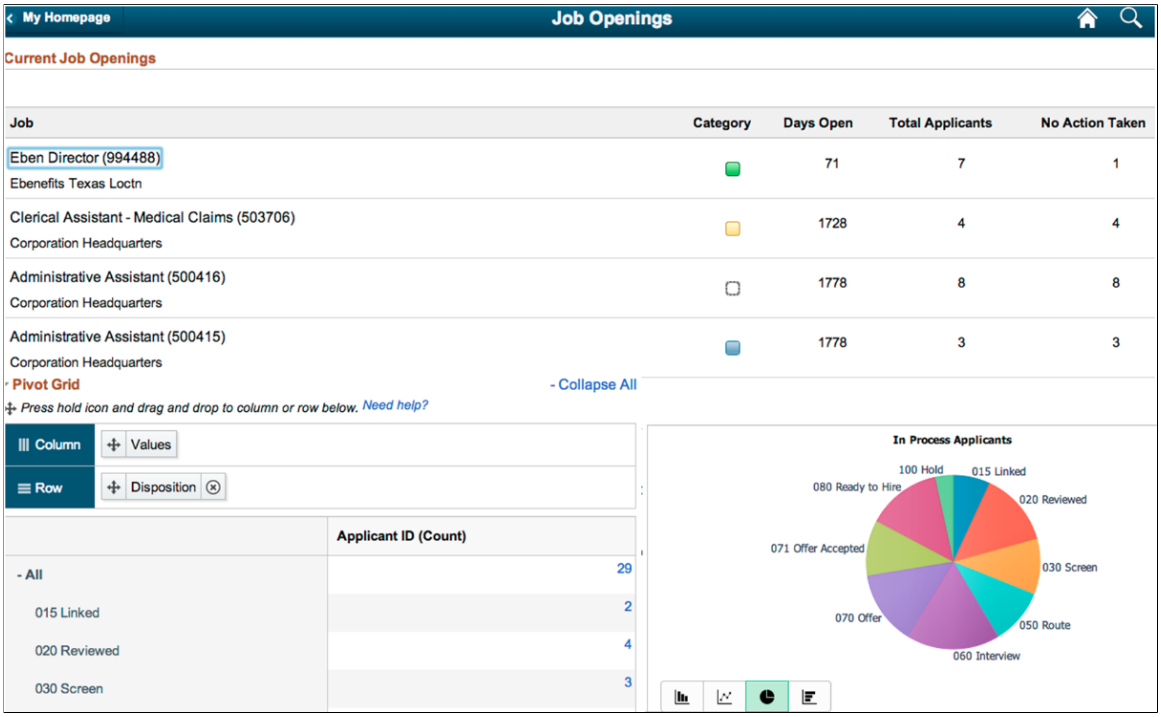
6. Return to the application fluid page Job Openings.

Image: Application fluid page Job Openings

This example shows the rendered application fluid page Job Openings. The application page includes a chart, search options, and a grid. The grid and chart areas are next to each other horizontally.



Note: You can include the facets and filters to the previous view. If you include the facets subpage, you can drag and drop between the facets and the grid as in the classic Pivot Grid Viewer. The drag-and-drop on the grid reflects the layout in the chart as well because the default view of the Pivot Grid model is Pivot Grid and Chart. Clicking the data point in the grid or chart displays the Detail View in a modal window by default. In a grid and chart view, the system cannot display the results grid on the face of the viewer because of space constraints.

Including Pivot Grid Only View on the Application Page

To include the *Pivot Grid Only* view on the application page:

1. Access the Pivot Grid Wizard by selecting Reporting Tools, Pivot Grid, Pivot Grid Wizard.

2. Access the Pivot Grid Display page - Step 5 and click the Configure Pivot Grid Views link to access the Pivot Grid View page, where you can create an additional *Pivot Grid Only* view for the Pivot Grid model.

   Alternatively, access the Specify Data Model Options page - Step 4 and change the default view of the Pivot Grid model to *Pivot Grid Only.*

3. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

4. Remove the chart area PTS_NUI_CHARTAREA, if needed.

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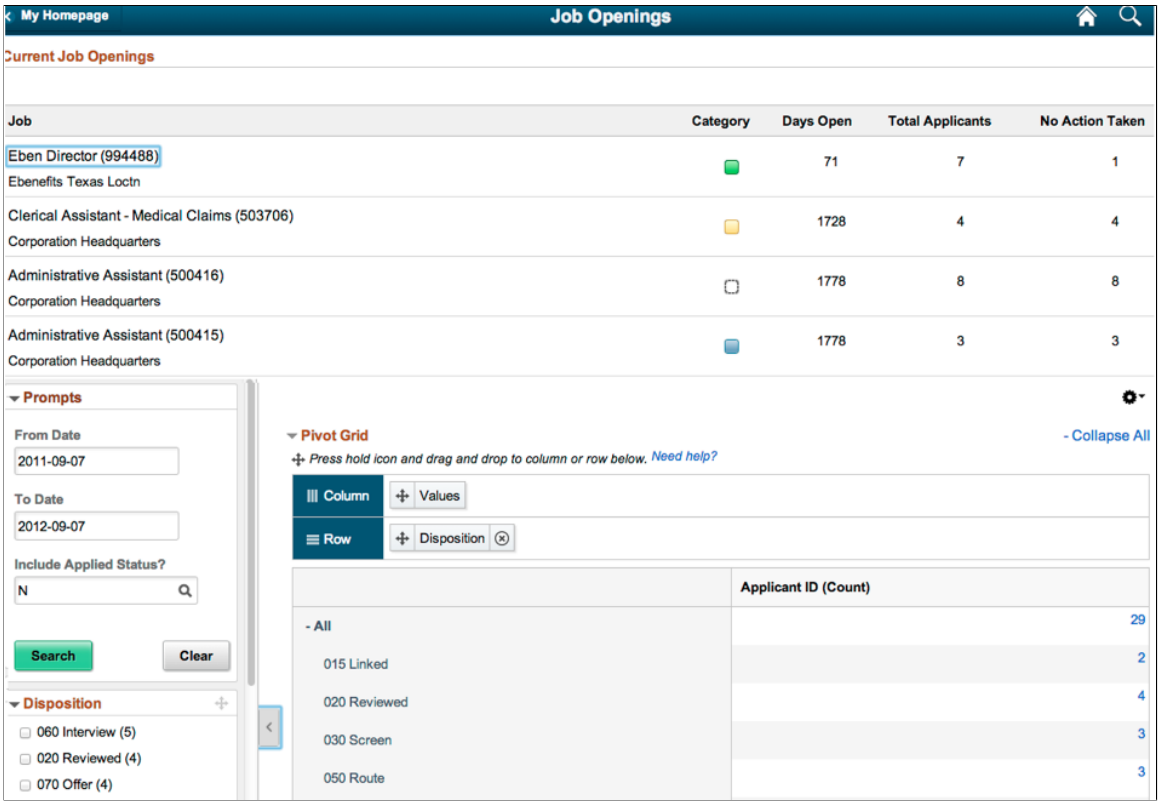
5. Insert the grid area PTS_NUI_GRIDAREA.
6. Optionally, insert the facet subpage PTS_NUI_FACETSBT and the filter subpage PTS_NUI_FLTSBP.
7. Return to the application fluid page Job Openings.

Image: Application fluid page Job Openings

This example shows the rendered application fluid page Job Openings. The application page includes a grid, facet, and filters.



Including Detail View Results with Facets on the Application Page

To include the detail view with facets on the application page:

1. In Application Developer, open the application page for job opening HR_OPEN_JO_FLU.

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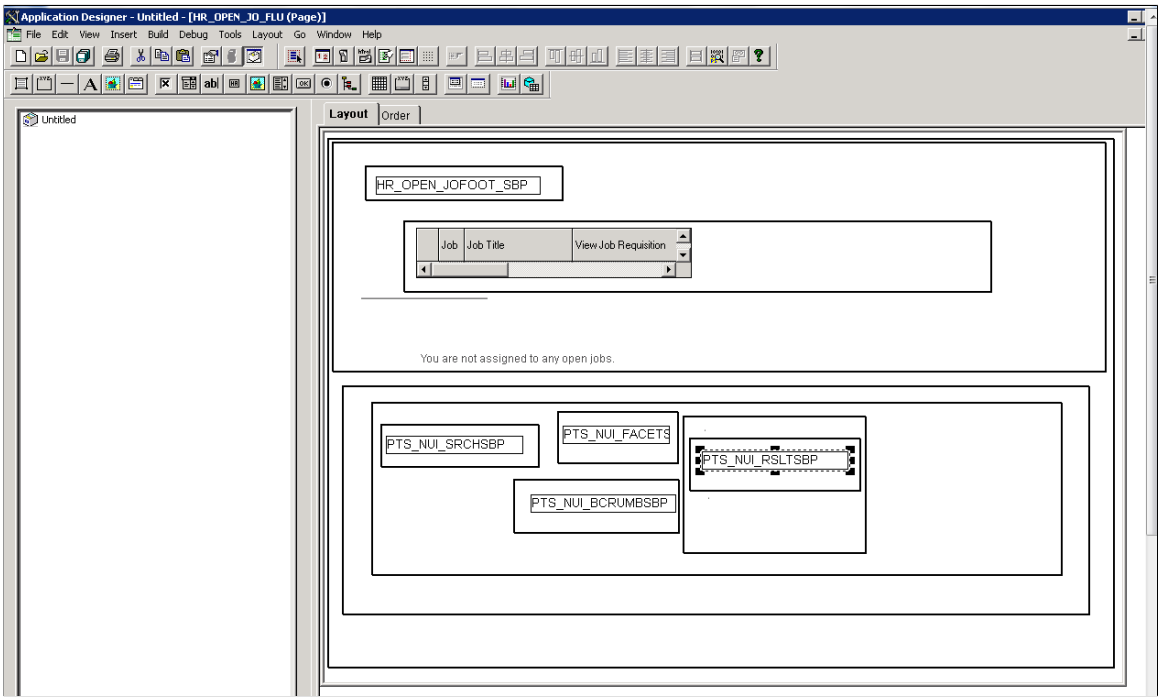
2. Insert the system search subpage PTS_NUI_SRCHSBP, facet subpage PTS_NUI_FACETSBP, locator link subpage PTS_NUI_BCRUMBSBT, and result subpage PTS_NUI_RSLTSBP.

Image: Application Developer - PTS_NUI_SRCHSBP, PTS_NUI_FACETSBP, and PTS_NUI_BCRUMBSBT, and PTS_NUI_RSLTSBP are inserted into the application page

This example shows the application page for Job Opening HR_OPEN_JO_FLU, including the system search subpage PTS_NUI_SRCHSBP, facet subpage PTS_NUI_FACETSBP, locator link subpage PTS_NUI_BCRUMBSBT, and result subpage PTS_NUI_RSLTSBP.



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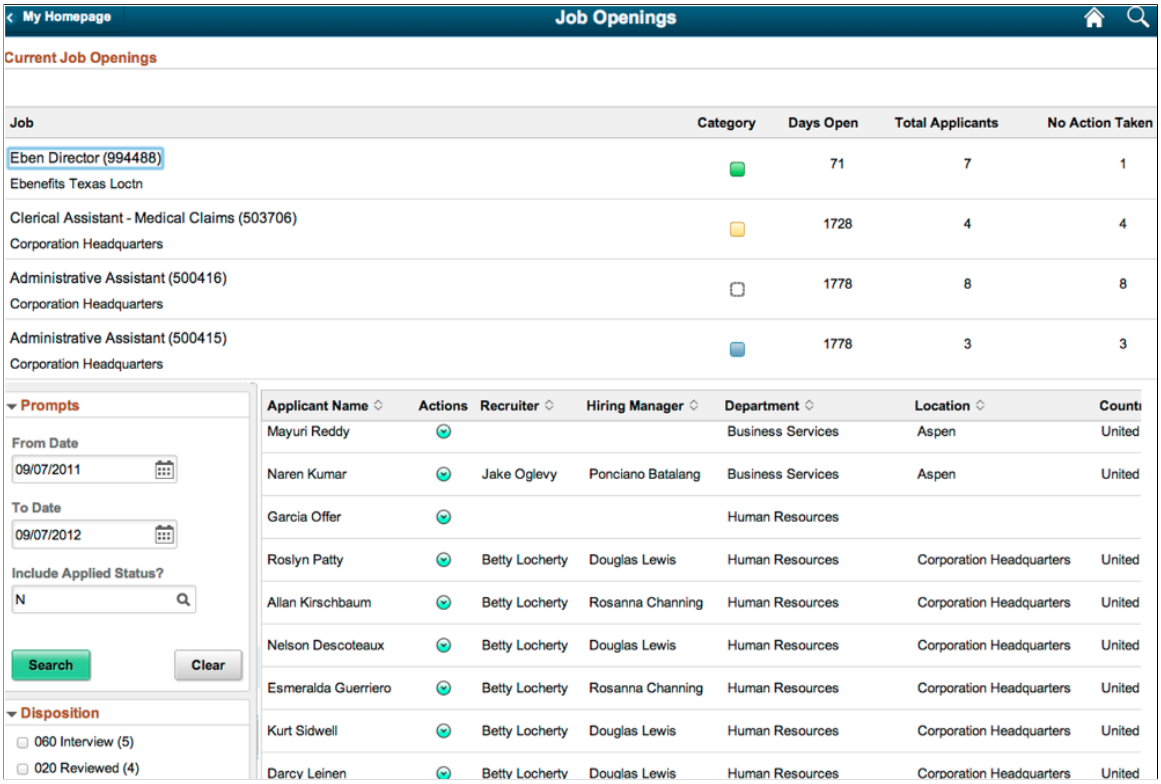
3. Return to the application fluid page Job Openings.

Image: Application fluid page Job Openings

This example shows the rendered application fluid page Job Openings. The application page includes search options, facet, locator links, and detailed results view.



Enabling the Options Menu

To enable the Options Menu, which includes options to save the Pivot Grid model, reset personalizations, view the grid, download to Excel, and so on: (1) Add the subpage PTS_NUI_HDR and (2) Invoke this line at the end of the page activate code: `&srchPivotGrid.createOptionsMenu();`.

Limitations

These are the limitations when you embed Pivot Grid fluid subpages in the application pages:

- In a given page, you cannot obtain data from only one single Pivot Grid model.
- PeopleSoft Tree cannot be in more than one subpage of the same type. For example, you cannot include the chart subpage twice and try to populate different data in two pages.
- The names of the variables that are declared globally in the example code cannot be changed. The names have to match the ones in the examples.
- The locator link subpage must be included along with the facet subpage.
- The system search subpage PTS_NUI_SRCHSBP must be included as level 0 for the view.

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Chapter 7

Creating and Viewing a Pivot Grid Pagelet Using the Pagelet Wizard

Pivot Grid Pagelet Overview

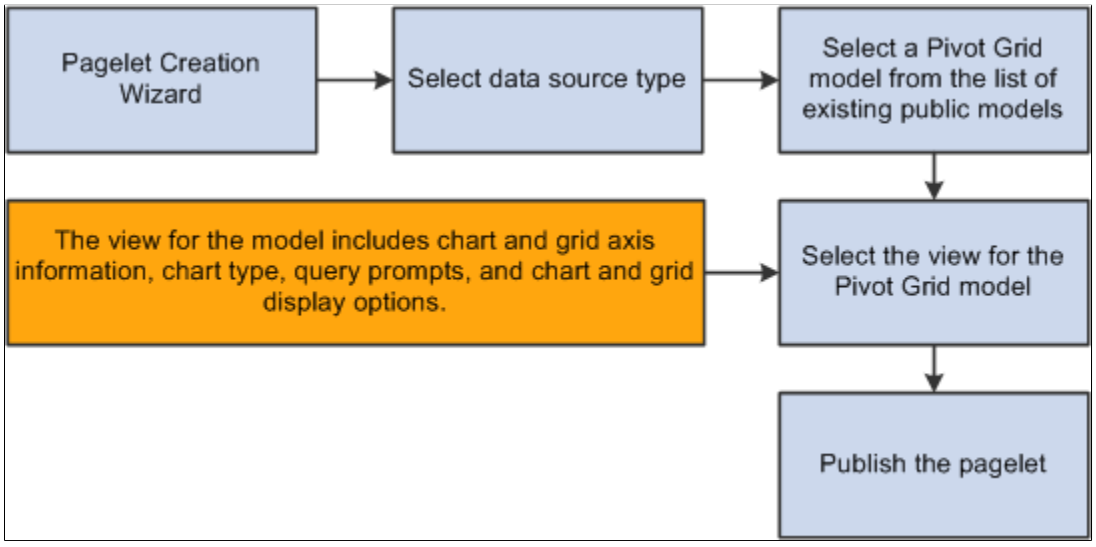
PeopleSoft Pivot Grid functionality is currently used by Pagelet Wizard. Pagelet Wizard uses the Pivot Grid Viewer component and publishes the pivot grid as a pagelet. During pagelet creation using the Pagelet Wizard, the system stores all the parameters that were required for the Pivot Grid Viewer component: Pivot Grid Name and Pivot Grid View Name. When the pagelet is invoked, these parameters are passed to the component, which parses them and renders the display.

Note: If the query used in the Pivot Grid model is changed after the Pivot Grid pagelet is created, you need to modify and save the Pivot Grid model to ensure that Pivot Grid Viewer and Pivot Grid pagelet display all changes properly.

Pagelet Creation

Image: Pagelet creation process flow

This diagram shows the pagelet creation process flow.



In the Pagelet Wizard, you are able to:

- Select the data source type of Pivot Grid.
- Select the Pivot Grid model to use.
- Select the Pivot Grid view.

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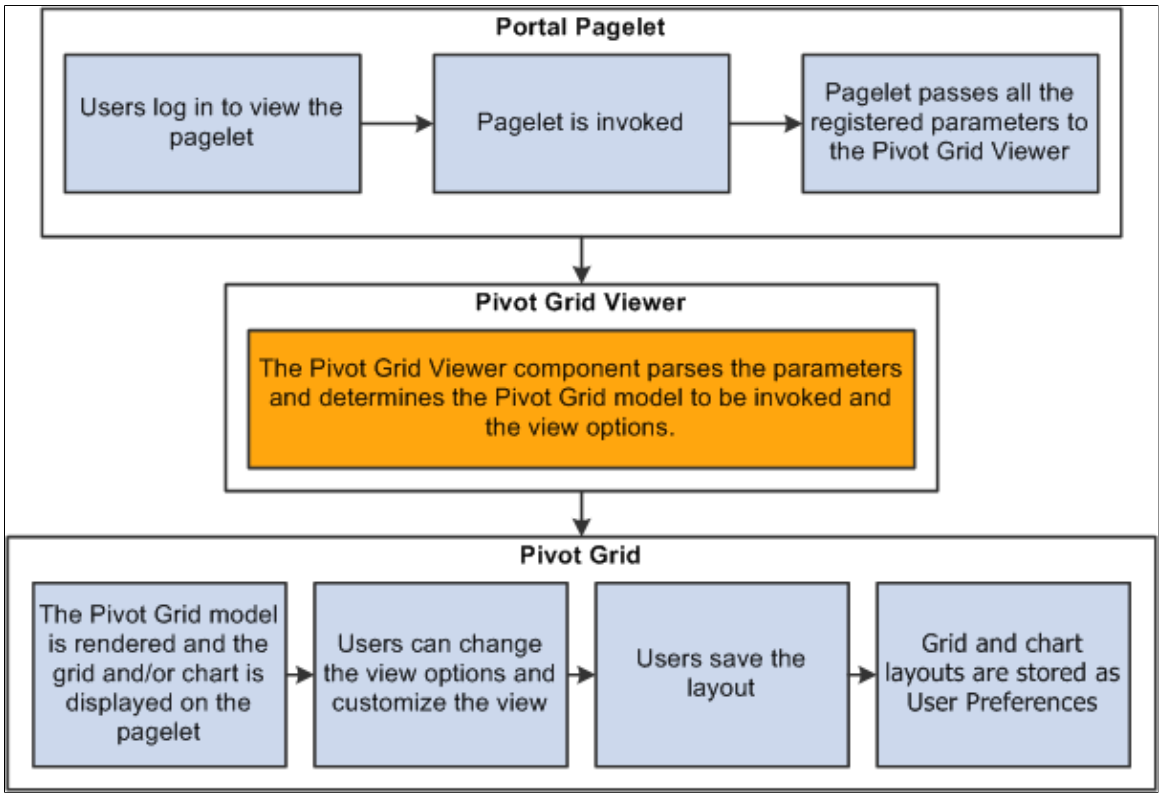
- Publish the pagelet.

Pagelet Viewing

Image: Pagelet viewing process flow

This diagram shows the flow for viewing a Pivot Grid pagelet.



When you open a pagelet that contains a pivot grid, all of the registered parameters are passed to the Pivot Grid Viewer. From the pagelet, you can perform all of the tasks that can be performed directly from the Pivot Grid Viewer.

Note: Pagelet Wizard is not supported in WSRP; therefore, Pivot Grid pagelets that were created using Pagelet Wizard are not usable in WSRP.

See "Understanding WSRP" (PeopleTools 8.54: Portal Technology).

Pivot Grid as a Subscriber

Pivot Grid subscribes to Inter Window Communication (IWC) publications from transaction pages and other pivot grids and charts. The subscription can only happen on the filters and prompts, and then pivot grids are refreshed with the subscribed values. When subscribing to publications from another pivot grid or chart filter, the subscription supports the multi-select option in filters. When subscribing from a transaction page, the values in publication should be separated by semicolons (;) to support multiselect filter values.

The IWC configuration for subscriptions contains the following values:

- Event Name: Enter the named configuration for this subscription.

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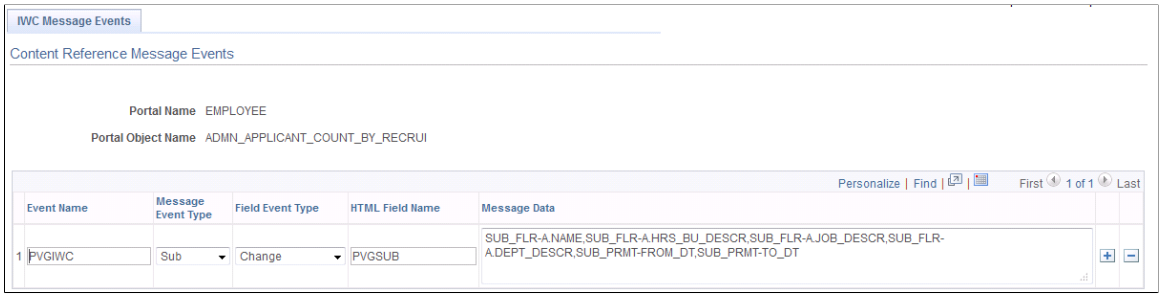
This name matches the publication configuration event name that runs the publication.

- Message Event Type: Sub.
- Field Event Type: Change.
- HTML Field Name: PVGSUB.
- Message data: Enter the prompts and filters in the following format:
  - Filter: SUB_FLR-<*Query field name*>
  - Prompt: SUB_PRMT-<*Unique query prompt name*> (available in query definition)

Image: Content Reference Message Events page with IWC configuration for subscription

This example illustrates the Content Reference Message Events page with IWC configuration for subscriptions.



If a subscription is in multiple prompts and filters, the message data separates prompts and filters using commas. A corresponding publication configuration exists with a list of corresponding publication fields that are separated by commas. The publication is from transaction pages or from other pivot grids and charts.

Pivot Grid as a Publisher

Pivot grid also publishes the changes in prompts and filter values for which IWC is configured. The subscriber for this publication is another pivot grid.

The IWC configuration for publications contains the following values:

- Event Name: Enter the named configuration for this subscription.

  This name matches the subscription configuration event name that subscribes to the publication.
- Message Event Type: Pub.
- Field Event Type: Click.
- HTML Field Name: PVGPUB.
- Message data: Enter the prompts and filters in the following format:
  - Filter: PUB_FLR-<*Query field name*>

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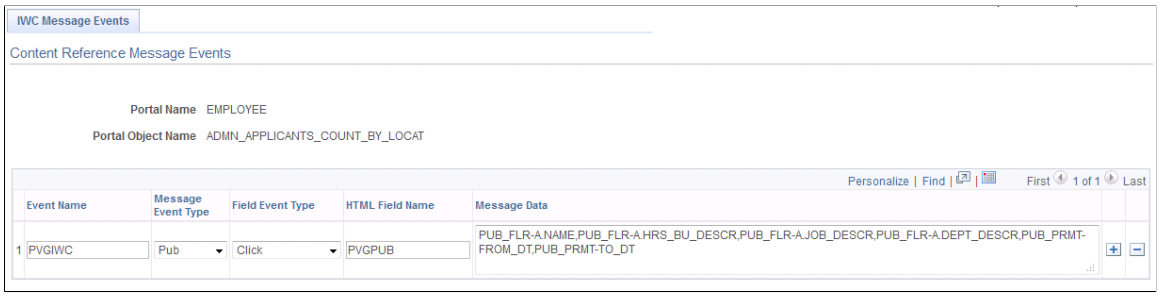
- Prompt: PUB_PRMT-<*Unique query prompt name*> (available in query definition)

Image: Content Reference Message Events page with IWC configuration for publication

This example illustrates the Content Reference Message Events page with IWC configuration for publications.



In the previous example, note that:

- Pagelet names are ADMN_APPLICANTS_COUNT_BY_RECRUI and ADMN_APPLICANTS_COUNT_BY_LOCAT.
- The publishing and subscribing filter query fields are A.NAME, A.HRS_BU_DESCR, A.JOB_DESCR, and A.DEPT_DESCR.
- The publishing and subscribing prompt unique field names are FROM_DT and TO_DT.
- The subscriber and publishing fields need not be the same.

  One-to-one mapping exists between the comma separated publisher and subscriber fields.

If a publication involves multiple prompts and filters, the message data separates prompts and filters using commas. A corresponding subscription configuration exists with a list of corresponding subscription fields that are separated by commas.

Note: Between a pair of publisher and subscriber, only a single publication and subscription configuration should exist. That is, if pivot grid A publishes to pivot grid B, then pivot grid A uses a single-named publication configuration for all the fields it publishes to pivot grid B, and pivot grid B subscribes to the same-named IWC configuration. The lists of fields to be published and subscribed to are separated by commas in the IWC message data field. This is true for IWC between transaction pages and pivot grids. For IWC between a pair of pivot grids, you should configure publications and subscriptions with all the common intersecting filters between the pivot grids to ensure consistent behavior with progressive filtering in the publisher and subscriber.

Creating a New Pivot Grid Pagelet Using the Pagelet Wizard

This topic discusses how to:

- Specify pagelet information.
- Select a data source.

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- Specify data source parameters.
- Select a display format.
- Specify display options.
- Specify publishing options.

Specifying Pagelet Information

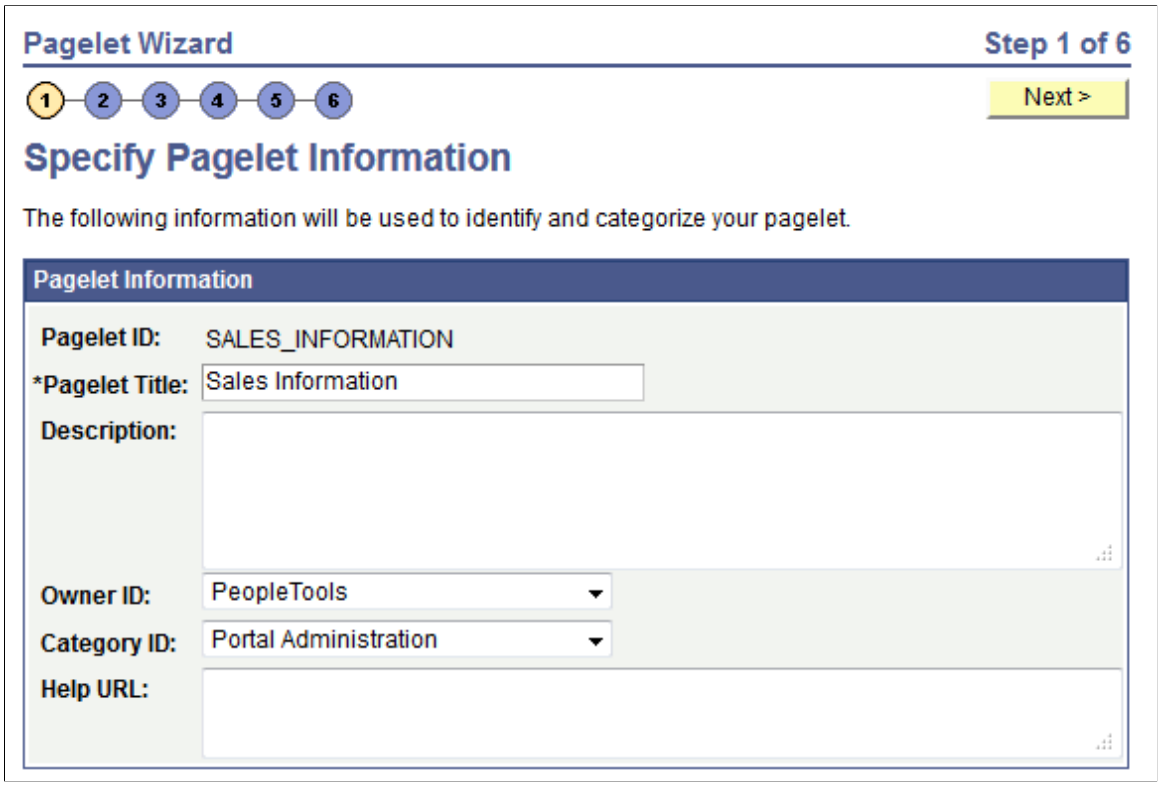
Use the Specify Pagelet Information page (PTPPB_WIZ_INFO) to enter the pagelet title and other pagelet information.

Navigation

Access the Specify Pagelet Information page by selecting PeopleTools, Portal, Pagelet Wizard, Pagelet Wizard.

Image: Specify Pagelet Information page

This example illustrates the fields and controls on the Specify Pagelet Information page. Definitions for the fields and controls appear following the example.



Pagelet Title Enter a title for the Pivot Grid pagelet. This field is required.

Category ID Select the pagelet category ID.

Note: The portal administrator can use this value when running pagelet reports and when searching for pagelets that need to be moved between different portal sites.

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Next

Note: The Next button is available after you enter the pagelet title in the Pagelet Title field and move the cursor to any other field.

Click to advance the wizard to the next page.

Selecting a Data Source

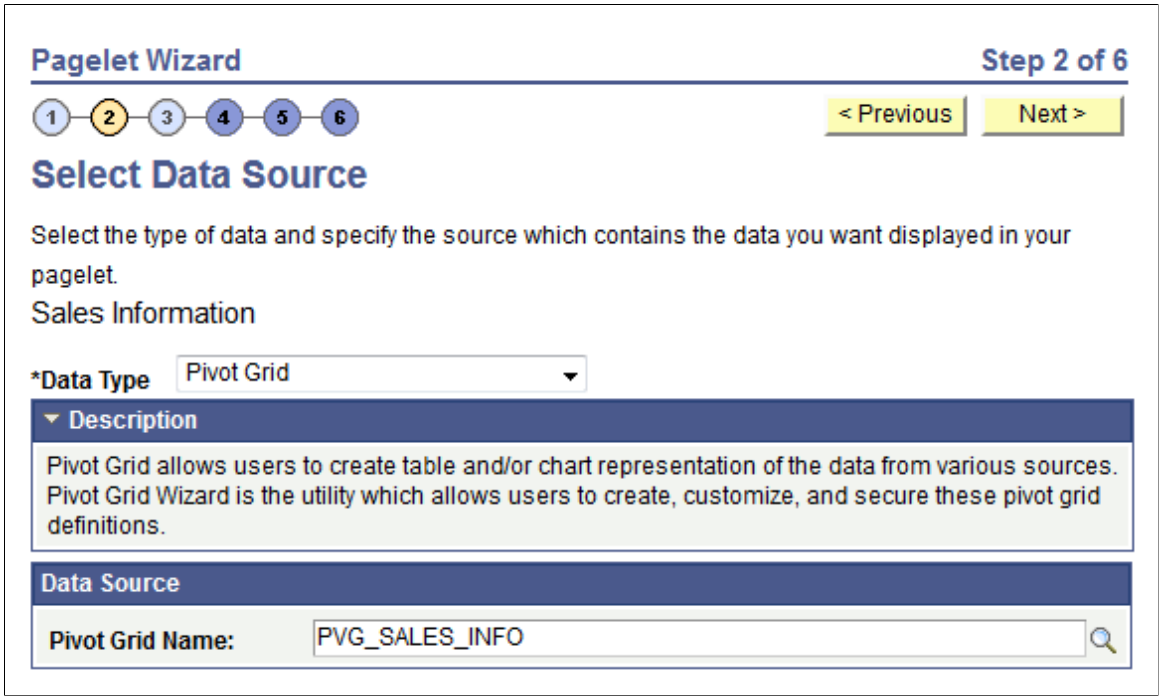
Use the Select Data Source page (PTPPB_WIZ_DATASRC) to select the pagelet data source type that will be used for the pivot grid and to select the Pivot Grid model to be created as a pagelet.

Navigation

Access the Select Data Source page by clicking the Next button on the Specify Pagelet Information page.

Image: Select Data Source page

This example illustrates the fields and controls on the Select Data Source page. Definitions for the fields and controls appear following the example.



Data Type

Select the data type *Pivot Grid.*

Pivot Grid Name

Click the search icon to select a pivot grid from existing pivot grids.

Note: This field appears after you select the data type *Pivot Grid.*

Next

Note: The Next button is available after you select a pivot grid from the Pivot Grid Name field.

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Click to advance the wizard to the next page.

Specifying Data Source Parameters

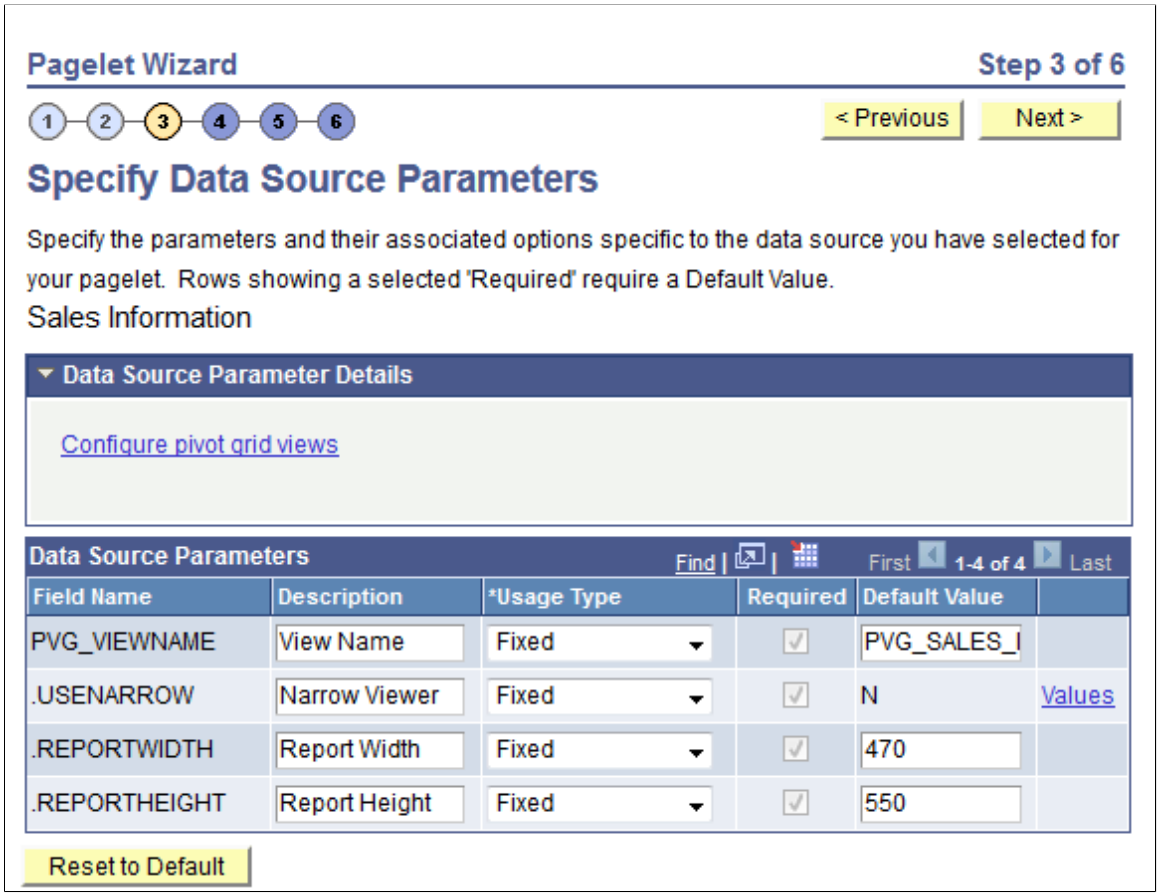
Use the Specify Data Source Parameters page (PTPPB_WIZ_DATAPRMS) to select a view for the Pivot Grid model, create new views for the model using the Pivot Grid View Options component, and specify the initial width and height of the pagelet.

Navigation

Access the Specify Data Source Parameters page by clicking the Next button on the Select Data Source page.

Image: Specify Data Source Parameters page

This example illustrates the fields and controls on the Specify Data Source Parameters page. Definitions for the fields and controls appear following the example.



Configure pivot grid views Click this link to open the Pivot Grid Views Component dialog box, where you can define pivot grid display options.

Description Enter a description for the pagelet. The default values are:

- *View Name*
- *Narrow Viewer*

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- *Report Width*
- *Report Height*

Usage Type Select a usage type for your pivot grid. Available options are:

- *Admin Specified*
- *Context Sensitive*
- *Fixed*
- *Not Used*
- *System Variable*
- *User Specified*

Next Click to advance the wizard to the next page.

Narrow Viewer

The Narrow Viewer mode is useful for pivot grid pagelets in the work center. You can set the Narrow Viewer mode for pagelets using the Publish as Pagelet page or the Pagelet Wizard - Specifying Data Source Parameters page.

The published pagelet has a single column filter mode in the chart-only models. All functionalities available in the normal viewer are also available in Narrow Viewer mode.

Oracle PeopleSoft recommends that you use the Narrow Viewer mode for the chart-only models. You can expand the width of charts in the narrow viewer from their default settings by using the advanced chart

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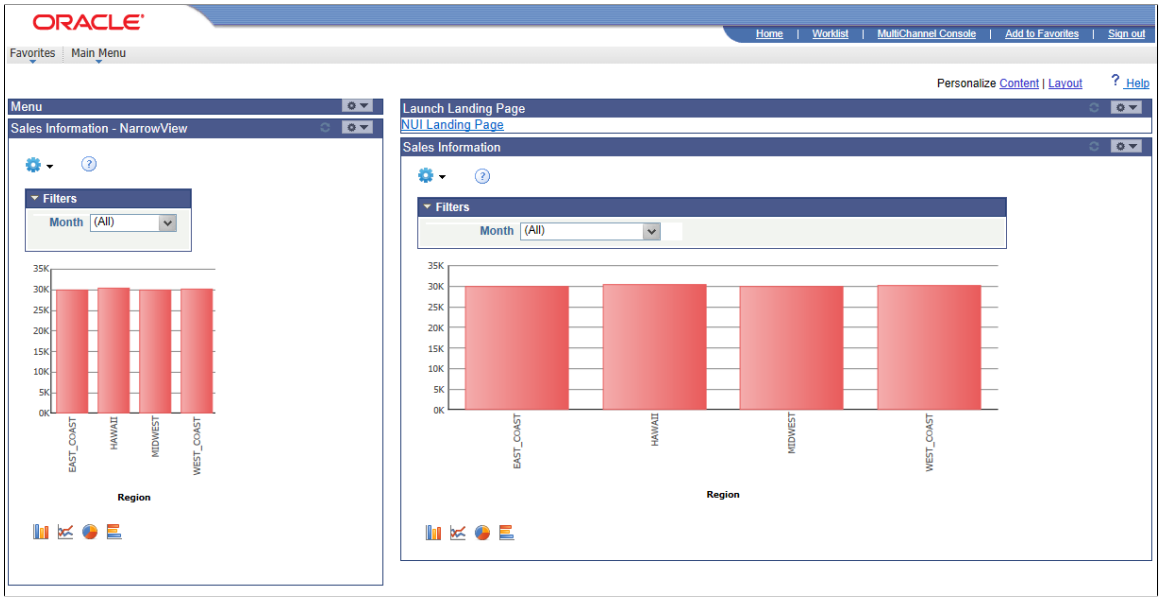
options in the viewer. If you use the Narrow Viewer mode for the grids, the grids occupy the same real estate as in the normal viewer.

Image: Narrow chart viewers

This example illustrates a dashboard showing the narrow chart view in the left pane, unexpanded from the default width, and in the right pane expanded from the default width.



Note that:

- Options Menu and chart icons are available for all views.

  Pivot Grid administrator or Pivot Grid developers can set to show or hide the Options Menu and chart icons using the Viewer Options section in the Pivot Grid Wizard - Specify Data Model Options page.

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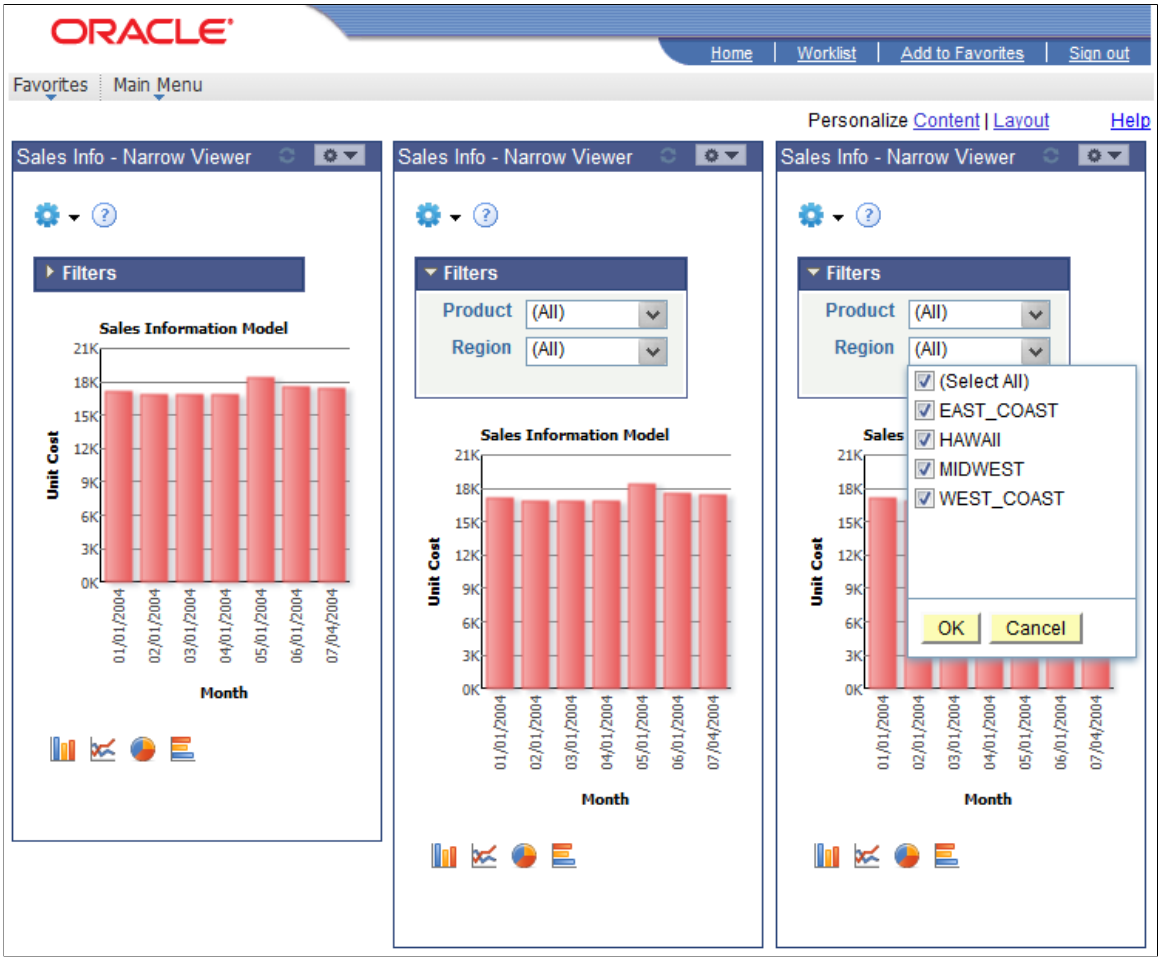
- If the Pivot Grid model has filters, the default narrow view of a Pivot Grid pagelet shows the width of the chart at 210 pixels.

  Image: Narrow Viewer, the minimum width for Pivot Grid models with filters

  This example shows the narrow view of Pivot Grid pagelets with the minimum width for Pivot Grid models that have filters. The width of the chart is 210 pixels, and group boxes are collapsed by default. You can click the bars in the chart to access the detailed view.



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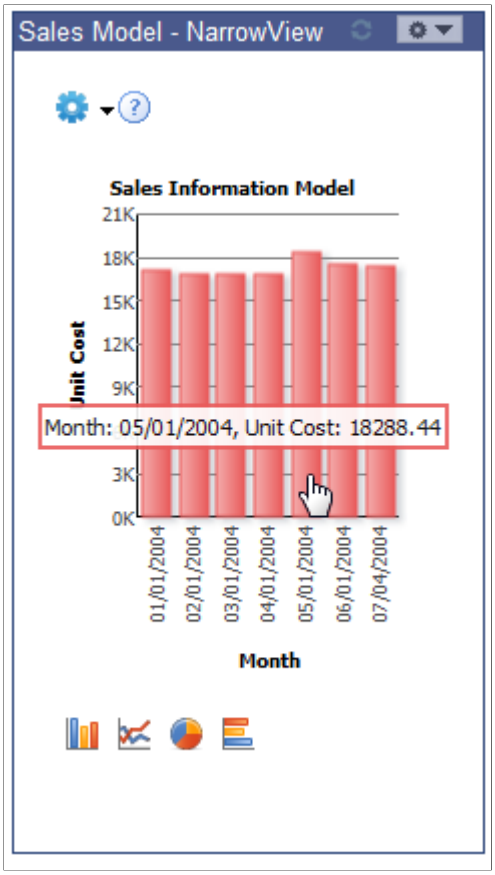
- If the Pivot Grid model has no filters, the default narrow view of a Pivot Grid pagelet can be scaled back to 175 pixels, and you can set the narrow view to a smaller size.

  Image: Narrow Viewer, the narrowest view for Pivot Grid models without filters

  This example shows the narrowest view for a model with no filters. The width of the chart is 175 pixels. You can click the bars in the chart to access the detailed view.



- If the width of the chart is less than 300 pixels, then when you click the chart sector or bar, you access the detailed view directly without the drill-down or Related Action menu.

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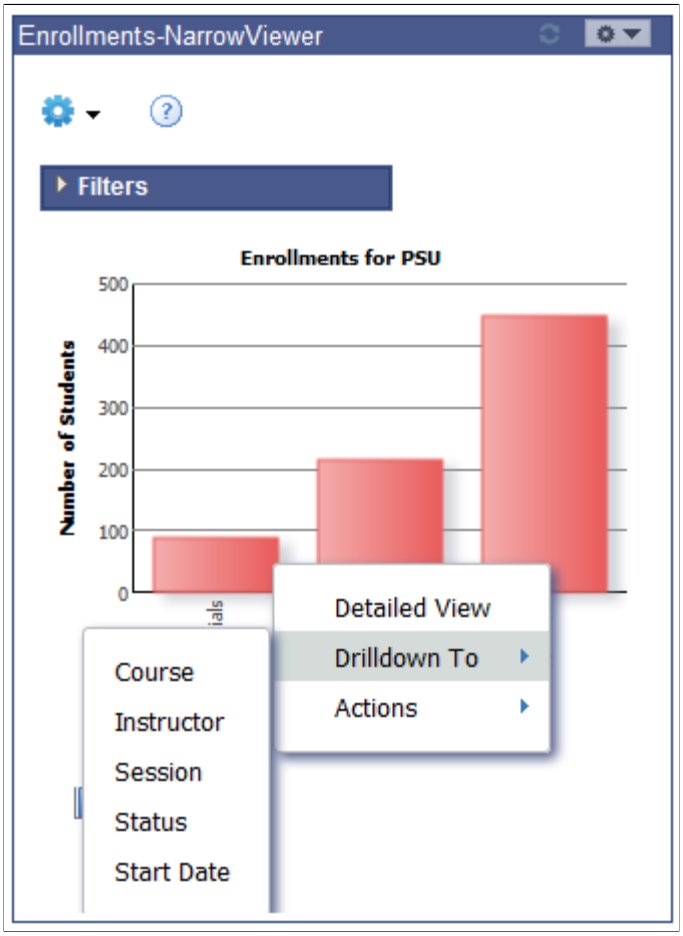
- If the width of the chart is greater than 300 pixels, the narrow view of pagelets shows locator links, the drill-down menu, the detailed view, and the Related Action menu.

  Image: Narrow Viewer, the minimum width for the models with the drill-down menu

  This example shows the minimum width of the Pivot Grid models with the drill-down menu.



- If the drill-down menu has multiple levels, then the side of the chart is adjusted to show all drill-down levels.

Defining the Pivot Grid Display Options

Use the Pivot Grid Views page (PTPG_VIEWOPTIONS) to configure different views for the selected Pivot Grid model.

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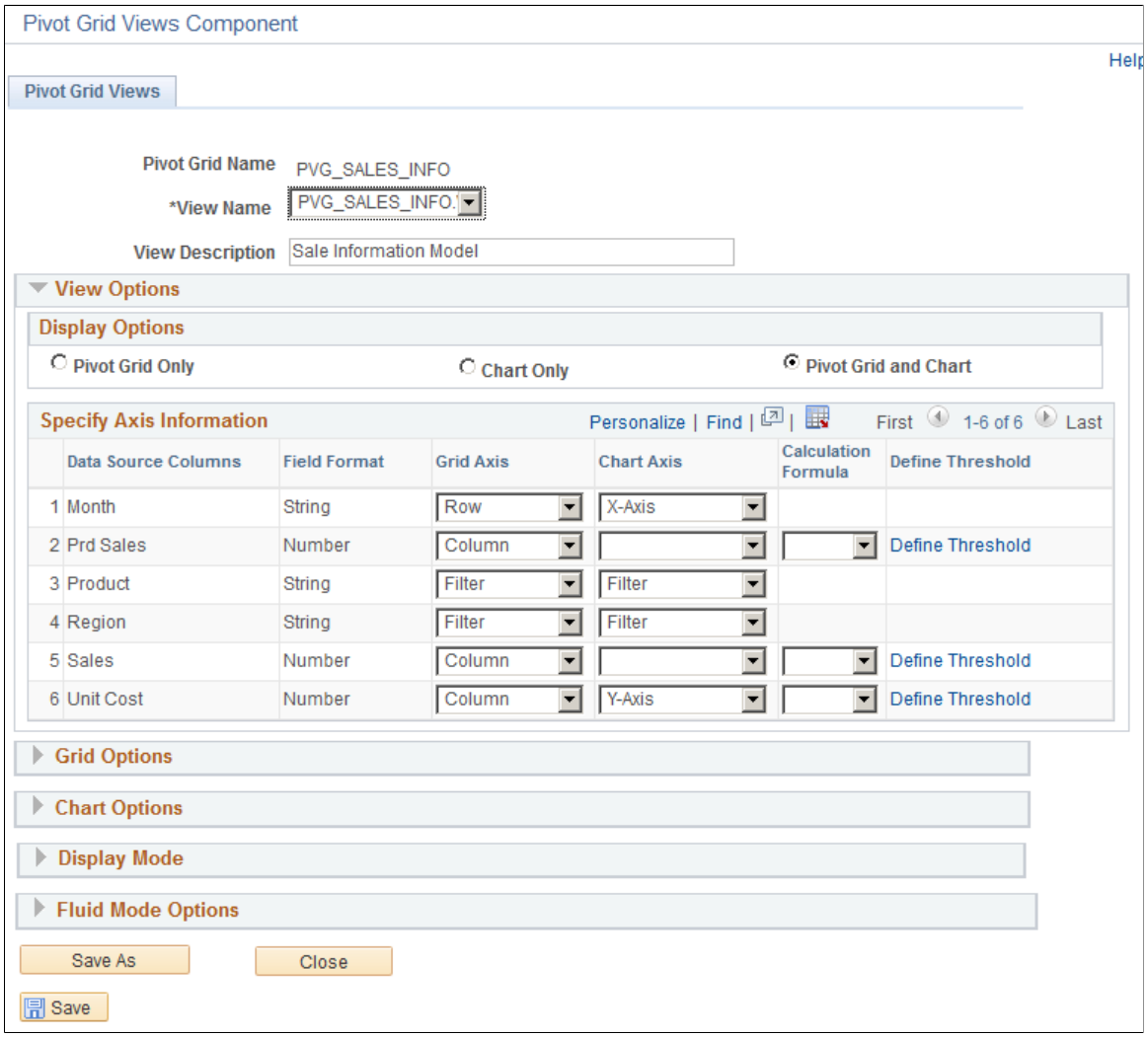
Navigation

Open the Pivot Grid Views Component dialog box by clicking the Configure pivot grid views link on the Specify Data Source Parameters page.

Image: Pivot Grid Views Component dialog box

This example illustrates the fields and controls on the Pivot Grid Views Component dialog box. Definitions for the fields and controls appear following the example.



View Name Select the Pivot Grid view to use for this pagelet.

Datasource Prompts Enter the default values for the PSQuery runtime prompts.

Note: This section is only available when the selected query that built the grid has prompts attached.

Display Options Define pagelet view options for the grid and the chart.

Available options are:

- Pivot Grid Only

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- Chart Only
- Pivot Grid and Chart

Calculation Formula

The Calculation Formula column is available only for number (facts) fields.

Select either the *Percentage* or the *Percentage Grand Total* option to display the number (fact) values in the grid and chart.

You are able to apply or remove this calculation option using the Options Menu icon in the Pivot Grid Viewer.

Grid Options

Define whether drag-and-drop functionality is allowed in the grid, whether the initial view of the grid is expanded or collapsed, and whether the grid can be expanded or collapsed. Available options are:

- Collapsible Data Area
- Expanded State
- No Drag and Drop

Chart Options

Define information for axis and value columns of the grid, and define chart type and axes information for the chart.

Available options are Title, Type, X axis label, and Y axis label.

Advanced Options

Define the 3D rotation angle and height of the chart.

Save As

Click to open the Save View As dialog box, where you can either save the current Pivot Grid model as a new view or update an existing view.

Close

Click to close the Pivot Gird Views component and copy the selected view name to PVG_VIEWNAME data source parameter.

Selecting a Display Format

Use the Select Display Format page (PTPPB_WIZ_DISPFRMT) to confirm the display format of the pagelet.

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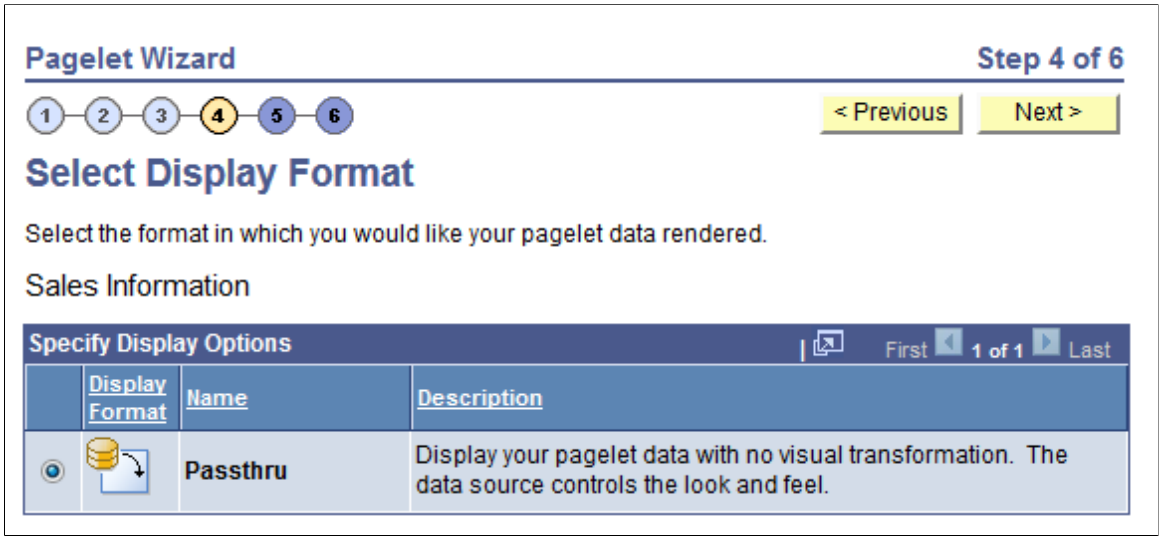
Navigation

Access the Select Display Format page by clicking the Next button on the Specify Data Source Parameters page.

Image: Select Display Format page

This example illustrates the fields and controls on the Select Display Format page. Definitions for the fields and controls appear following the example.



Specify Display Options Confirm the display format of the pagelet.

Note: *Passthru* is the only display option available for Pivot Grid.

Next Click to advance the wizard to the next page.

Specifying Display Options

Use the Specify Display Options page (PTPG_PGVIEWER) to define the display options of the pagelet, preview the Pivot Grid model, and view the pagelet that is selected.

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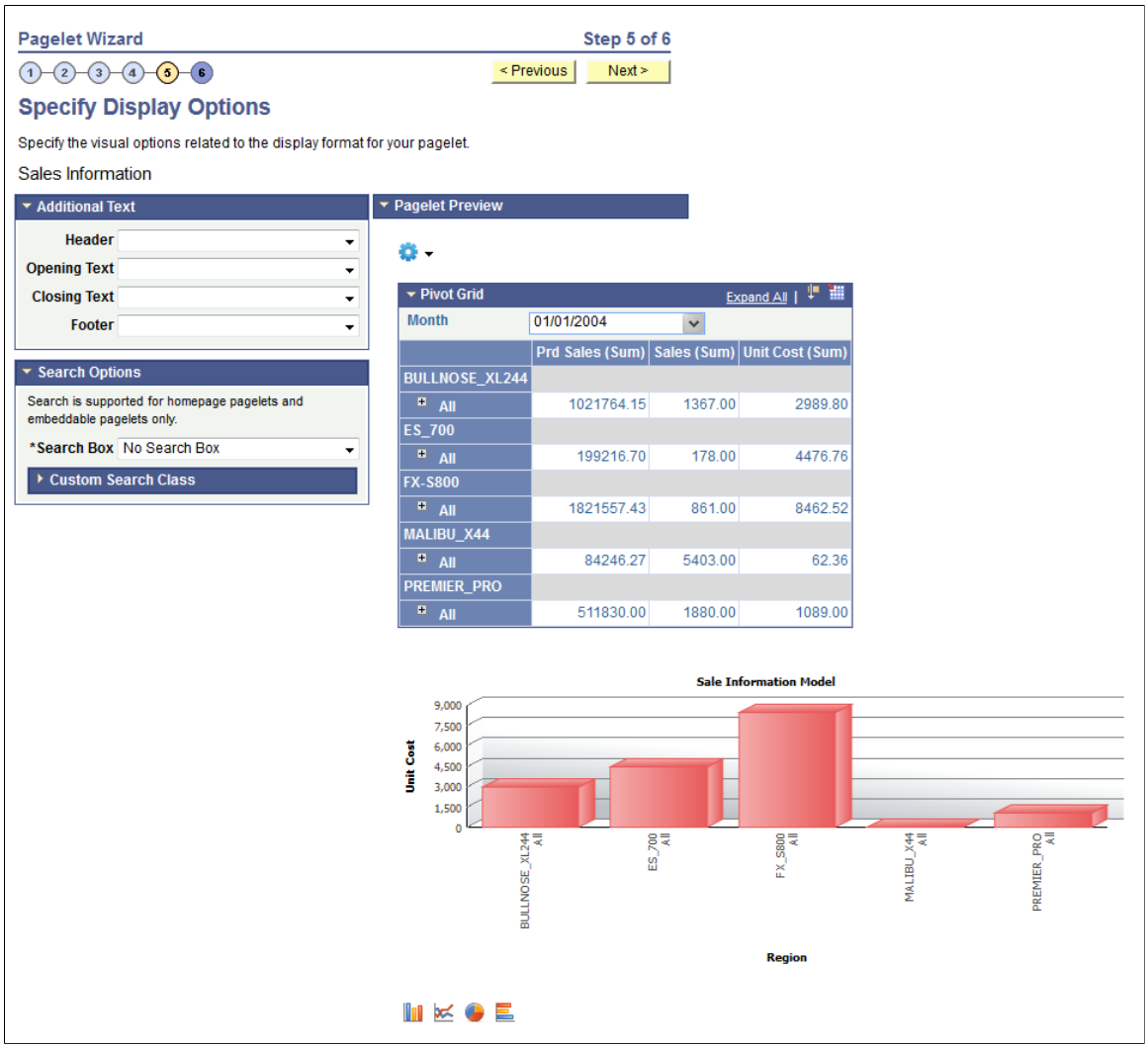
Navigation

Access the Specify Display Options page by clicking the Next button on the Select Display Format page.

Image: Specify Display Options page

This example illustrates the fields and controls on the Specify Display Options page. Definitions for the fields and controls appear following the example.



Additional Text The Additional Text region contains the options to add headers, footers, opening text, and closing text to a pagelet.

See "Specifying Passthru Display Options" (PeopleTools 8.54: Portal Technology).

Search Options The Search Options region contains the options to override the default search functionality for the current pagelet only.

Pagelet Preview When you change the Additional Text or Search Options, the changes automatically update the preview.

Next Click to advance the wizard to the next page.

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Specifying Publishing Options

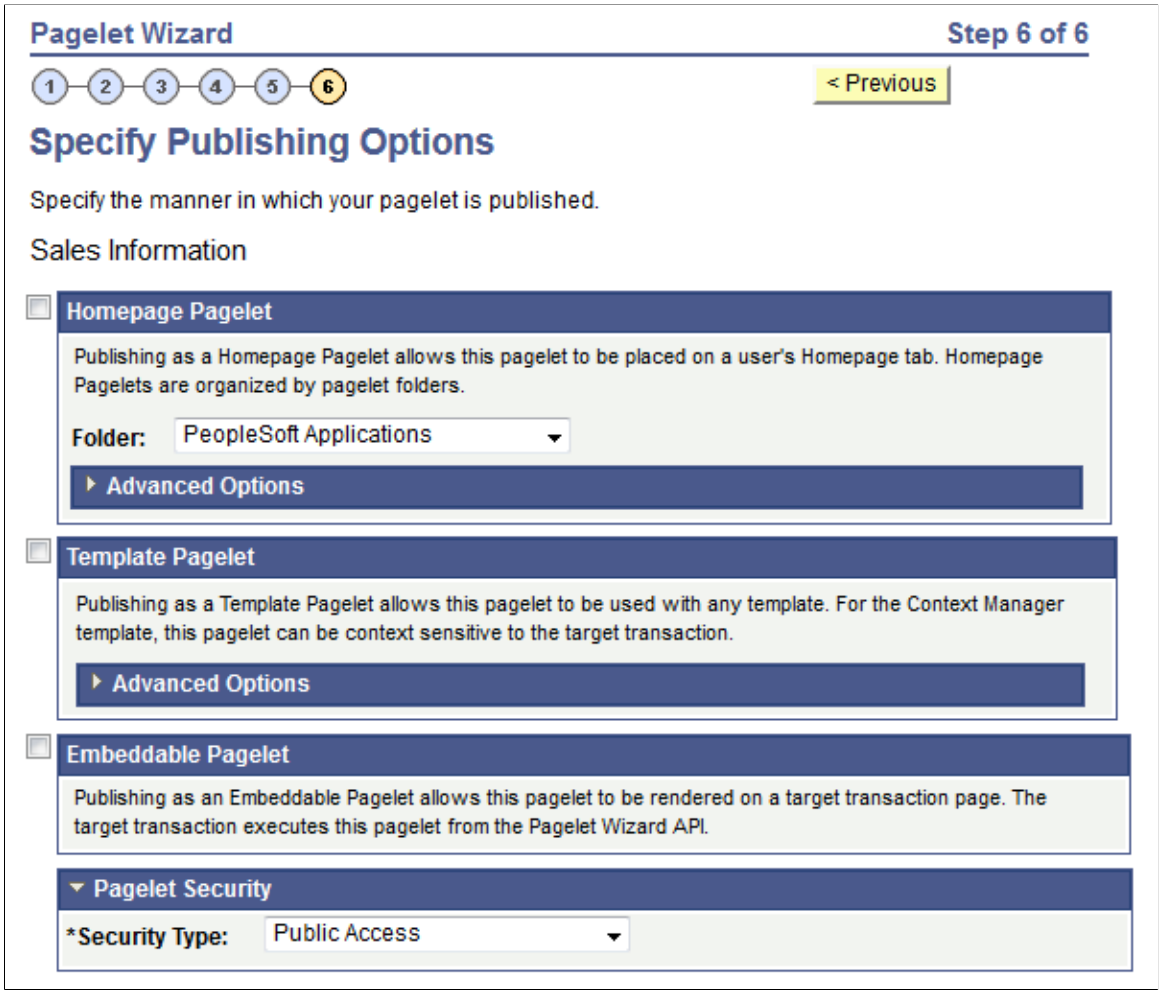
Use the Specify Publishing Options page (PTPPB_WIZ_PUBOPT) to define the location, type, and security attributes for the pagelet and publish the pagelet.

Navigation

Access the Specify Publishing Options page by clicking the Next button on the Select Display Options page.

Image: Specify Publishing Options page

This example illustrates the fields and controls on the Specify Publishing Options page. Definitions for the fields and controls appear following the example.



Note: You can include the Pivot Grid pagelet in Operational Dashboards, WorkCenters (pagelet width 256 pixels when configured in a workcenter), and homepages. Only the Homepage Pagelet and Embeddable Pagelet options are applicable for Pivot Grid pagelets.

Homepage Pagelet Select this option to publish the pagelet as a homepage pagelet that can be added to a homepage or WorkCenter operational dashboard page.

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Template Pagelet	This option is not applicable for pivot grids.
Embeddable Pagelet	Select this option to make your pagelet available as an embeddable pagelet that can be generated by the Pagelet Wizard API for rendering within an HTML area of a PeopleSoft Pure Internet Architecture target page or using an iScript.
Pagelet Security	Administrators can set pagelet security as public, or they can set a permission list based on user roles.
Save	Click to save the pagelet.
Finish	Click to transfer to the Pagelet Creation Confirmed page, where you also can save the pagelet. Access the homepage to personalize it to include the newly created pagelet.

Note: While working with the Pagelet Wizard, you can modify your previous selections at any step by clicking a step number icon. Changes in your selection could change the structure of a pagelet.

See "Specifying Pagelet Publication Options" (PeopleTools 8.54: Portal Technology).

Viewing a Pivot Grid Homepage Pagelet

Use the Pivot Grid homepage pagelet to view and update the Pivot Grid model.

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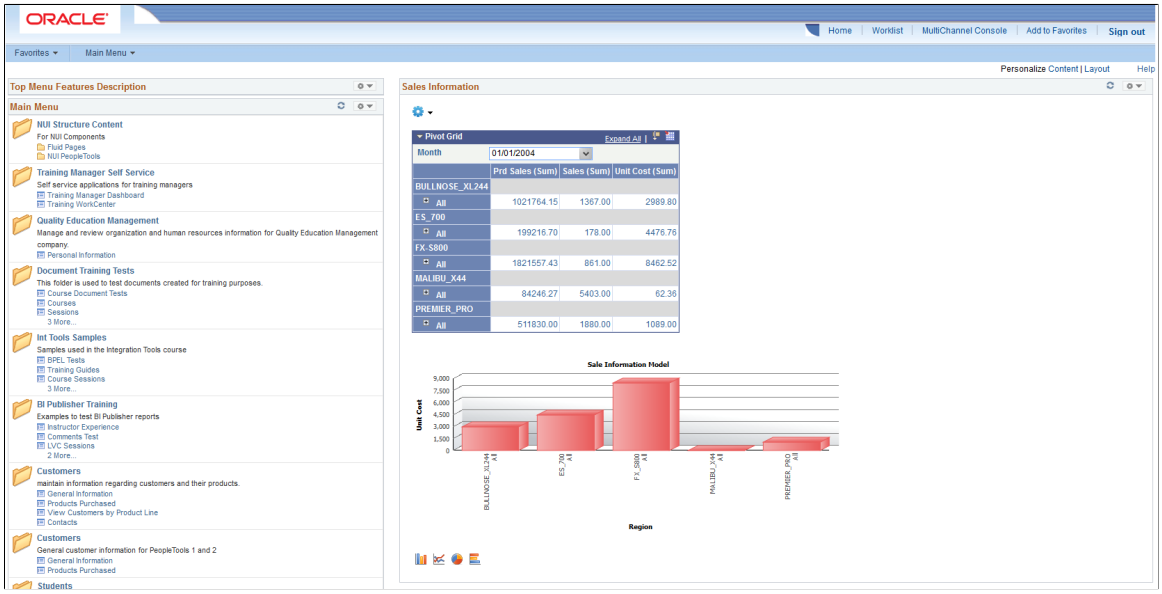
Navigation

Access the Pivot Grid homepage pagelet from the PeopleSoft Pure Internet Architecture home page.

Image: Pivot Grid homepage pagelet

This is an example of the Pivot Grid homepage pagelet.



Note: Viewing the pivot grid from a pagelet is the same as viewing it from the Pivot Grid Viewer.

See Viewing a Pivot Grid Model Using the Pivot Grid Viewer.

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Chapter 8

Pivot Grid Administration

Understanding Pivot Grid Administration

Pivot Grid administrators use the Pivot Grid Administration component to administer Pivot Grid models, views, and user personalization.

Note: In the grid section, if you are not assigned the Pivot Grid Administrator users role, then when you perform a search in the Pivot Grid Administration component, the search result is restricted to the models that you have created in the Pivot Grid Wizard. Non-administrative users are not able to delete, copy, import, export, or generate scripts on the models that they did not create.

Deleting Pivot Grid Models

Pivot Grid administrators use the Delete Pivot Grid Models page (PTPG_ADMN_DELETE) to delete the models and all their associated views in the database.

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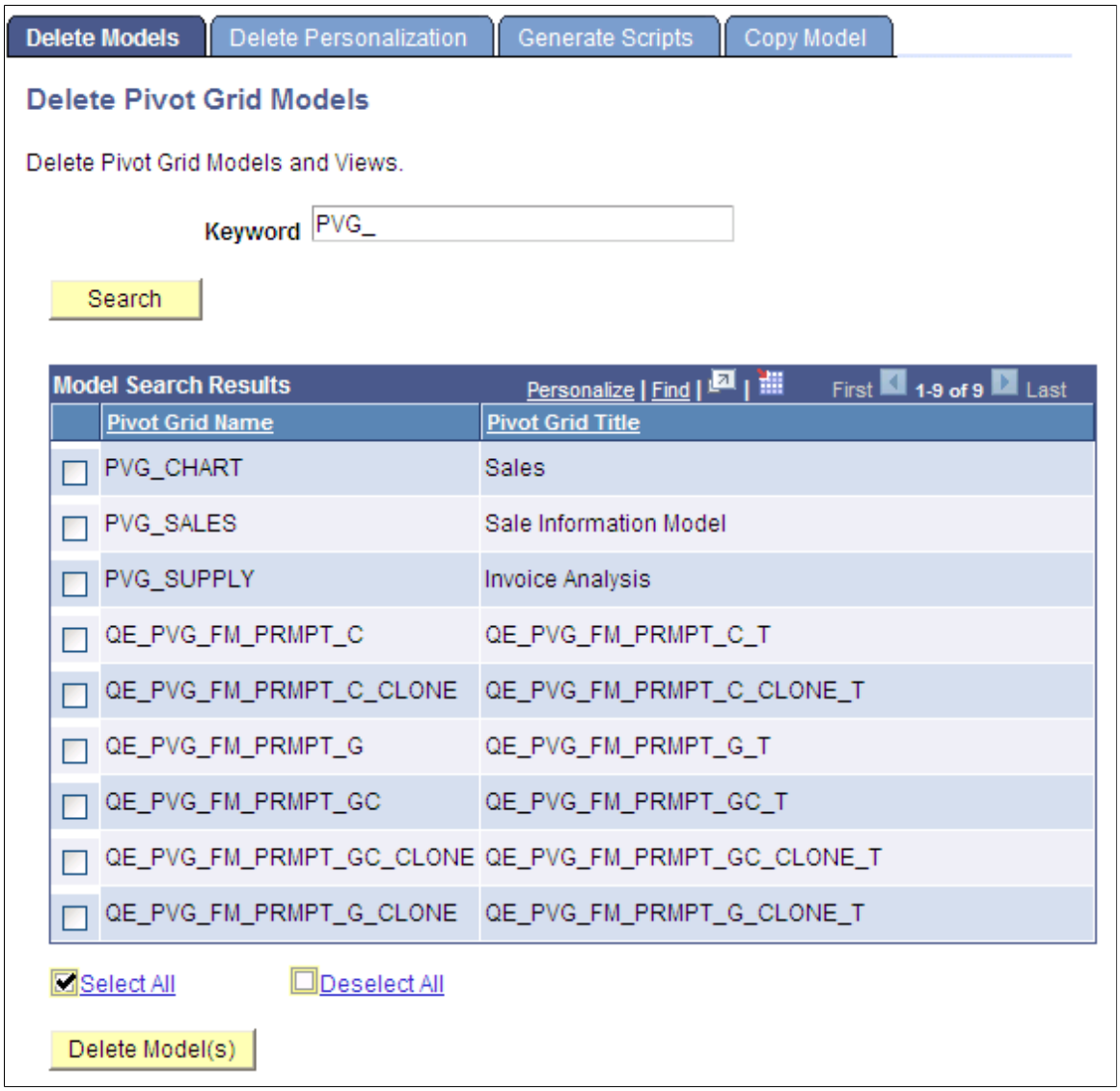
Navigation

Reporting Tools, Pivot Grid, Pivot Grid Administration

Image: Delete Pivot Grid Models page

This example illustrates the fields and controls on the Delete Pivot Grid Models page. Definitions for the fields and controls on this page follow this example.



Keyword	Click to perform a free-text search on model name and title.
Delete Non Default Views	Click to access the Delete Non Default Views page, where you can view and delete non-default views that are associated with the models.
Delete Model(s)	Click to delete the selected Pivot Grid models.

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Note: An error message appears if any selected model or view is referenced in pagelets or in related content. You have to remove the references in the Pagelets or Related Content components before you can delete the model or views.

To delete specific Pivot Grid models and all associated views in the database:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Administration, Delete Models.
2. Click the Search button to display all Pivot Grid models that you have authorization to delete.
3. Select the models that you want to delete.
4. Click the Delete button to delete the selected models and their associated views.

   If any selected model is referenced in an exported pagelet, an error message appears asking you to delete the pagelet reference.

Note: When you delete a Pivot Grid model that was created using a component as the data source, you have the option to either delete or not delete the query that is associated with the component.

Deleting Non-Default Views

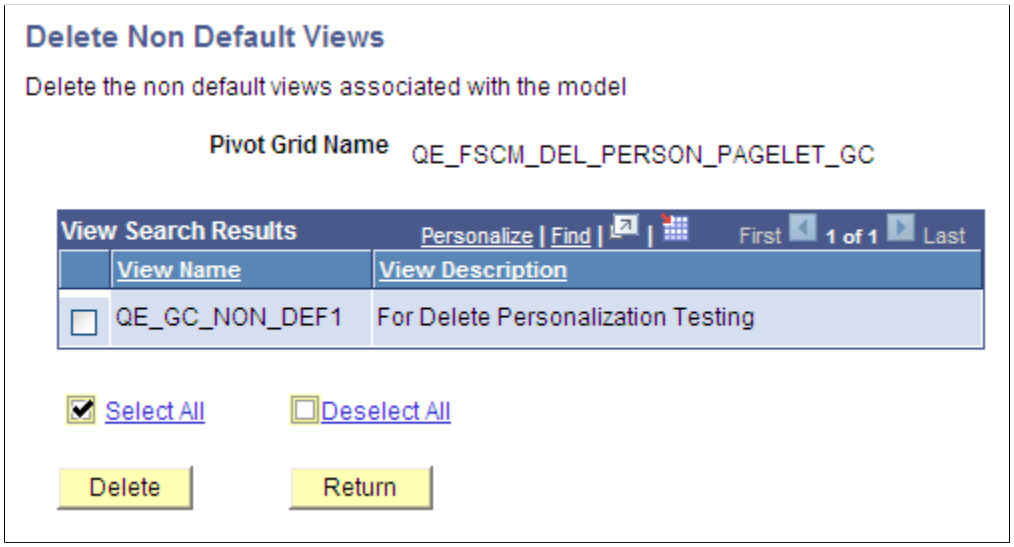
Pivot Grid administrators use the Delete Non Default Views page (PTPG_ADMN_DELNDV) to view and delete non-default views that are associated with the models.

Navigation

Reporting Tools, Pivot Grid, Pivot Grid Administration, Delete Models

Image: Delete Non Default View page

This example illustrates the fields and controls on the Delete Non Default Views page.



To delete non-default views that are associated with a Pivot Grid model in the database:

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1. Select Reporting Tools, Pivot Grid, Pivot Grid Administration, Delete Models.
2. Click the Search button to display all Pivot Grid models that you have authorization to delete.

   If non-default views are associated with the model, the Delete Non Default Views link appears.
3. Click the Delete Non Default Views link next to the Pivot Grid model.

   The non-default views are listed by name and description.
4. Select appropriate non-default views and click the Delete button.

Note: Non-default views are created using the Pagelet Wizard - Specify Data Source Parameters page.

Deleting User Personalization

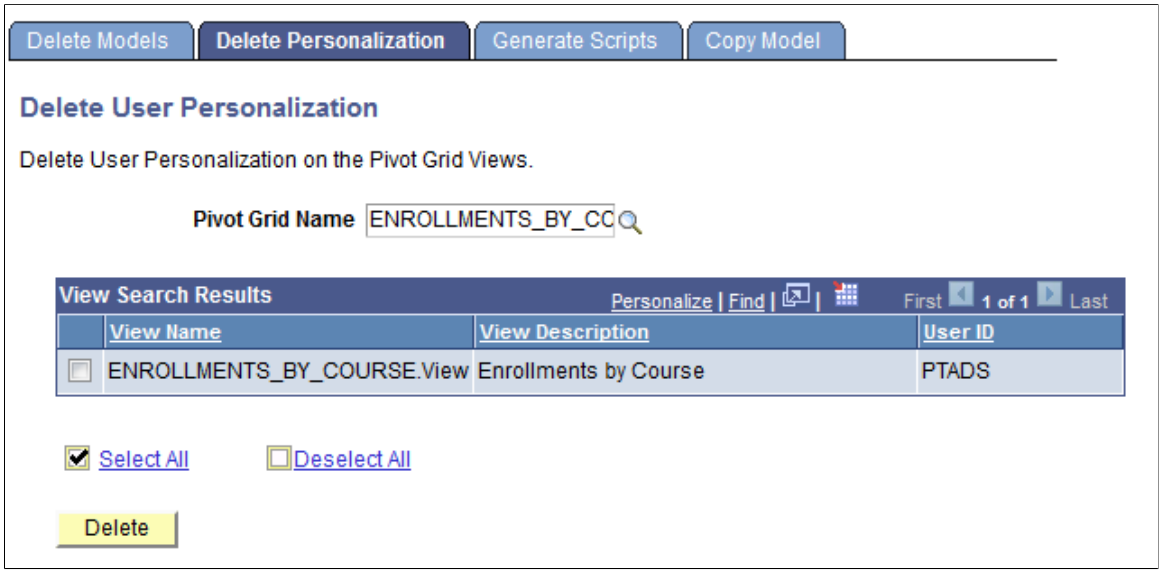
Pivot Grid administrators use the Delete User Personalization page (PTPG_ADMN_RSTPERS) to delete the personalization, by users, on the views that are associated with any model in the database.

Navigation

Reporting Tools, Pivot Grid, Pivot Grid Administration, Delete Personalization

Image: Delete User Personalization page

This example illustrates the fields and controls on the Delete User Personalization page.



Note: The User ID and the view name are presented in model search results. The search lists only the models whose views have user personalization. For users who are not Pivot Grid Administrators, the search result is further limited to the models that they have created in the wizard.

To delete user personalization on specific Pivot Grid models in the database:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Administration, Delete User Personalization.

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2. Search for a model name.

   All the user personalization and the associated USERIDs are listed.

3. Select and delete the personalization for a specific user or for all users.

Exporting and Importing Pivot Grid Models

Pivot Grid administrators can use the Generate Import/Export Scripts page (PTPG_ADMN_EXPIMP) to generate the import and export scripts for the selected models.

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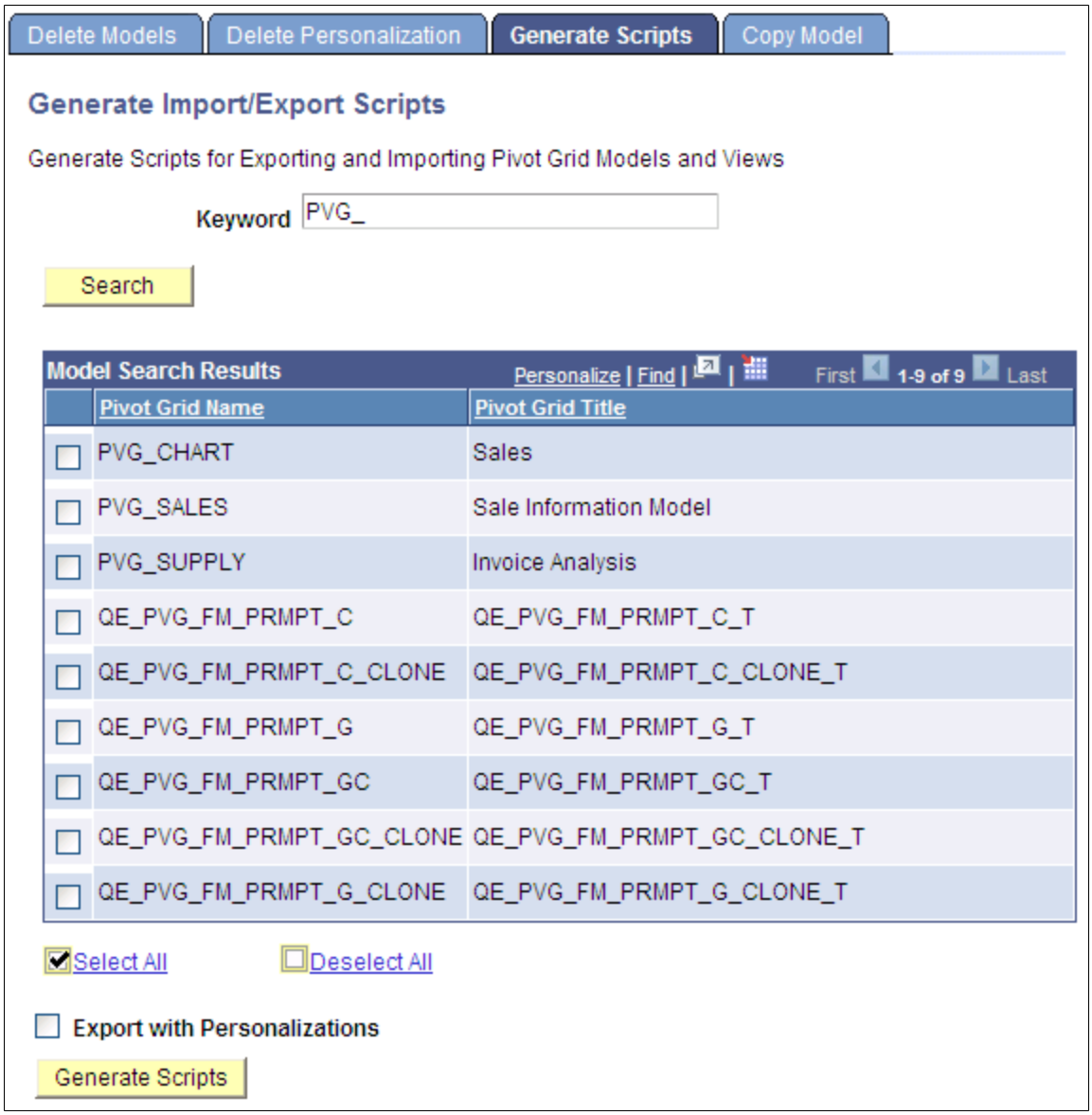
Navigation

Reporting Tools, Pivot Grid, Pivot Grid Administration, Generate Scripts

Image: Generate Import/Export Scripts page

This example illustrates the fields and controls on the Generate Import/Export Scripts page. Definitions for the fields and controls appear following the example.



Export with Personalizations Select to export the generated script with personalizations or deselect to export the generated script without personalizations.

Note: The existing personalization of the Pivot Grid models in the target database are always cleared off after the import.

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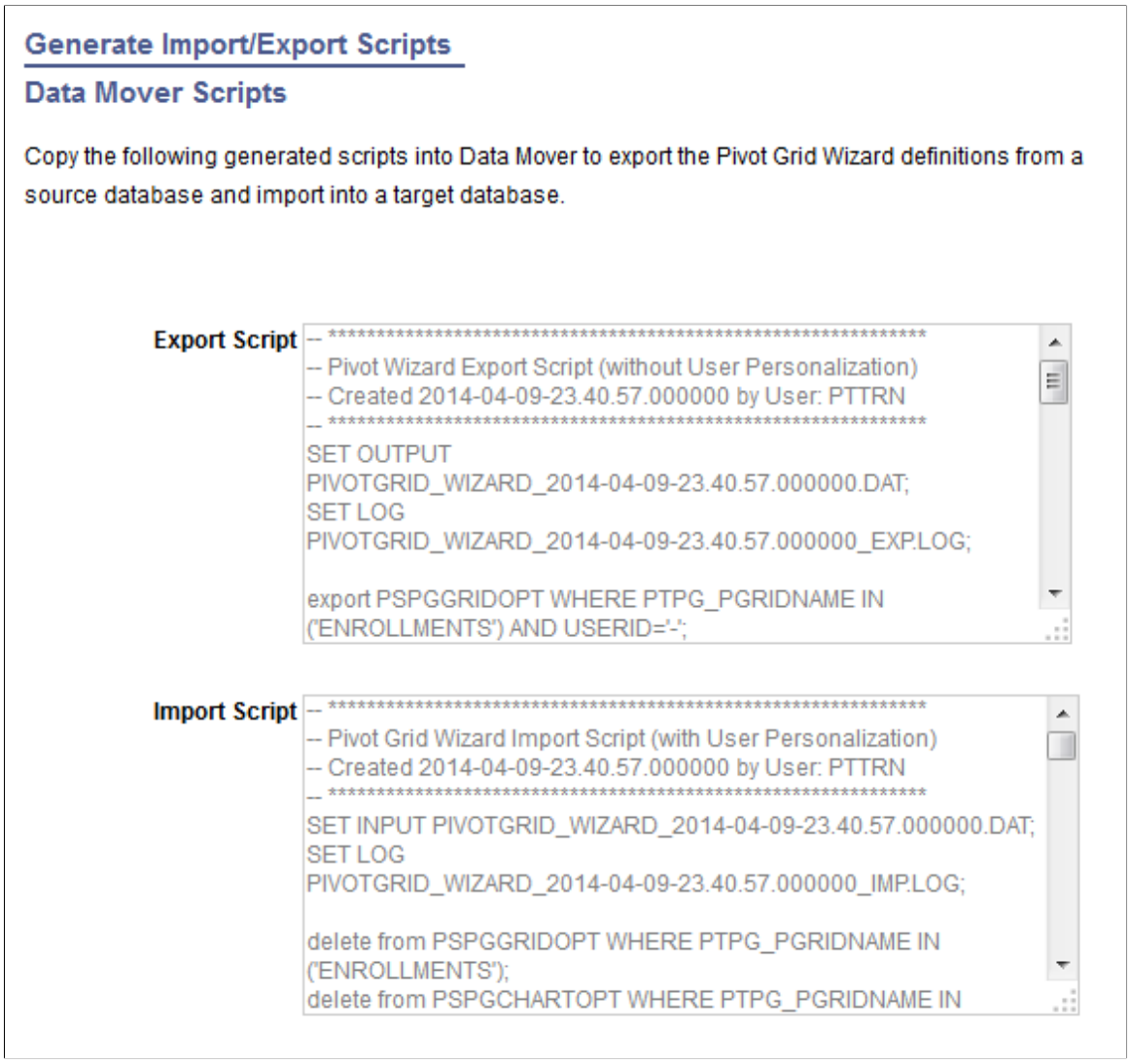
Generate Scripts Click to access the Export/Import Models dialog box, where you can view the exported or imported scripts.

Image: Export/Import Models page - Data Mover Scripts

This example illustrates the fields and controls on the Export/Import Models dialog box with Data Mover Scripts.



To generate the Export/Import scripts for migrating specific models in the database:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Administration, Generate Scripts.
2. Search for and select Pivot Grid models for creating a script.
3. Define the option to include or exclude personalization.
4. Click the Generate Scripts button to create the scripts.

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Copying Pivot Grid Model

Pivot Grid administrators use the Copy Pivot Grid Model page (PTPG_ADMN_SAVEAS) to copy an existing model and give it a new model name and title. Optionally, they can select to copy user personalization using the Include Personalizations option.

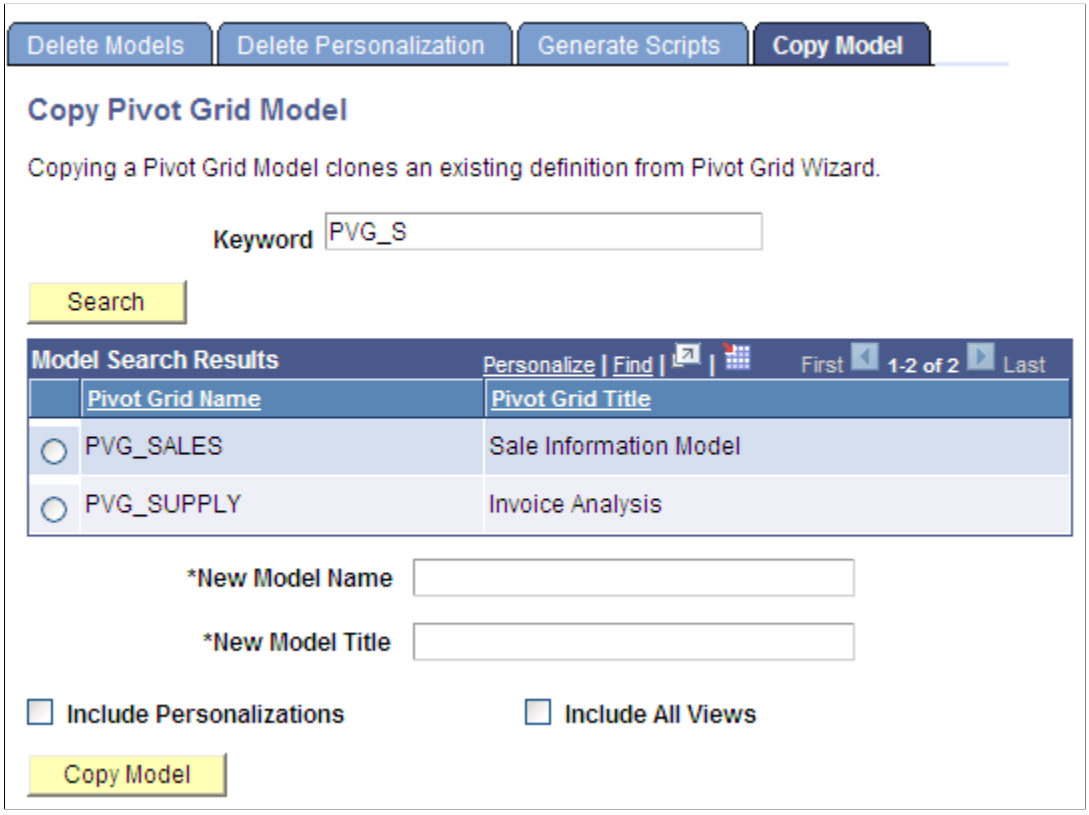
Note: You cannot copy the Pivot Grid model that was created using a component as the data source because only one Pivot Grid model can be associated with a component.

Navigation

Reporting Tools, Pivot Grid, Pivot Grid Administration, Copy Model

Image: Copy Pivot Grid Model page

This example illustrates the fields and controls on the Copy Pivot Grid Model page.



To copy a specific model and its associated views in the database:

1. Select Reporting Tools, Pivot Grid, Pivot Grid Administration, Copy Model.
2. Search for and select a model.
3. Enter a new model name and its description.
4. Optionally, select the Include Personalizations option to copy all user personalizations.
5. Optionally, select the Include All Views option to copy all customized views.

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6. Click the Copy Model button to copy the model.

   A successful message appears if the copy is completed.

   An error message appears if:

   - You copy the Pivot Grid model that was created using a component as the data source.
   - The name of the new model already exists.
   - The name of the new model is empty.
   - The description of the new model is empty.

Copying the Fluid Component Between Databases

When you copy a fluid component with Pivot Grid real time search, the following items must be packaged:

- The Pivot Grid definition.
- The auto-generated query that have the same name as the component.
- The query access tree that you selected in the Pivot Grid Wizard – Select Data Source page. This query access tree contains the component search record.
- The component and its related definitions; for example, the component PeopleCode, component record field PeopleCode, search record, pages, and so on.

Note: You can copy Pivot Grid models that are associated with the component data source between databases. However, you cannot copy a model that is created using component data source within a database.

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Chapter 9

Preserving Pivot Grid Configuration and Personalizations

Preserving Pivot Grid Configuration and Personalizations Overview

Using the delivered PIA interface, customers can perform configuration actions on specific PIA-based objects, such as Related Actions, Activity Guides, Pivot Grids, Work Centers, and so on. In the subsequent application upgrades, when fixes are delivered on these PIA-based objects, all configurations are identified and preserved on the customer environment. This is only valid if the customer uptakes fixes using PUM (Peoplesoft Update Manager).

Pivot Grid uses ADS Framework, interfaces, the compare process, and the copy process to:

- Define intra-object and inter-object relationships.
- Define Pivot Grid configurations.
- Preserve the Pivot Grid customized configurations and personalizations.

Terminology

Pure configurations	Independent object-level attributes that can be merged without additional business logic. For example, Pivot Grid chart options, related actions node name, and so on.
Merge process	The process that determines the original configuration and retains the customized configurations.
Merge-able groups	A group of object-level configurations that are bundled together.
Secondary transformation	The process of applying additional business logic to reconcile after the merge process is complete. For example, reconciling view options after a new dimension has been added in the Pivot Grid models.
Related object family	A group of tightly coupled related objects for which merge or secondary transformation of one object affects the other object. Sequence is also important in a related object cluster.

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Pivot Grid Customizations

Pivot Grid customizations are the customers' saved settings, which are not automatically preserved. When customizations are not preserved, the merge is not completed for that object instance, and the differences are flagged in the compare report. Customers then have the option as to whether to uptake the object instance as a whole or not. Examples of Pivot Grid customizations are:

- Changing the data source value, such as the name of the PSQuery that is used as the data source in the Pivot Grid model.
- Deleting an existing axis or value.
- Changing the type of the column from axis to value, axis to display, and so on.

Pivot Grid Personalizations

Pivot Grid user personalizations are configured at the user level and are considered special configurations. To preserve customer personalizations:

- Pivot Grid separates personalizations into different tables.

  The personalizations are saved in separate tables to ensure that they do not appear in the normal ADS compare and copy process. These tables are processed separately.
- All personalization changes are logged as part of the compare and copy process so that the information is available for customers to view.

Customizations Versus Configurations

When you run the process to preserve the configurations and personalizations, use this table as a guide for recognizing the types and the secondary merge status (process to reconcile after merge) for different use cases.

Use Case	***Type***	***Secondary Merge Required***
Updating Pivot Grid details: Pivot Grid title, Pivot Grid long description, and Pivot Grid owner ID.	Configuration	No
Updating Pivot Grid type to Public or Private.	Configuration	No
Updating query name for a Pivot Grid model.	Customization	N/A
Adding a new dimension or fact.	Configuration	Yes
Updating a dimension or fact attribute: changing aliases, adding totals or total names, and changing aggregate functions for facts.	Configuration	No
Changing a field type from dimension to fact or display column, or vice versa.	Customization	N/A

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Use Case	*Type*	*Secondary Merge Required*
Removing a dimension or fact.	Customization	N/A
Changing prompt values	Configuration	No
Changing display type to Pivot Chart Only, Grid Only, or Pivot Chart and Grid.	Configuration	Yes
Changing the view options for a Pivot Grid model that has the default view set to Pivot Grid and Chart.	Configuration	Yes
Changing the chart options.	Configuration	No
Changing the grid options.	Configuration	No
Changing the viewer display options.	Configuration	No
Adding a new related action on a new or existing axis.	Configuration	Yes
Marking a related action on an axis as inactive.	Configuration	No From a Pivot grid perspective, a related content ADS instance needs a merge.
Changing the menu layout for existing actions.	Configuration	No From a Pivot grid perspective, a related content ADS instance needs a merge.
Defining layout for a new or existing fact.	Configuration	No From a Pivot grid perspective, a related content ADS instance needs a merge.
Changing actions for a detailed view.	Configuration	No From a Pivot grid perspective, a related content ADS instance needs a merge.

ADSs Used for Preserving Pivot Grid Configurations and Personalizations

Pivot grid leverages the following ADSs for preserving Pivot Grid configurations and personalizations:

- ADS relationship framework

  Pivot Grid uses the relationship framework that is provided by ADS to create inter-object relationships (with related actions) and intra-object relationships (different records in the Pivot Grid ADS definition).

  These relationships are used to:

  - Get the related objects in the source and target.

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- Validate the referential integrity of the Pivot Grid object.

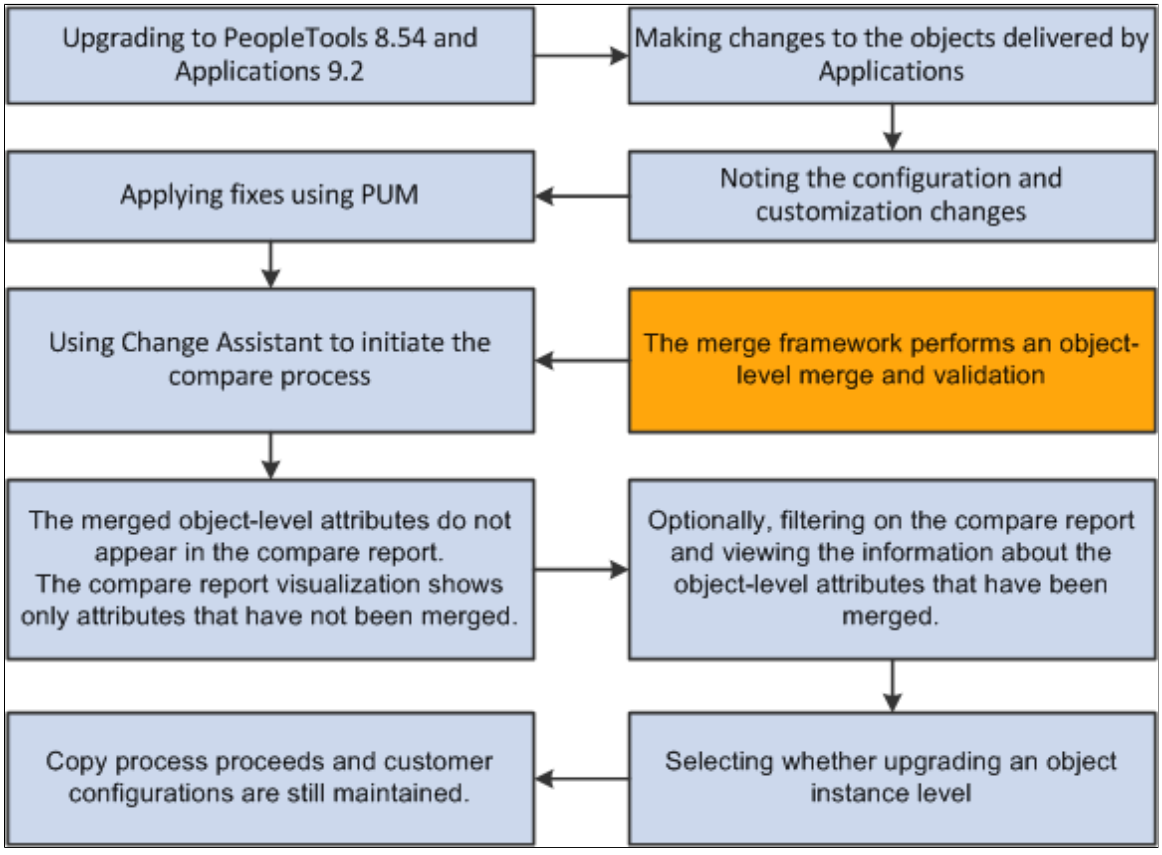
- ADS merge framework

  Pivot Grid uses the merge framework that is provided by ADS to:

  - Define the different configuration actions on the Pivot Grid object using merge-able groups.
  - Merge the Pivot Grid object to preserve the customer configurations during compare, copy, and validation.
  - Validate the referential integrity of the Pivot Grid object.
  - Perform the data transformation of the Pivot Grid object to reflect as in the previous release shape.
  - Orchestrate the different steps in the ADS process for the Pivot Grid related object family, which are Pivot Grids and related actions.

Image: Process of preserving Pivot Grid configurations and personalizations

This diagram shows the process of preserving Pivot Grid configurations and personalizations.



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Note: The only relationship that Pivot Grid needs is an ADS definition - *related actions*. Thus, the Pivot Grid related object family consists of two ADS definitions: Pivot Grid and related actions. The relationships are identified between Pivot Grid and Related Actions ADS definitions. The orchestrator for the Pivot Grid related object family is within the Pivot Grid. Orchestrator can properly sequence the actions of merge, compare, copy, and validate for the Pivot Grid and related action instances.

Examples: Preserving Pivot Grid Configurations and Personalizations

This topic discusses the persevering processes that are performed by application developers and customers, including:

- Example 1: Configurations on Pivot Grid model and related objects; the configurations do not require secondary merge, and Applications deliver changes that do not require secondary merge.
- Example 2: Configurations on Pivot Grid model and related objects; the configurations do not require secondary merge, and Applications deliver changes that require secondary merge.
- Example 3: Configurations on Pivot Grid model and related objects; the configurations do not require secondary merge, and Applications deliver customization type of changes.
- Example 4: Configurations on Pivot Grid model and related objects; the configurations require secondary merge, and Applications deliver changes that do not require secondary merge.
- Example 5: Configurations on Pivot Grid model and related objects; the configurations require secondary merge, and Applications deliver changes that require secondary merge.
- Example 6: Configurations on Pivot Grid model and related objects; the configurations require secondary merge, and Applications deliver customization type of changes.
- Example 7: Customizations on Pivot Grid and related objects; Applications deliver changes that do not require secondary merge.
- Example 8: Customizations on Pivot Grid and related objects; Applications deliver changes that require secondary merge.
- Example 9: Customizations on Pivot Grid and related objects; Applications deliver customization type of changes.
- Example 10: Pivot Grid personalizations and Applications deliver changes that do not require secondary merge.
- Example 11: Pivot Grid personalizations and Applications deliver changes that require secondary merge.
- Example 12: Pivot Grid personalizations and Applications deliver customization type of changes.
- Example 13: Inter-object validations.

Note: These examples assume that the user follows the default merge process. After the compare, user has the option of overriding the merge and accepting values even for merge-able attributes.

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Example 1: Configurations on Pivot Grid Model and Related Objects; Configurations Do Not Require Secondary Merge, and Applications Deliver Changes That Do Not Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, the customer's configurations are maintained, but the application changes are not applied because the customer configurations are always maintained.

This process consists of these steps:

1. Customer uptakes Application 9.2.
2. Applications deliver a Pivot Grid model in 9.2.
3. Customer modifies the delivered Pivot Grid model and updates the chart options.
4. Subsequently, customer uses PUM to have the fixes delivered. The fixes contain the changes to the Pivot Grid model, for example, changing the dimension aliases.
5. Customer initiates a compare process using Change Assistant.
6. The ADS Framework:
    a. Scans the PUM project and encounters a Pivot Grid model.
    b. It retrieves all the related objects for the Pivot Grid from the Project.
    c. The Pivot Grid and the related objects are processed together as a family.
7. An instance level compare of the Pivot Grid Model is performed. This compare determines the difference between the source and target Pivot Grid models.
8. The compare process determines that there are changes in Pivot Grid chart options and aliases. Because these are a part of the merge-able groups for the Pivot Grid, by default target values are preserved.
9. In the final compare, the target values for the merge-able attributes are preserved and displayed to the users.
10. Customer wants to uptake the fix and then initiates a copy process.
11. The same merge framework is run to preserve the customer configuration.

    Only the Application fix is copied; the customer's chart option configurations are maintained.

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Example 2: Configurations on Pivot Grid Model and Related Objects; Configurations Do Not Require Secondary Merge, and Applications Deliver Changes That Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, the customer's configurations are maintained and the application changes are applied.

This process consists of these steps:

1. Customer uptakes Application 9.2.
2. Applications deliver a Pivot Grid model in 9.2.
3. Customer modifies the delivered Pivot Grid model and updates the chart options.
4. Subsequently, customer uses PUM to have the fixes delivered.

   The fixes contain the changes to the Pivot Grid model; for example, Applications add a new dimension.
5. Customer initiates a compare process using Change Assistant.
6. The ADS Framework:

   a. Scans the PUM project and encounters a Pivot Grid model.

   b. It retrieves all the related objects for the Pivot Grid from the Project.

   c. The Pivot Grid and the related objects are processed together as a family.
7. An instance level compare of the Pivot Grid model is performed. This compare determines the difference between the source and target Pivot Grid models.
8. The compare process determines that there are changes in Pivot Grid chart options and aliases. Because these are a part of the merge-able groups for the Pivot Grid, by default target values are preserved.
9. In the final compare, the target values for the merge-able attributes are preserved and displayed to the users.
10. Customer wants to uptake the fix and then initiates a copy.
11. The same merge framework is run to preserve the customer configuration.

    Only the Application fix is copied. The customer's chart option configurations are maintained.

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Example 3: Configurations on Pivot Grid Model and Related Objects; Configurations Do Not Require Secondary Merge, and Applications Deliver Customization Type of Changes

Suppose that:

- Applications deliver customization type of changes; for example, changes to the query that is associated with the Pivot Grid model.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, no merge is performed because customizations are detected. If customer decides to upgrade, the behavior is the same as in the previous PeopleTools releases (that is earlier than PeopleTools 8.54) where the source definition replaces the existing target definition.

This process consists of these steps:

1. Customer uptakes Application 9.2.
2. Applications deliver a Pivot Grid model in 9.2.
3. Customer modifies the delivered Pivot Grid model and updates the chart options.
4. Subsequently, customer uses PUM to have the fixes delivered.

   The fixes contain the customization changes to the Pivot Grid model, for example, changing the query name.
5. Customer initiates a compare process using Change Assistant.
6. The ADS Framework:
   a. Scans the PUM project and encounters a Pivot Grid model.
   b. It retrieves all the related objects for the Pivot Grid from the Project.
   c. The Pivot Grid and the related objects are processed together as a family.
7. An instance level compare of the Pivot Grid model is performed. This compare determines the difference between the source and target Pivot Grid models.
8. The Pivot Grid custom merge code detects the customization change.
9. The customization is logged, and the merge process aborts.
10. A compare process is repeated, and the system displays the compare report visualization to the user.

    All changes, including the query name change, are shown as changes in the compare report.
11. Customer can either select to retain the existing Pivot Grid model or copy over the new one.
12. An upgrade is run based on the customer’s selection.

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No merge is performed. If the customer selects to copy over the new version, all personalizations for the model need to be removed.

Example 4: Configurations on Pivot Grid Model and Related Objects; Configurations Require Secondary Merge, and Applications Deliver Changes That Do Not Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, the customer's changes are preserved, but the application fixes are not applied because the customer configurations always have a higher priority.

The steps involved in this example are similar to the steps in Example 2.

Example 5: Configurations on Pivot Grid Model and Related Objects; Configurations Require Secondary Merge, and Applications Deliver Changes That Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, the customer's configurations are preserved and the application fixes are copied over on top.

This process consists of these steps:

1. Customer uptakes Applications 9.2.
2. Applications deliver a Pivot Grid model in 9.2.
3. Customer modifies the delivered Pivot Grid model and adds new dimensions that include a new related action.
4. Subsequently, customer uses PUM to have the fixes delivered.

   The fixes contain the changes to the Pivot Grid model, for example, a new dimension is added by Applications (which also add a new related action to the Pivot Grid model).
5. Customer initiates a compare using Change Assistant.
6. The ADS Framework:

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a. Scans the PUM project and encounters a Pivot Grid model.

b. It retrieves all the related objects for the Pivot Grid from the Project.

c. The Pivot Grid and the related objects are processed together as a family.

7. An instance level compare of the Pivot Grid model is performed. This compare determines the difference between the source and target Pivot Grid models.

   During the compare process, it is determined that there is a newly added dimension.

8. If there are any merge-able attributes, the values are preserved in the target.

9. Additional dimension in the target are reconciled with the source because the dimension is preserved. The additional dimension in the source is also be preserved.

10. If there are any view related changes because of the additional dimensions, then those changes are also preserved.

11. The same merge and compare process is run for the related action object.

12. The related actions object in the merge reconciles the menu folders and layouts.

13. In the compare report visualization, user would see that the merge-able attribute values are preserved in the target. The newly added dimension in the target will also be preserved whereas the dimension in the source will be displayed as a change which will be added.

    This behavior also applies to the related actions object.

14. Customer selects to uptake the fixes and initiates a copy.

15. The same merge framework is run to preserve the customer's configuration.

    Only the Application fix is copied, and the customer configurations are maintained.

Example 6: Configurations on Pivot Grid Model and Related Objects; Configurations Require Secondary Merge, and Applications Deliver Customization Type of Changes

Suppose that:

- Application developer makes customization changes to a Pivot Grid model.
- Customer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, no merge is performed because customizations are detected. If customer decides to upgrade, the behavior is the same as in the previous PeopleTools releases (that is earlier than PeopleTools 8.54) where the source definition replaces the existing target definition.

The steps involved in this example are similar to the steps in Example 3.

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Example 7: Customizations on Pivot Grid and Related Objects; Applications Deliver Changes That Do Not Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer makes customization changes to a Pivot Grid model.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, no merge is performed because customizations are detected. If customer decides to upgrade, the behavior is the same as in the previous PeopleTools releases (that is earlier than PeopleTools 8.54) where the source definition replaces the existing target definition.

The steps involved in this example are similar to the steps in Example 3.

Example 8: Customizations on Pivot Grid and Related Objects; Applications Deliver Changes That Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer makes customization changes to a Pivot Grid model.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, which is similar to the result in Example 7, no merge is performed because customizations are detected. If customer decides to upgrade, the behavior is the same as in the previous PeopleTools releases (that is earlier than PeopleTools 8.54) where the source definition replaces the existing target definition.

The steps involved in this example are similar to the steps in Example 3.

Example 9: Customizations on Pivot Grid and Related Objects; Applications Deliver Customization Type of Changes

Suppose that:

- Application developer makes customization changes to a Pivot Grid model.
- Customer makes customization changes to a Pivot Grid model.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, which is similar to the results in Examples 7 and 8, no merge is performed because customizations are detected. If customer decides to upgrade, the behavior is the same as in the previous PeopleTools releases (that is earlier than PeopleTools 8.54) where the source definition replaces the existing target definition.

The steps involved in this example are similar to the steps in Example 3.

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Example 10: Pivot Grid Personalizations and Applications Deliver Changes That Do Not Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes do not require a secondary merge.
- Customer makes no change to the Pivot Grid model, but users personalize the Pivot Grid views.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, customer personalizations are preserved but the application changes are not applied because they are part of a merge-able groups where the target values have preference over the source.

The steps involved in this example are similar to the steps in Example 2.

Example 11: Pivot Grid Personalizations and Applications Deliver Changes That Require Secondary Merge

Suppose that:

- Application developer makes configuration changes to a Pivot Grid model, and these configuration changes require a secondary merge.
- Customer makes no change to the Pivot Grid model, but users personalize the Pivot Grid view.
- Customer performs an upgrade and uptakes the Pivot grid model changes.

In this case, customized personalizations are preserved, and the application changes are applied to the view that is associated with the Pivot Grid model.

This process consists of these steps:

1. Customer uptakes Applications 9.2.
2. Applications deliver a Pivot Grid model in 9.2.
3. Customer does not modify the delivered Pivot Grid model, but users add personalizations to the Pivot Grid model and the personalization data is stored in the different tables.
4. Subsequently, customer uses PUM to have the fixes delivered.

   The fixes contain changes to the Pivot Grid model, for example, Applications add a new dimension.
5. Customer initiates a compare process using Change Assistant.
6. The ADS Framework:

   a. Scans the PUM project and encounters a Pivot Grid model.

   b. It retrieves all the related objects for the Pivot Grid from the Project.

   c. The Pivot Grid and the related objects are processed together as a family.
7. An instance level compare of the Pivot Grid model is performed. This compare determines the difference between the source and target Pivot Grid models.

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After the compare, it is determined that there are no changes related to merge-able groups or secondary merge.

8. A compare process is repeated, and the system displays the compare report visualization to the user.

   A new dimension has been added to the Pivot Grid model, and the personalizations do not appear in the compare report.

9. Customer selects to uptake the fixes and initiates a copy.

10. The same merge framework is run to preserve the customer configuration.

    Only the Application fix is copied. The customer configurations are maintained.

Example 12: Pivot Grid Personalizations and Applications Deliver Customization Type of Changes

Suppose that:

- Application developer makes customization changes to a Pivot Grid model.
- Customer makes no change to the Pivot Grid model, but users personalize the Pivot Grid views.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, if the customer uptakes the Pivot Grid model that is delivered by the Applications, all personalizations will need to be removed.

The steps involved in this example are similar to the steps in Example 3.

Example 13: Inter-Object Validations

Suppose that:

- Application developer makes customization changes (removing a dimension) to a Pivot Grid model.
- Customer makes no change to the Pivot Grid model, but customer is using the dimension (that was removed by Application developer) in one of the Pivot Grid related actions.
- Customer performs an upgrade and uptakes the Pivot Grid model changes.

In this case, no merge is performed because of the customization. However, during validation, the conflict is detected and flagged as an error in the validation report, and customer has to modify the related action.

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Appendix A

System Data and Sample Data

Time and Labor Model

Suppose you create a Time and Labor model for different values (Quantity, Estimated Gross, Labor Distribution Amount, Diluted Distribution Labor Amount) based on different attributes (Employee Information, Location, Department, Time Reporting Code, Payable Status, and so on).

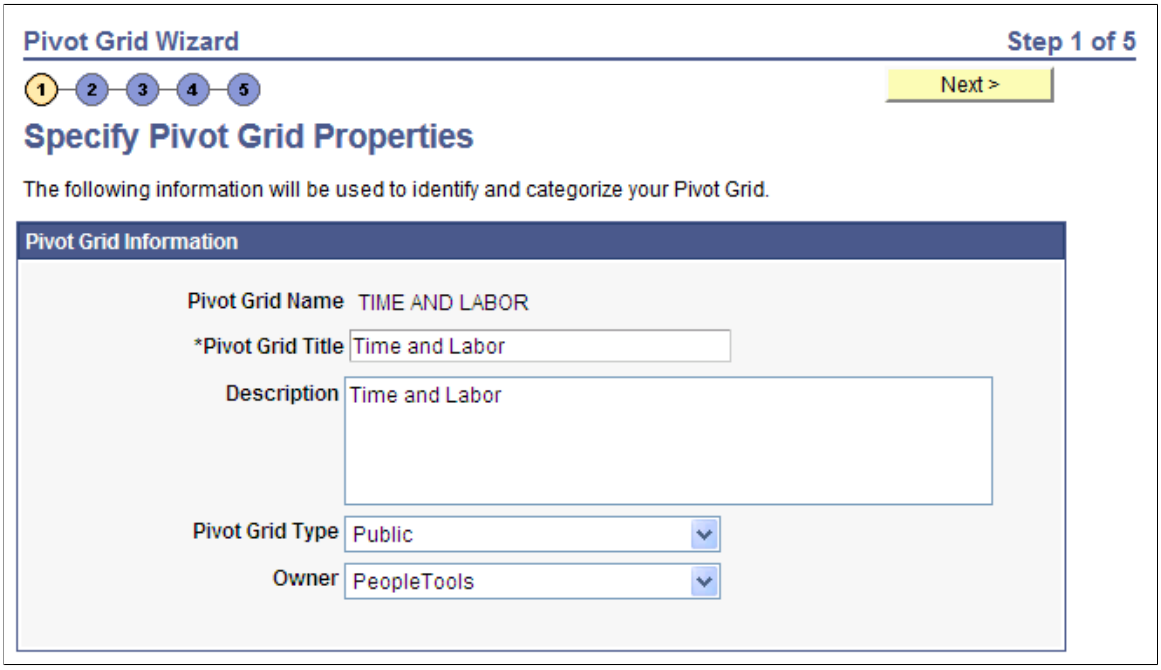
If you have constructed a view that represents a join of all the SQL tables required for getting the data, this view is a base for forming the PSQuery. We use this PSQuery as the data source for this Pivot Grid model.

To create a time and labor model:

1. Access the Pivot Grid Wizard, Specify Pivot Grid Properties page.

   Image: Specify Pivot Grid Properties page

   This example illustrates the fields and controls on the Specify Pivot Grid Properties page.



2. Access the Pivot Grid Wizard, Select Data Source page.

   In this step, you select the PSQuery and output columns from the PSQuery that you will plot. The attributes you will plot are Time Reporting Code, Payable Status, Department, Job Code, Location,

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Taskgroup, Quantity, Estimated Gross, Labor Distribution Amount, and Diluted Distribution Labor Amount.

Image: Select Data Source page

This example illustrates the fields and controls on the Select Data Source page.

Pivot Grid Wizard — Step 2 of 5

1 2 3 4 5 — < Previous — Next >

Select Data Source

Select the Data Source Type and the Columns for the Pivot Grid

Title: Time and Labor

Data Source Type: PS Query

Data Source

*Query Name: TIME_AND_LABOR

Select Columns — Personalize | Find | First 1-16 of 16 Last

	Select	Data Source Columns	Field Format
1	☐	Empl Id	String
2	☐	Empl Rcd#	Number
3	☑	Time Reporting Code	String
4	☑	Payable Status	String
5	☑	Job Code	String
6	☑	Estimated Gross	Signed Number
7	☑	Labor Distribution Amount	Signed Number
8	☑	Diluted Amount	Signed Number
9	☑	Quantity	Signed Number
10	☑	Location	String
11	☑	Department ID	String
12	☐	Position	String
13	☐	PC Bus Unit	String
14	☐	Project	String
15	☐	RsrcSubCat	String
16	☑	Task	String

☑ Select All ☐ Clear All

3. Access the Pivot Grid Wizard, Specify Data Model Values page.

   In this step, you define the Pivot Grid model core, including the axis and values, All members, Aggregate functions, and so on. You select Time Reporting Code, Payable Status, Department, Job Code, Location, and Taskgroup as the axis columns; and Quantity, Estimated Gross, Labor Distribution Amount, and Diluted Labor Distribution Amount as the Values.

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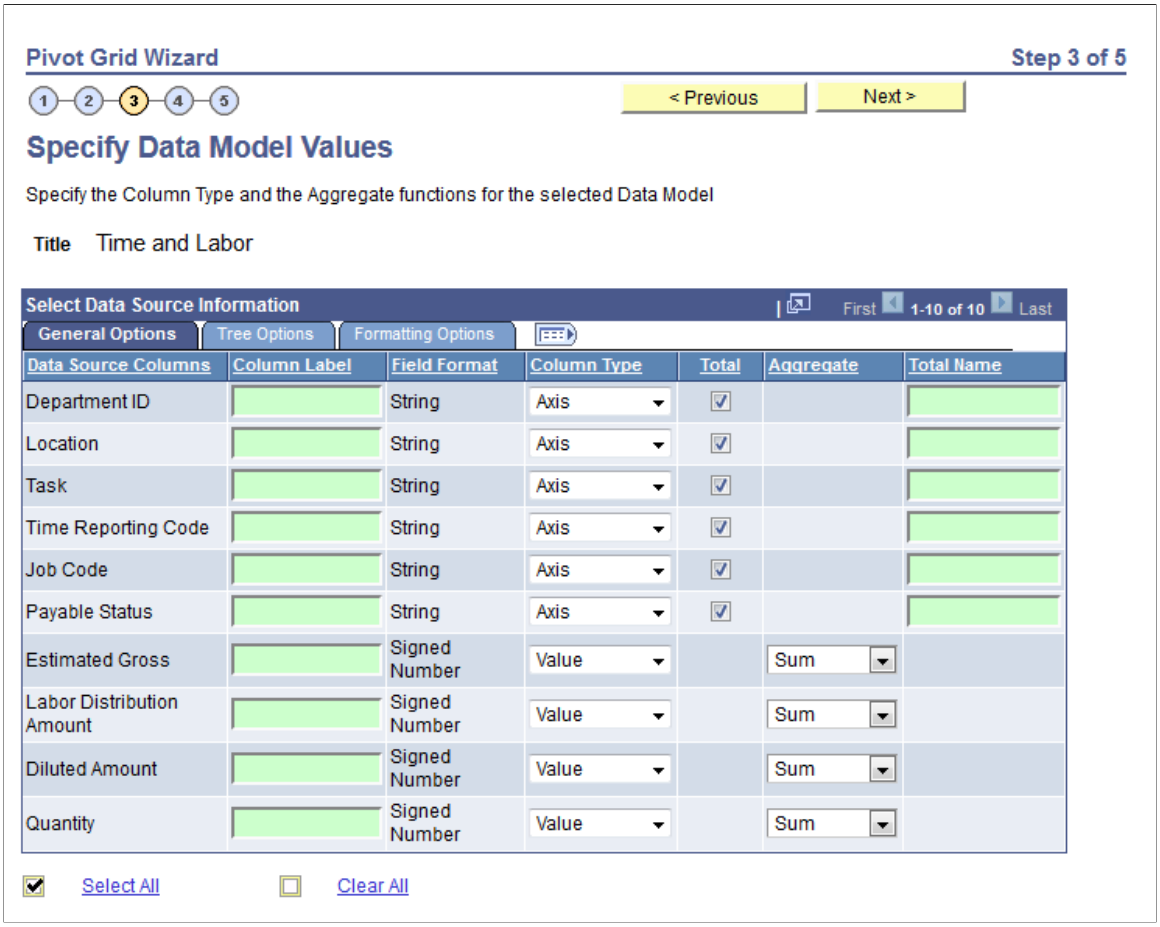
All the axis columns have an All (Total) attribute associated with them, and the aggregate function for all the Values is SUM.

Image: Specify Data Model Values page

This example illustrates the fields and controls on the Specify Data Model Values page.



4. Access the Pivot Grid Wizard, Specify Data Model Options page.

   In this step, you define the initial layout of the grid and the chart.

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For the grid, Time Reporting Code and Department are on the row axis; Payable Status, Location, JobCode, and Taskgroup are the filters; and all the Value type members are on the column axis.

Image: Specify Data Model Options page

This example illustrates the fields and controls on the Specify Data Model Options page.

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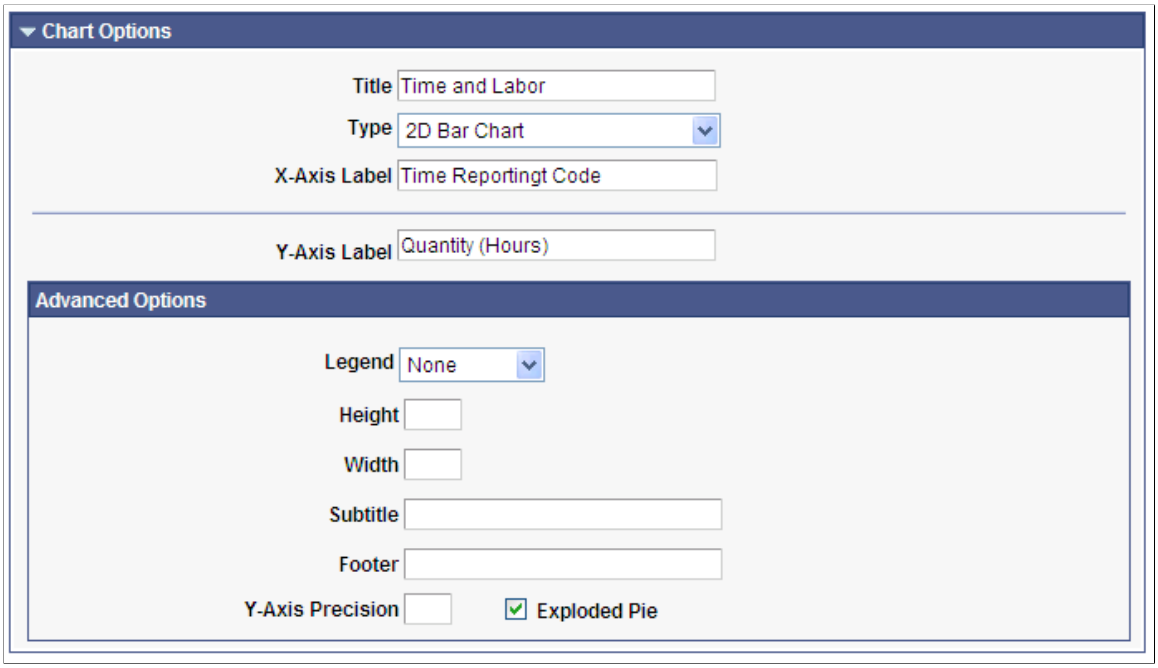
For the chart, Time Reporting Code automatically becomes the X axis because it is the highest level in the grid; Quantity is on the Y axis; the filters are same in the grid and in the chart; chart title and axis labels are specified; and the chart type is 2D Bar.

Image: Specify Data Model Options page, chart settings

This example illustrates the fields and controls on the Specify Data Model Options page, Chart Options section.



5. Access the Pivot Grid Wizard, Pivot Grid Display page.

   Preview the Pivot Grid model based on the options previously selected.

   In the grid, you can see the axis member names if you bring the mouse close to the icon alongside the axis values.

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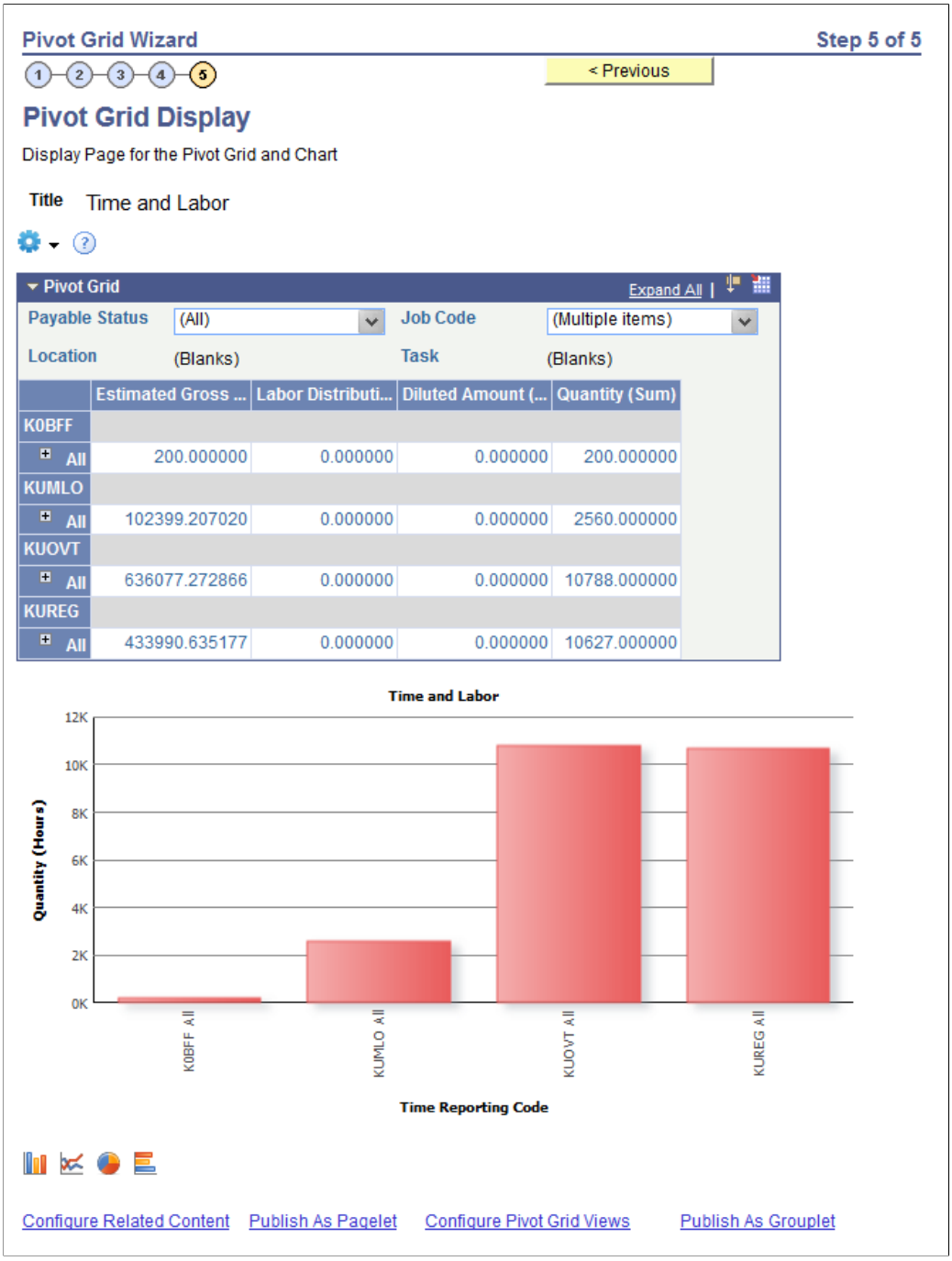
In the chart, you can see the actual value plotted as a hover item if you bring the mouse close to the bars in the 2D Bar chart.

Image: Example of the Pivot Grid Display page

This example illustrates the fields and controls on the grid portion of the Pivot Grid Display page.



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Organizational Analysis Model

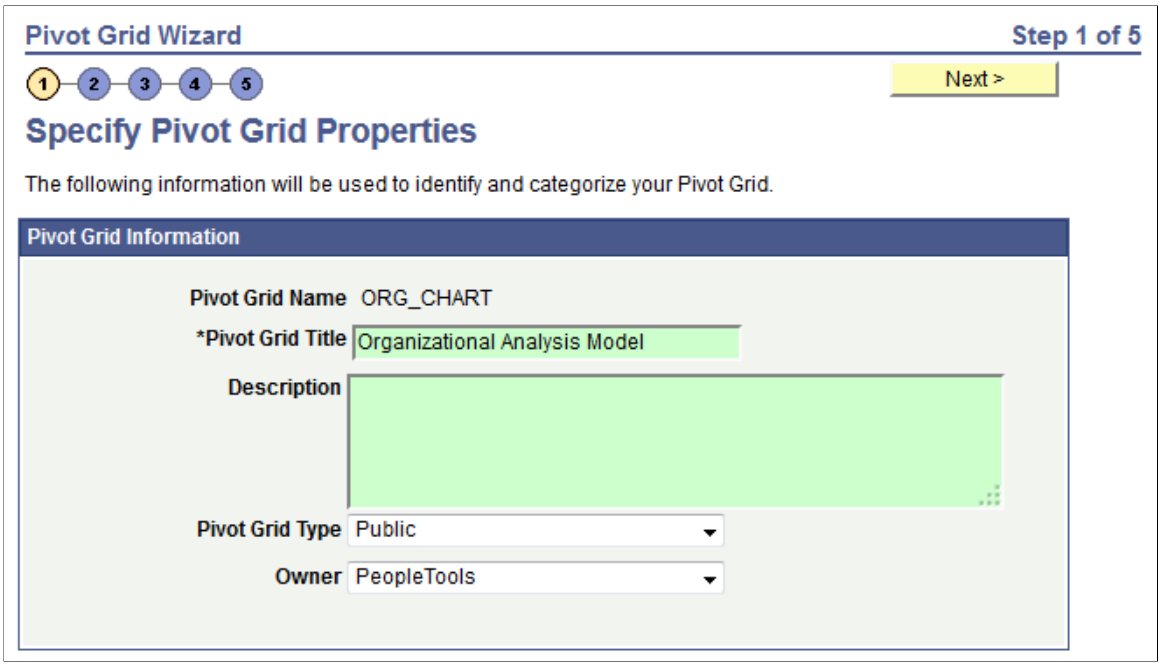
Suppose you create an Organizational Analysis model showing values (count of employees, average salaries based on different attributes such as employee information, location, department, pay grade, and so on) in a chart format using Pivot Grid. You construct a view that represents a join of all the SQL tables required for getting the data. This view is a base for forming the PSQuery. You use this PSQuery as the Data Source for this Pivot Grid model.

To create an organizational analysis model:

1. Access the Pivot Grid Wizard, Specify Pivot Grid Properties page.

   Image: Specify Pivot Grid Properties page

   This example illustrates the fields and controls on the Specify Pivot Grid Properties page.



2. Access the Pivot Grid Wizard, Select Data Source page.

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In this step, you select the PSQuery and output columns from the PSQuery that you will plot. The attributes to be plotted are Employee ID, Annual Rate, Location, Department ID, Job Code, Company, and Pay Group.

Image: Select Data Source page

This example illustrates the fields and controls on the Select Data Source page.

3. Access the Pivot Grid Wizard, Specify Data Model Values page.

   In this step, you define the Pivot Grid model core, including the axis and values, All members, aggregate functions, and so on.

   You select Department, Job Code, Location, Company, and Paygroup as the axis columns; and Employees and Annual Rate as the Values.

   All the axis columns have an All (Total) attribute associated with them. The aggregate function for the value member Annual Rate is AVERAGE, and the aggregate function for the value member Employees is COUNT.

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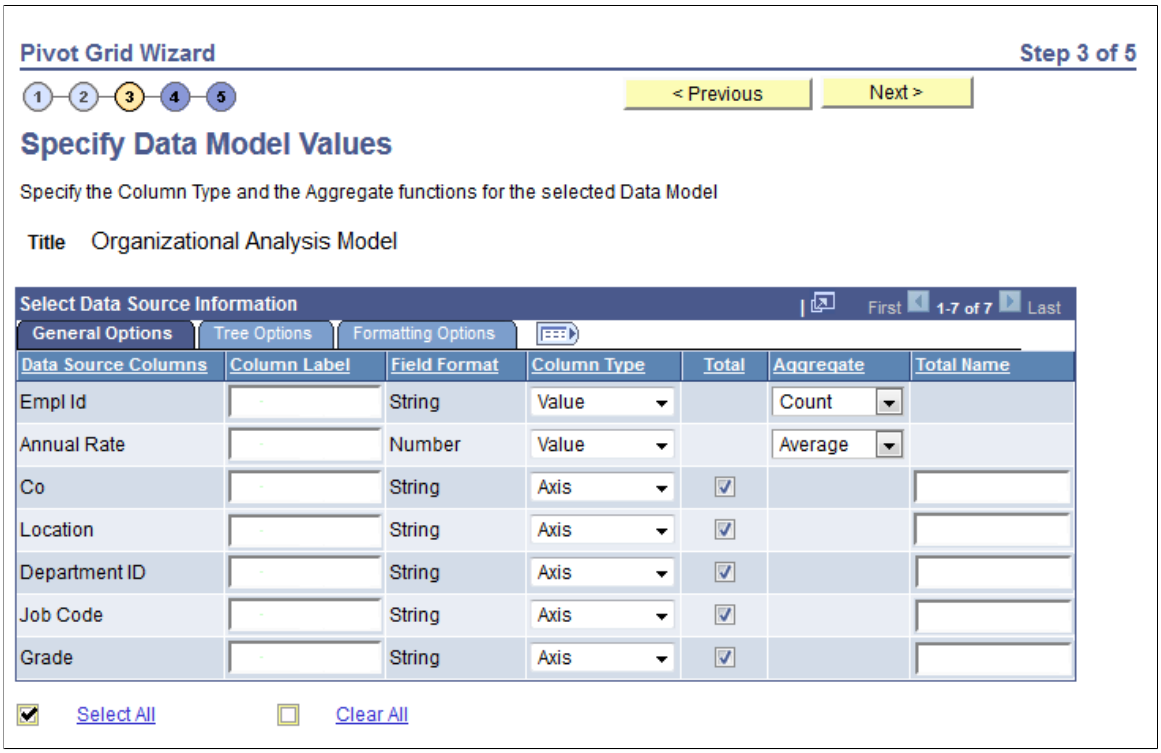
Business Unit is the runtime prompt for the PSQuery. The default values for this prompt are provided.

Image: Specify Data Model Values page

This example illustrates the fields and controls on the Specify Data Model Values page.



4. Access the Pivot Grid Wizard, Specify Data Model Options page.

   In this step, you define the initial layout of the grid and the chart. Note that even though you are plotting only a chart, grid layout is mandatory.

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For the chart, Job Code is selected as the X axis from the value type members; Employees is selected to be on the Y axis; Department is selected as a filter for the chart; chart title and axes labels are specified; and chart type is selected as the 2D Bar.

Image: Specify Data Model Options page

This example illustrates the fields and controls on the Specify Data Model Options page.

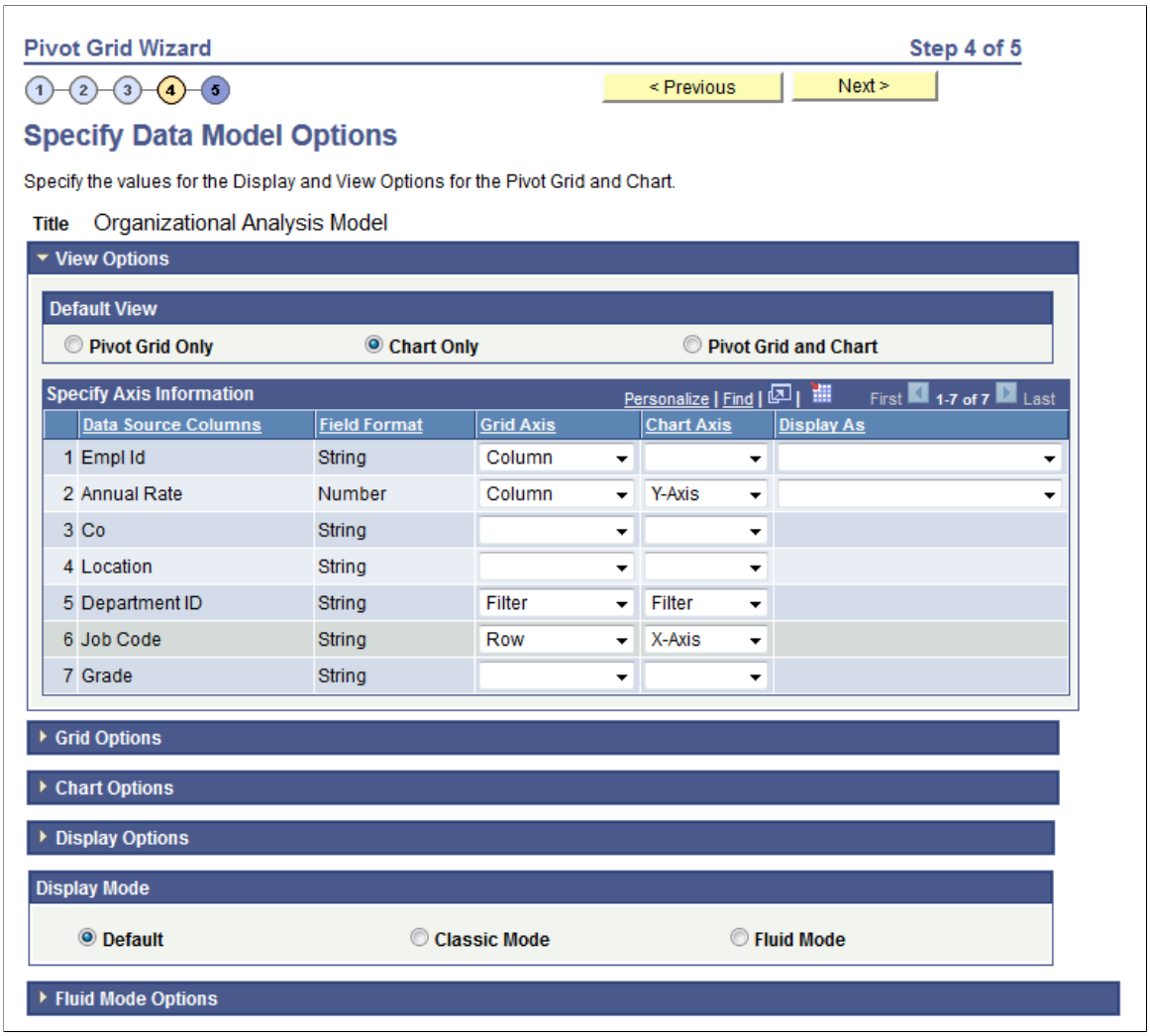

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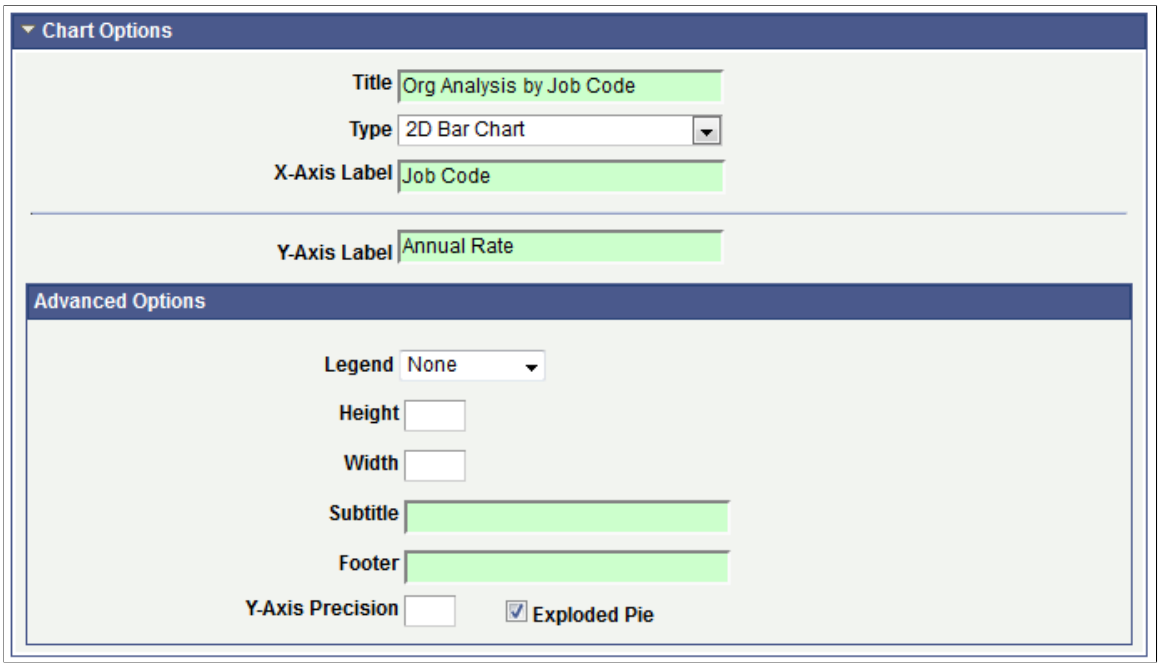
Image: Specify Data Model Options page, Chart Options section

This example illustrates the fields and controls on the Specify Data Model Options page, Chart Options section.



5. Access the Pivot Grid Wizard, Pivot Grid Display page.

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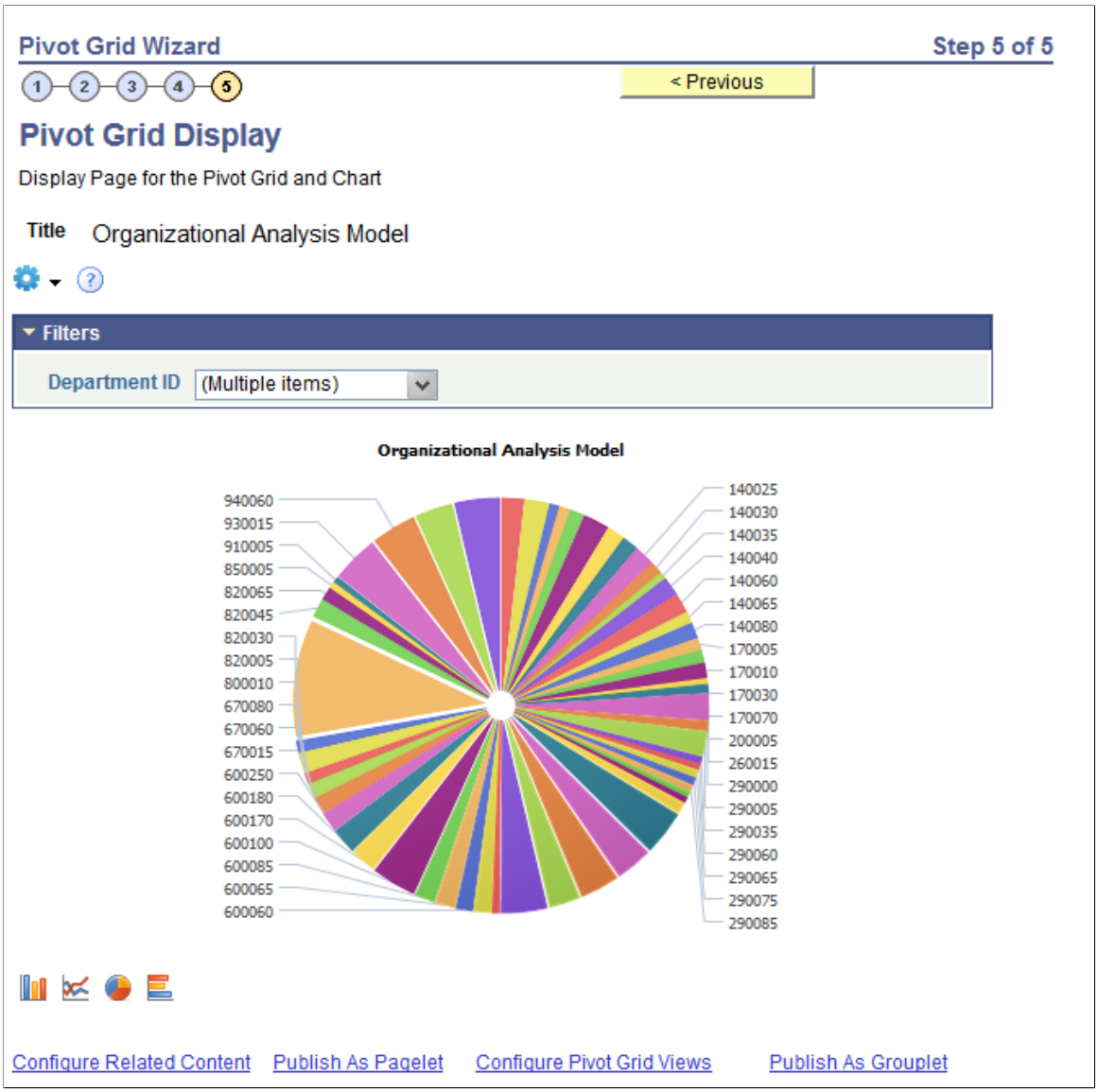
The system displays the Pivot Grid model based on the options previously selected. On the chart, the actual value plotted can be seen as a hover item if you bring the mouse close to the bars in the 2D Bar chart.

Image: Pivot Grid Display page

This example illustrates the fields and controls on the Pivot Grid Display page.



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