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Oracle's PeopleTools PeopleBook

PeopleTools 8.52: PeopleSoft Pivot Grid

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PeopleTools 8.52: PeopleSoft Pivot Grid
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Oracle's PeopleSoft Enterprise Pivot Grid Preface

This preface discusses PeopleSoft Pivot Grid.

PeopleSoft Pivot Grid Product

PeopleSoft Pivot Grid enables users to visually display data in a dashboard. You can display data in different views by performing operations such as pivoting and filtering, which enables business analysts to interpret data in a variety of ways.

PeopleBooks and the PeopleSoft Online Library

A companion PeopleBook called *PeopleBooks and the PeopleSoft Online Library* contains general information, including:

- Understanding the PeopleSoft online library and related documentation.
- How to send PeopleSoft documentation comments and suggestions to Oracle.
- How to access hosted PeopleBooks, downloadable HTML PeopleBooks, and downloadable PDF PeopleBooks as well as documentation updates.
- Understanding PeopleBook structure.
- Typographical conventions and visual cues used in PeopleBooks.
- ISO country codes and currency codes.
- PeopleBooks that are common across multiple applications.
- Common elements used in PeopleBooks.
- Navigating the PeopleBooks interface and searching the PeopleSoft online library.
- Displaying and printing screen shots and graphics in PeopleBooks.
- How to manage the locally installed PeopleSoft online library, including web site folders.
- Understanding documentation integration and how to integrate customized documentation into the library.
- Application abbreviations found in application fields.

You can find *PeopleBooks and the PeopleSoft Online Library* in the online PeopleBooks Library for your PeopleTools release.

Chapter 1

Getting Started with PeopleSoft Pivot Grid

This chapter provides an overview of the PeopleSoft Pivot Grid and discusses how to implement PeopleSoft Pivot Grid.

PeopleSoft Pivot Grid Overview

Pivot Grid supports operational dashboard reporting within the PeopleTools framework to provide a pivot table and chart representation of data using various data sources like PSQuery, PeopleSoft records, and so on. The framework also enables users to see different views of the data as in an Microsoft Excel pivot table, and the same data is also available in a chart view.

Note. In PeopleTools 8.52, Pivot Grid supports only a PSQuery data source.

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

- Grid only.

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

- Chart only.

  Users are able to view the operational reporting data in a chart.

- Grid and chart.

  Users 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

This table lists the steps involved in implementing pivot grids:

Step	*Reference*
Create a query to extract the data you want to use for your pivot data analysis.	See Chapter 3, "Using PSQuery as a Data Source for Pivot Grid," Query Design Considerations, page 17.

Step	*Reference*
Create a pivot grid model with default display preferences.	See Chapter 4, "Using Pivot Grid Wizard," page 45.
View pivot grids.	See Chapter 5, "Using Pivot Grid Viewer," page 67.
Create pivot grid pagelets.	See Chapter 6, "Creating and Viewing a Pivot Grid Pagelet Using the Pagelet Wizard," page 87.

Chapter 2

Understanding PeopleSoft Pivot Grid

This chapter discusses:

- Pivot Grid terms.
- High-level overview and flow diagram for Pivot Grid.
- Pivot Grid components
- Copying a pivot grid between databases.
- Pivot Grid security.
- Limitations of PeopleSoft Chart and PeopleSoft Pivot Grid.

Pivot Grid Terms

This section 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.

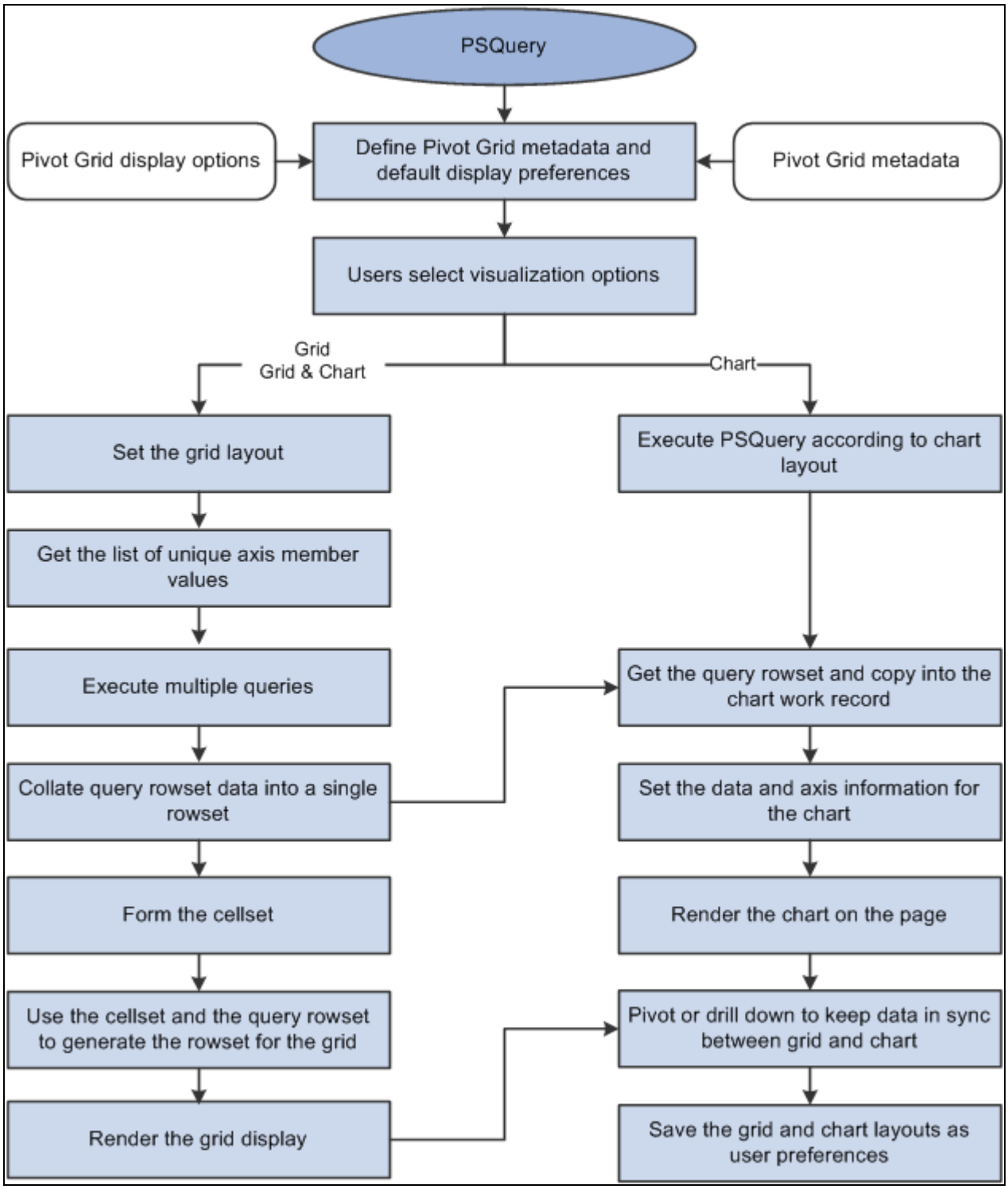
In an organization chart, the Count of Employees could be a Value, and the axis members could be Departments, Job Codes, Pay Grade, and so on.

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 the user in both the chart and the Pivot Grid. If the PSQuery data source uses prompt values, they are automatically added as filters. Users 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.
Aggregate functions	Aggregate functions include SUM, MIN, MAX, AVG, and COUNT.
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.

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 display for the pivot grid and chart. Pivot Grid uses PSQuery as the data source, with Pivot Grid grids and PeopleSoft charts as the visualization options. Pivot Grid can pivot and filter data, which enables business analysts to have different views of the same data. PeopleSoft charts provide different visual representation of the same data. If users select the display option *Grid and Chart,* the data in the chart is always a subset of the data in the grid, and the synchronization between the grid and the chart is unidirectional only. Users' actions on the grid change the chart visualization as well.

This section displays the high-level flow diagram for PeopleSoft Pivot Grid:



High-level flow diagram for PeopleSoft Pivot Grid

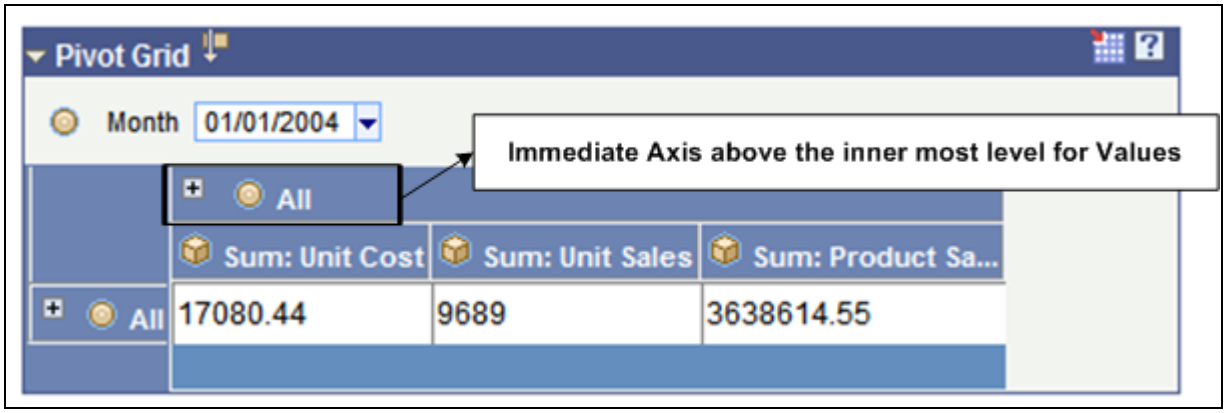
When using Pivot Grid, note that:

- In PeopleTools 8.52, Pivot Grid supports only PSQuery as the data source.

- All user actions on the Pivot Grid grid and the chart are driven through PSQuery. No data is cached for viewing. Every user action that requires fresh data will result in a new 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 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 PeopleTools 8.52.

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:



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

- If users select the *Grid and Chart* display option, then the filtering operation on 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 drilldown operation on the grid indicates the user's action of clicking the + icon associated with the label.

  If users select the *Grid and Chart* display option, then the drilldown operation on the grid drills down on the chart as well.
- If users select the *Chart Only* display option, then the drilldown operation for a chart indicates the user's action of clicking the chart to display a detailed level of data.
- 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 drilldown) 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 Grid and Chart, series values are automatically calculated based on the grid layout, but overlay are not supported.

  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 a 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 section 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, 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, the All attribute for axis members, 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, and unique values for filters.

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 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 Chapter 4, "Using Pivot Grid Wizard," page 45.

- 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 Chapter 5, "Using Pivot Grid Viewer," page 67.

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:

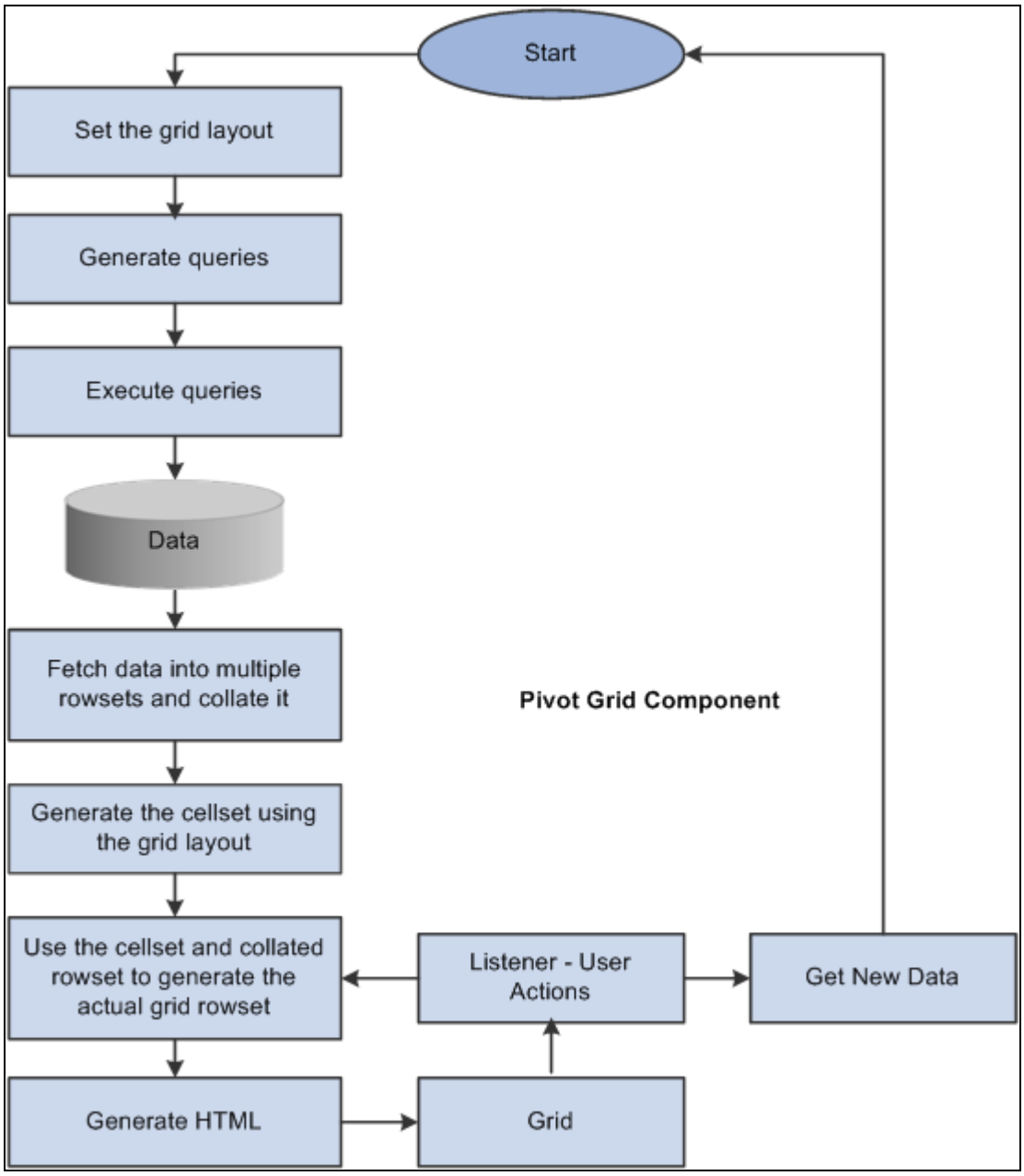
- Uses the Pivot Grid Data Source Engine interfaces to execute the PSQuery at runtime to render data in a grid. The grid does not cache any data. Any layout modification will result in a new PSQuery running to retrieve the data.

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

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

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

This diagram shows the process flow of the Grid-display component:



Process flow of the Grid-display component

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 *grid and chart,* Pivot Grid uses the resultset that was retrieved while populating the grid for chart display.

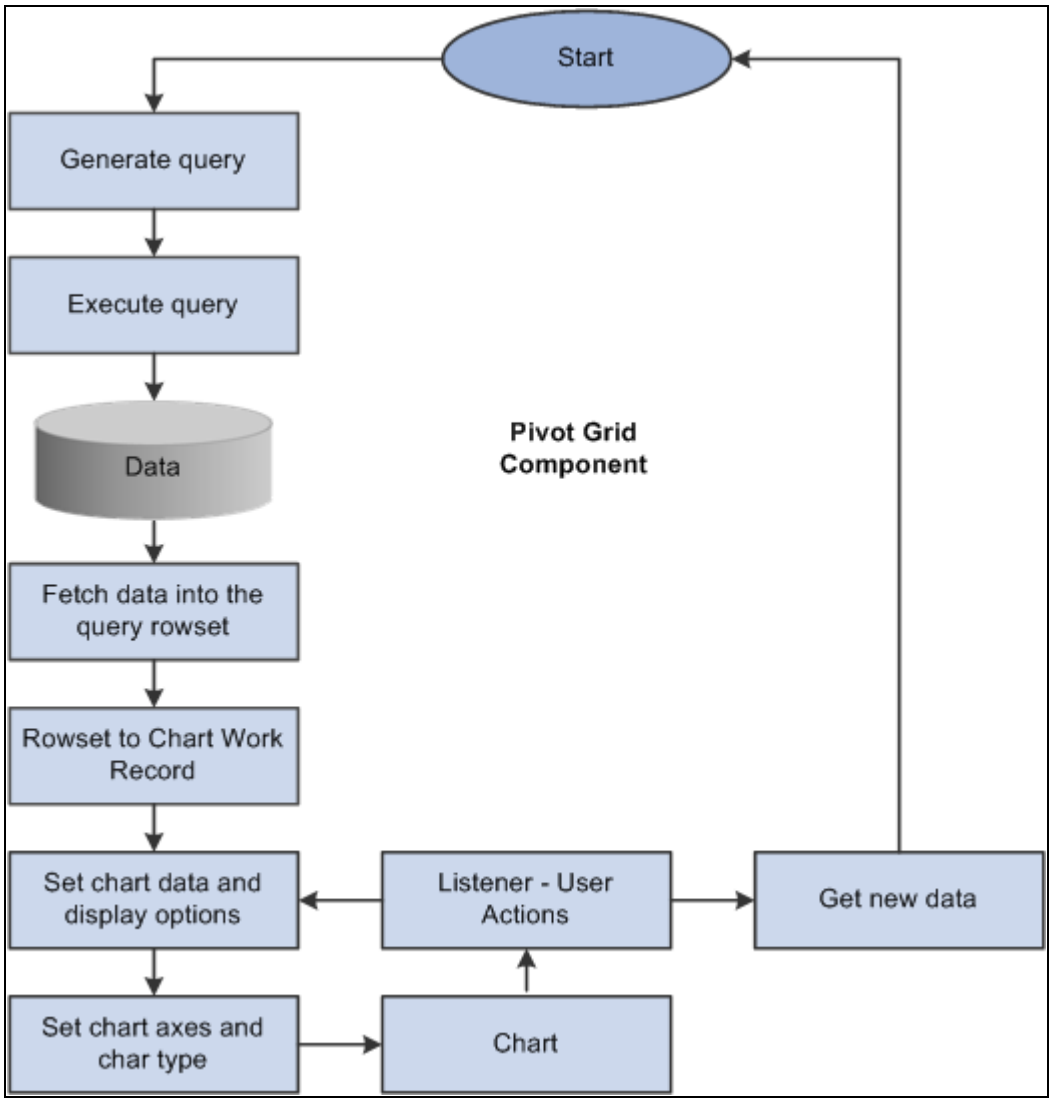
- Calls the appropriate PeopleCode charting APIs for generating and rendering the chart control on the page.
- If the display option is *chart only,* users can drill down on the chart by clicking the data points of the chart to display details.

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

  Note. In PeopleTools 8.52, the maximum number of drilldowns that you can perform on a chart is limited to four.

- All the pivoting, drilldown, and filtering operations on the grid result in an appropriate synchronization action on the chart if the display option is *grid and chart.*

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



Process flow of the Chart-display component

Copying a Pivot Grid Between Databases

To copy a Pivot Grid from one database to another database, run these dms scripts to export and import the Pivot Grid model in the database:

- PivotGridModels_Export.dms
- PivotGridModels_Import.dms

You can customize the script to import or export the specific pivot grid models.

Pivot Grid Security

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

- 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.

This section discusses:

- Pivot Grid administrator role.
- Pivot Grid super user role.
- Pivot Grid end user role.

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.

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:

- 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.

Limitations of PeopleSoft Chart and PeopleSoft Pivot Grid

This section discusses:

- PeopleSoft Chart limitations.
- 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. In PeopleTools 8.52, the number of filters on the chart is limited to four.

- If users select *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.

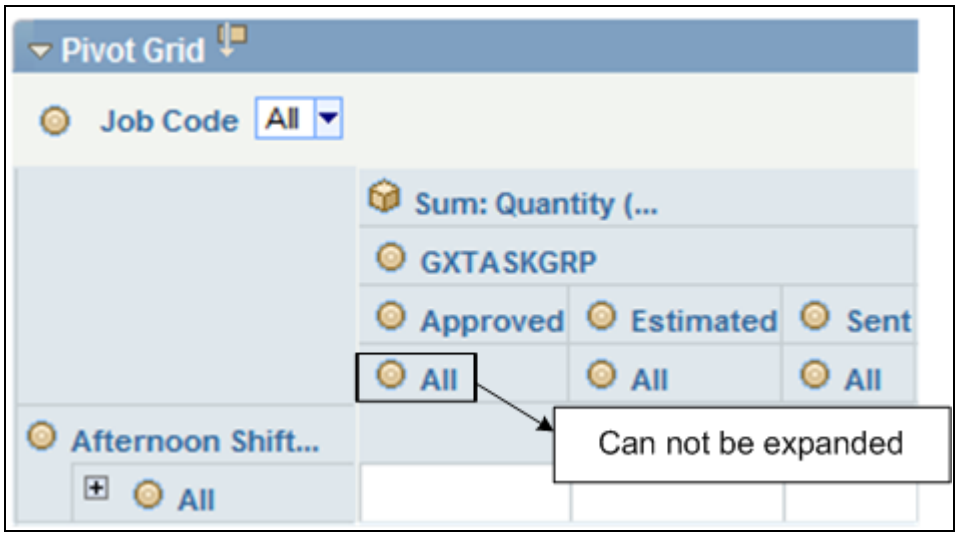
  Note. In PeopleTools 8.52, overlay fields for a *Grid and Chart* display option are not supported.

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.
- Because of analytical grid limitations, the column axis in Pivot Grid can have only four levels.

  If All (Total) is defined for the innermost level of a column, then Totals cannot be expanded. For example, the + icon next to the All label is not available and All cannot be expanded.



Example of the All label without the + icon

Chapter 3

Using PSQuery as a Data Source for Pivot Grid

This chapter provides an overview of the Pivot Grid model and provides an example of 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 between the row, the column, and the report filter. Each of these actions result 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.

This section discusses:

- Data synchronization between the grid and the chart.
- Ability to save grid and chart layouts as user preferences.
- Query design considerations.

Data Synchronization Between the Grid and the Chart

If users select *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 on 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 PeopleTools 8.52, this action is available only at the lowest level of the row axis in the grid.	This grid action will result in a drilldown 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.
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.

Action in Grid	*Action in Chart*
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.

Ability to Save 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.

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 executed to render data on 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 quickly render on the grid and on the chart.

For example, say 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 very 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.

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 are displayed 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 run time 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 on a grid in Pivot Grid.
- Query with a GROUP BY clause and the chart axis fields to retrieve the data to be displayed on a chart in Pivot Grid.
- 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, there are some limitations on the query that is used as a data source for Pivot Grid. The limitations 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.

   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. This is 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_OPENING_⇒
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 exactly in 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, 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 run time 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, the query will fail and the Pivot Grid model will not render. This is 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 there is an aggregation in the WHERE clause and a normal criterion will not work. Note that you need a HAVING clause for the aggregation.

   For example, consider a query like 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)
   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 the other one 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 and it 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 incorrectly display the results.	Use different fields in the view creation. If the same field must be used, use one of them with functions like 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.
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.

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 this 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 section discusses:

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

User Actions Listener When the Display Option is Grid and Chart

This section discusses how to:

- Display the grid and chart based on the Pivot Grid model.
- Perform drilldown 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

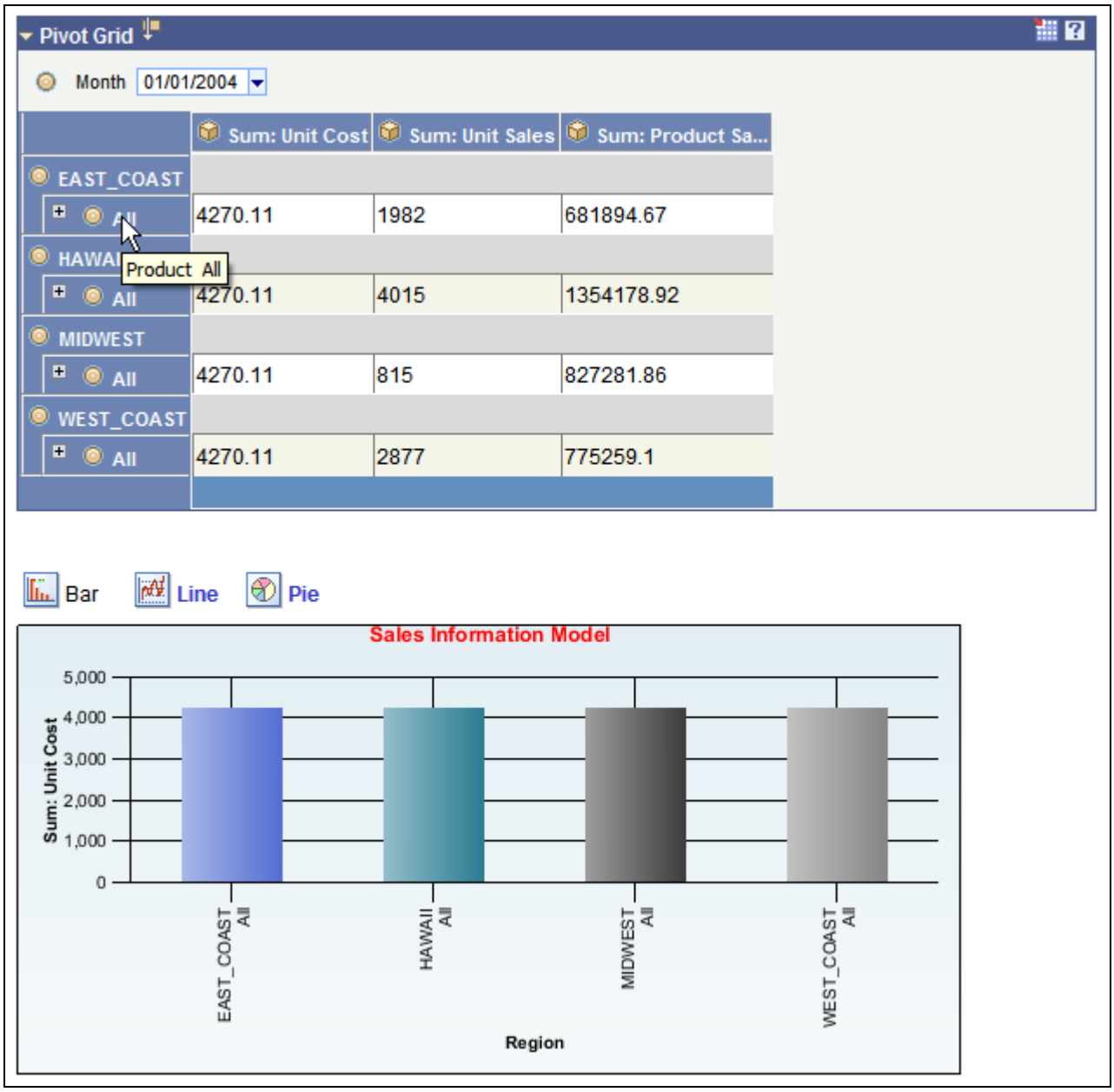
You perform the following actions on the grid:

- 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.
- Plot the chart.

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



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

Performing Drilldown on a Grid

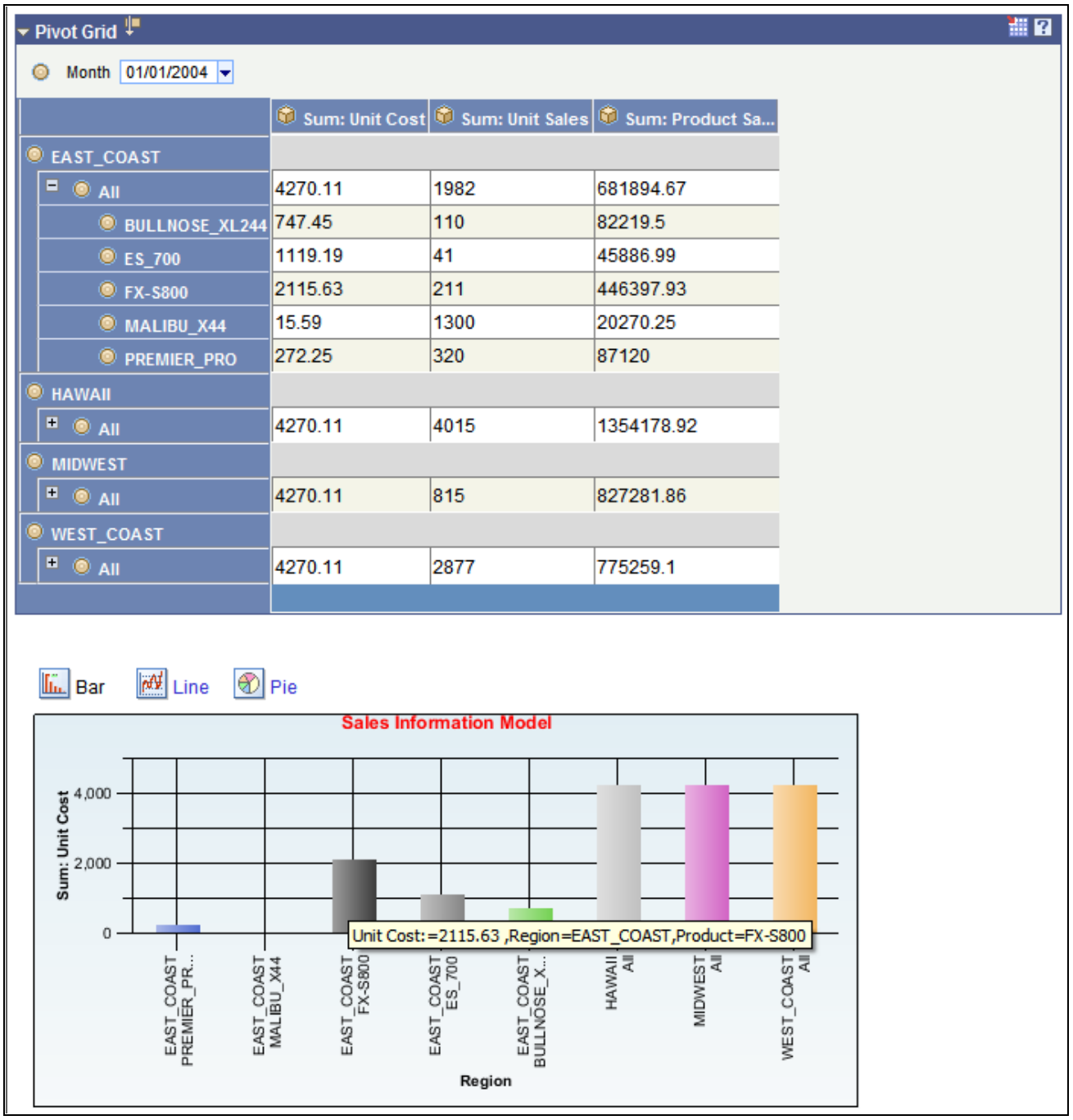
To drill down on the grid, you click the + (plus) icon. You drill down on the grid based on the row axis members. In this example, the user clicks the + icon under EAST COAST. The following actions are performed:

- 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.
- Plot the chart.

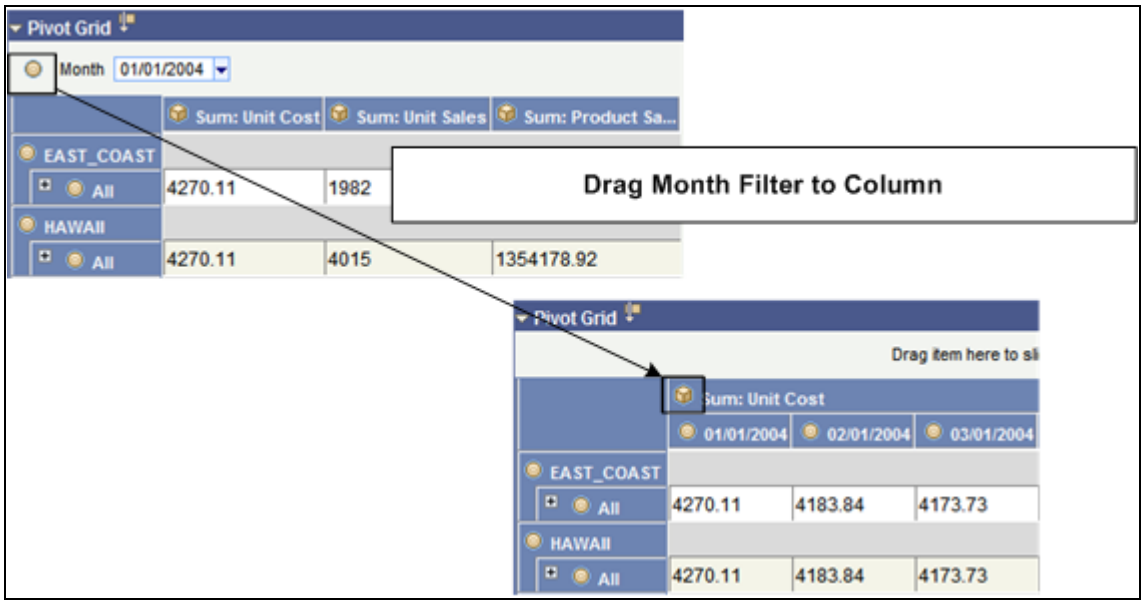
This example displays the grid and chart drilldown based on the Pivot Grid model:



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

Moving the Report Filter to the Column Axis

To move the Month field to the column axis, click the circle next to Month and drag it to the column axis, as shown in this example:



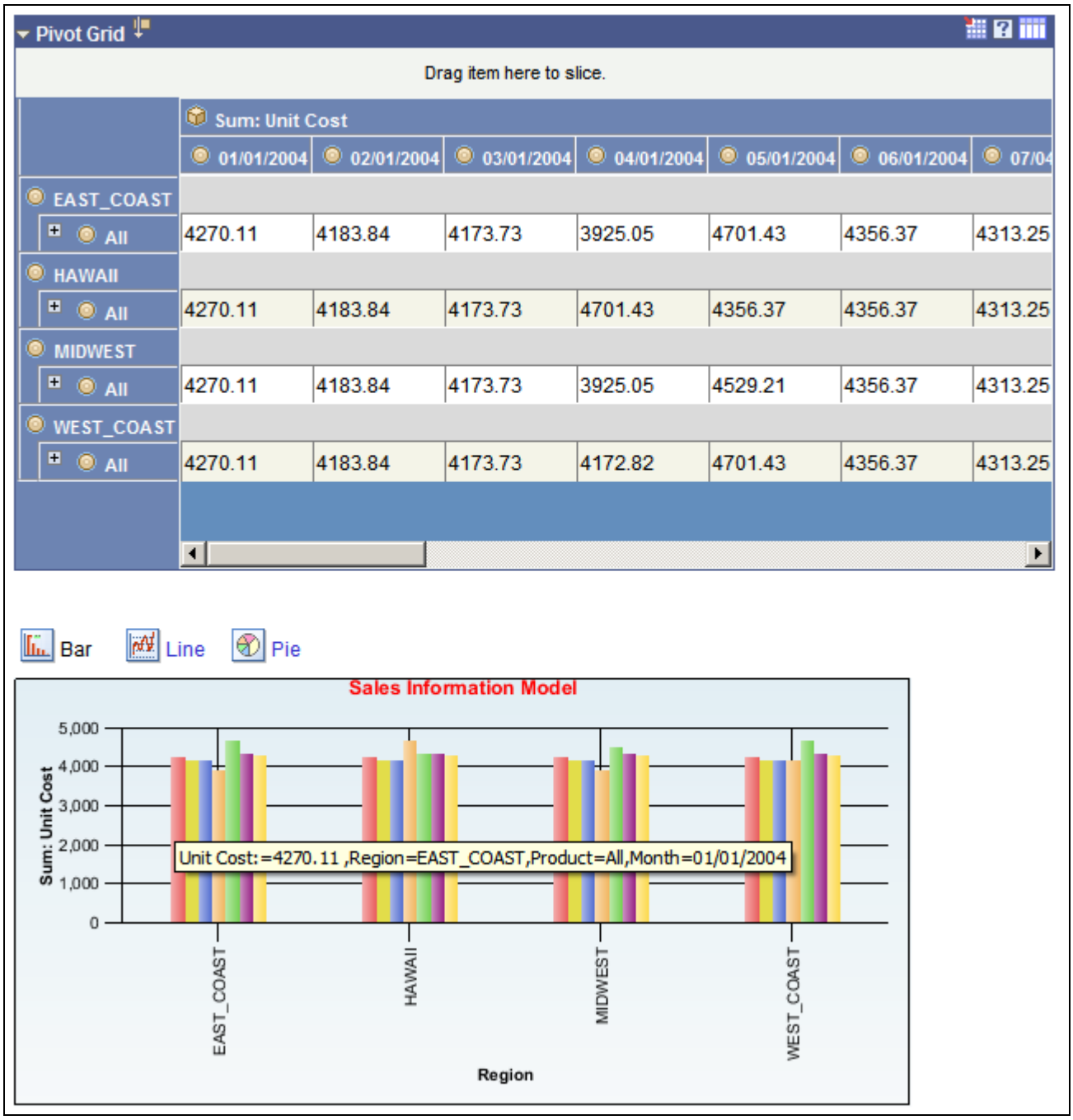
Example of dragging filter to column

- 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.
- Set the chart series axis to the Month field.

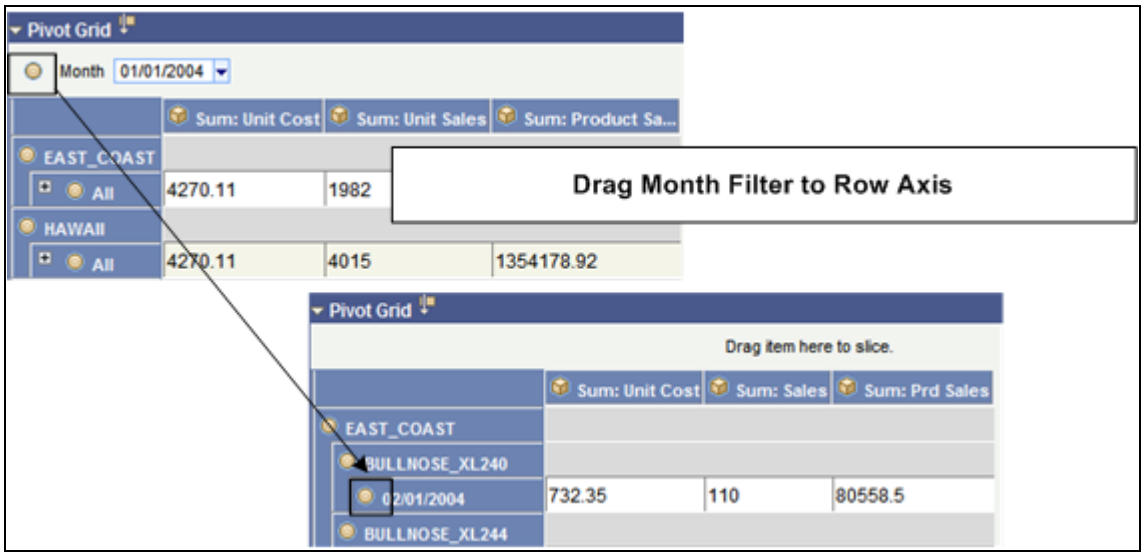
This example shows the report filter moved to the column axis:



Example of report filter on the column axis

Moving the Report Filter to the Row Axis

To move the Month field to a row axis, click the circle next to Month and drag it to the X axis, as shown in this example:

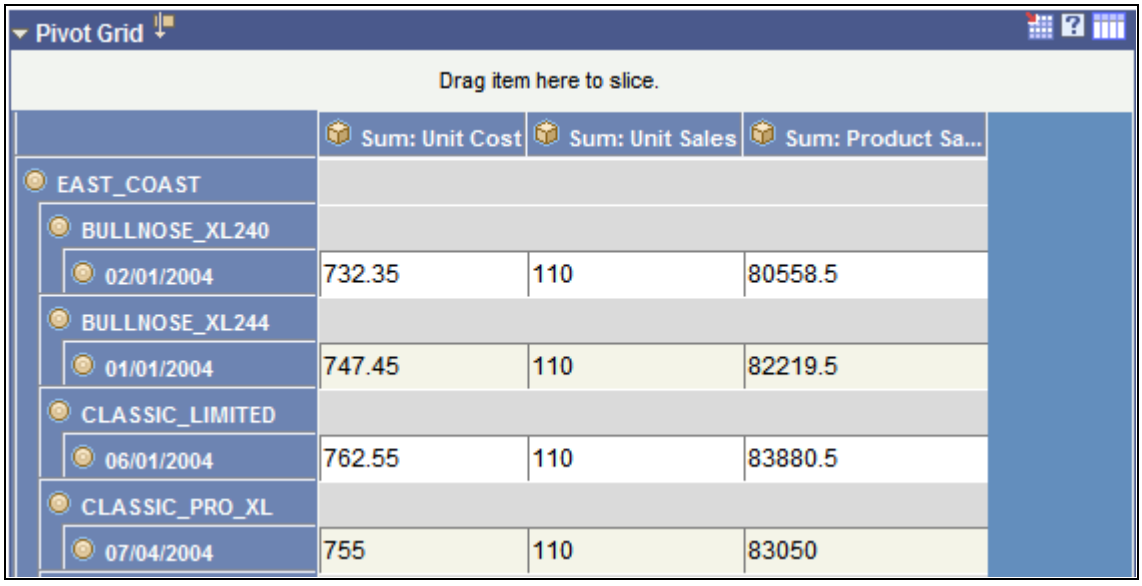


Example of dragging a report filter to the row axis

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

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



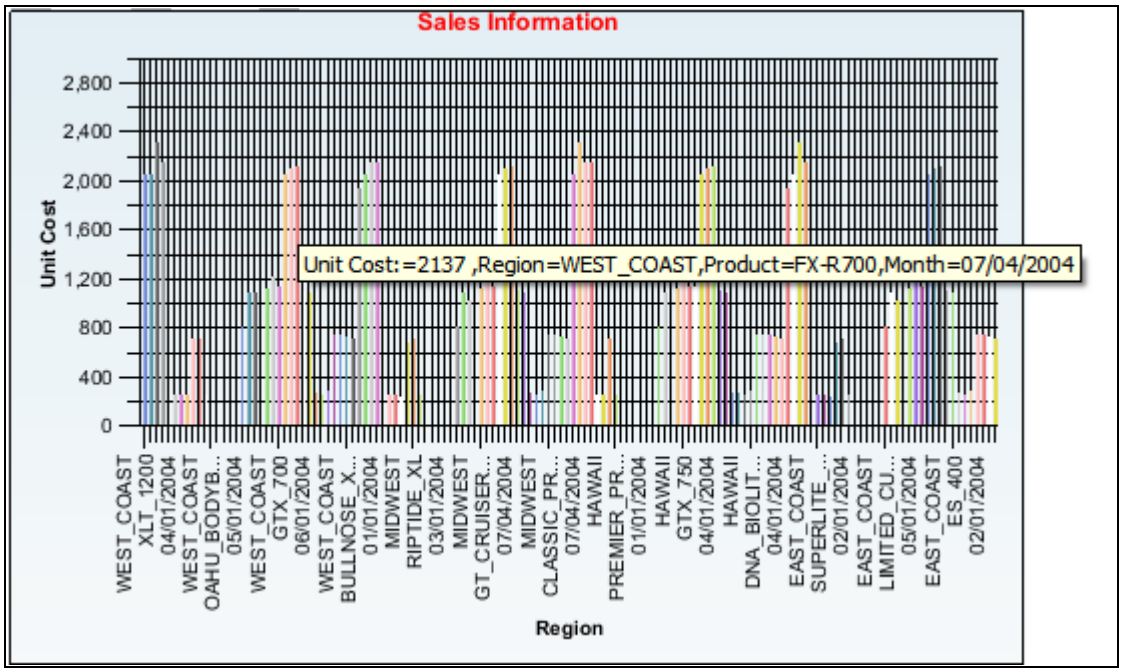
Example of report filter in a grid moved to the row axis

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

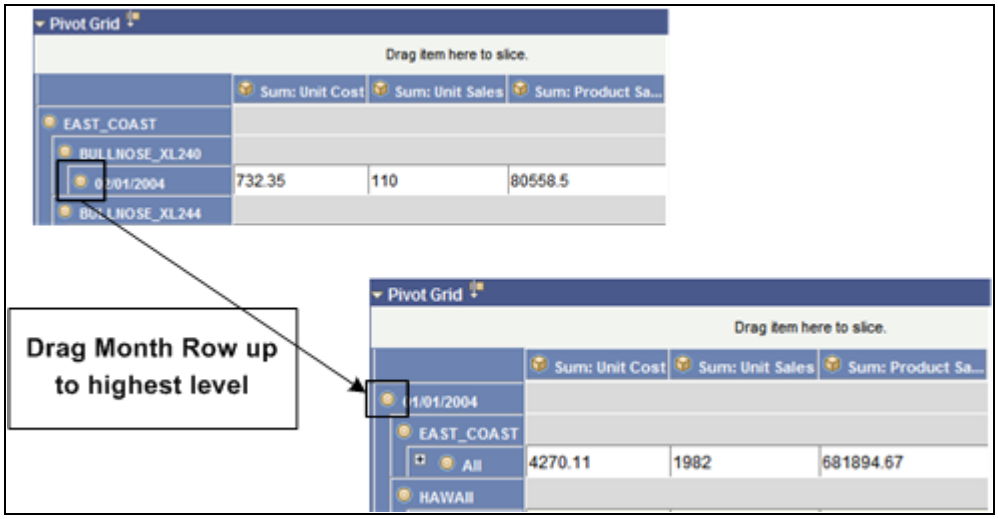
This example shows the result of moving the report filter in a chart to the row axis:



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

Changing the Level of Dimensions

In this example, Month is changed to the highest dimension level by dragging the month up on the X axis, as shown in this example:

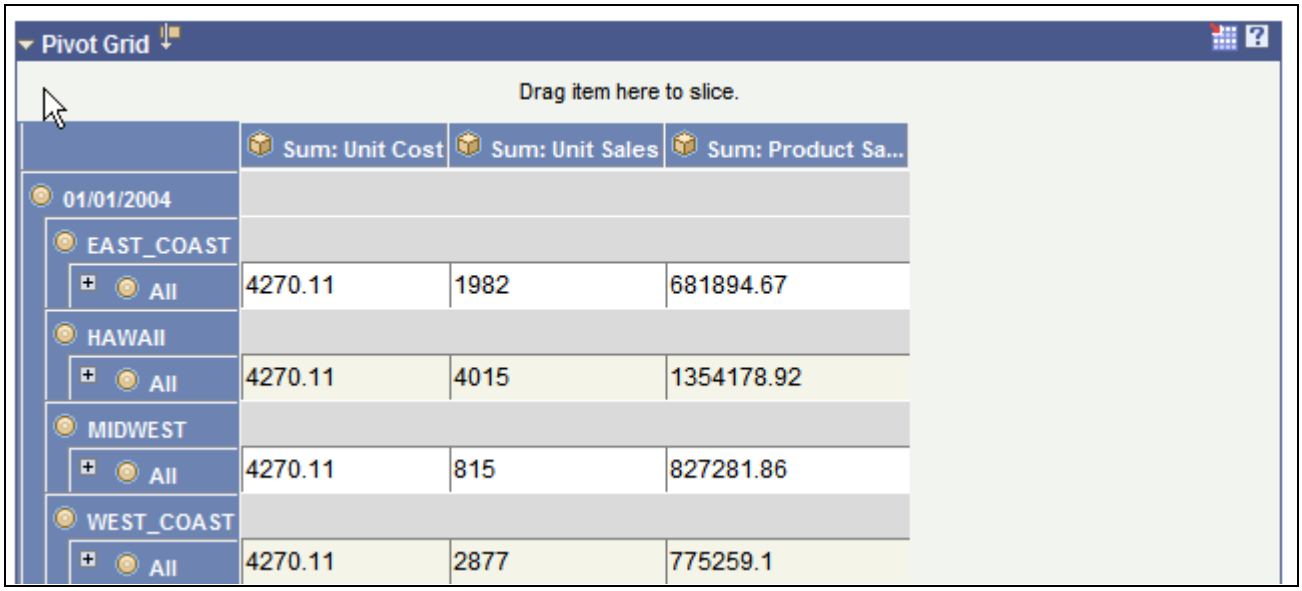


Example showing how to change the dimension level

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

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

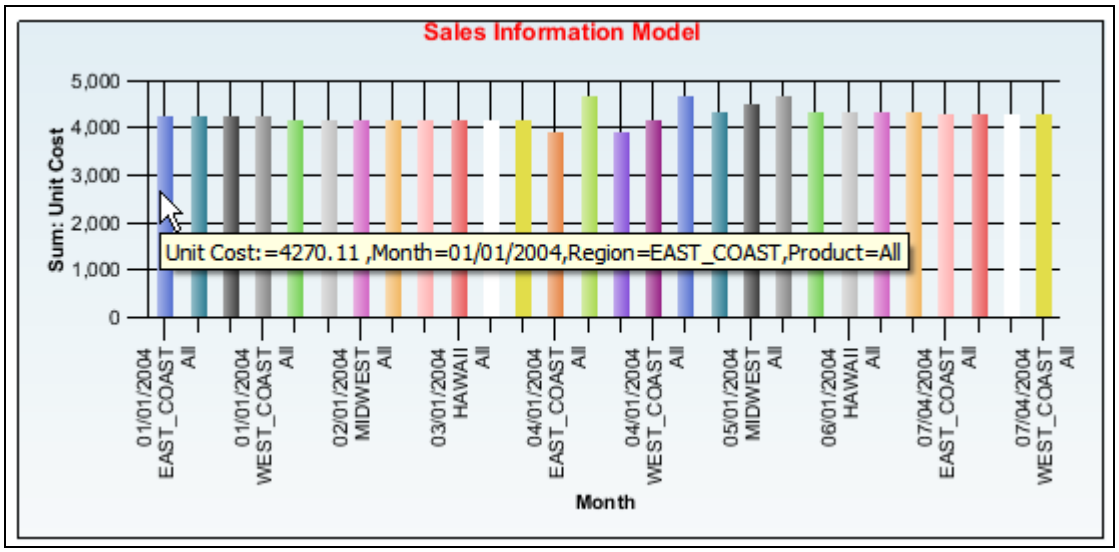


Example grid displaying new dimensions

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.

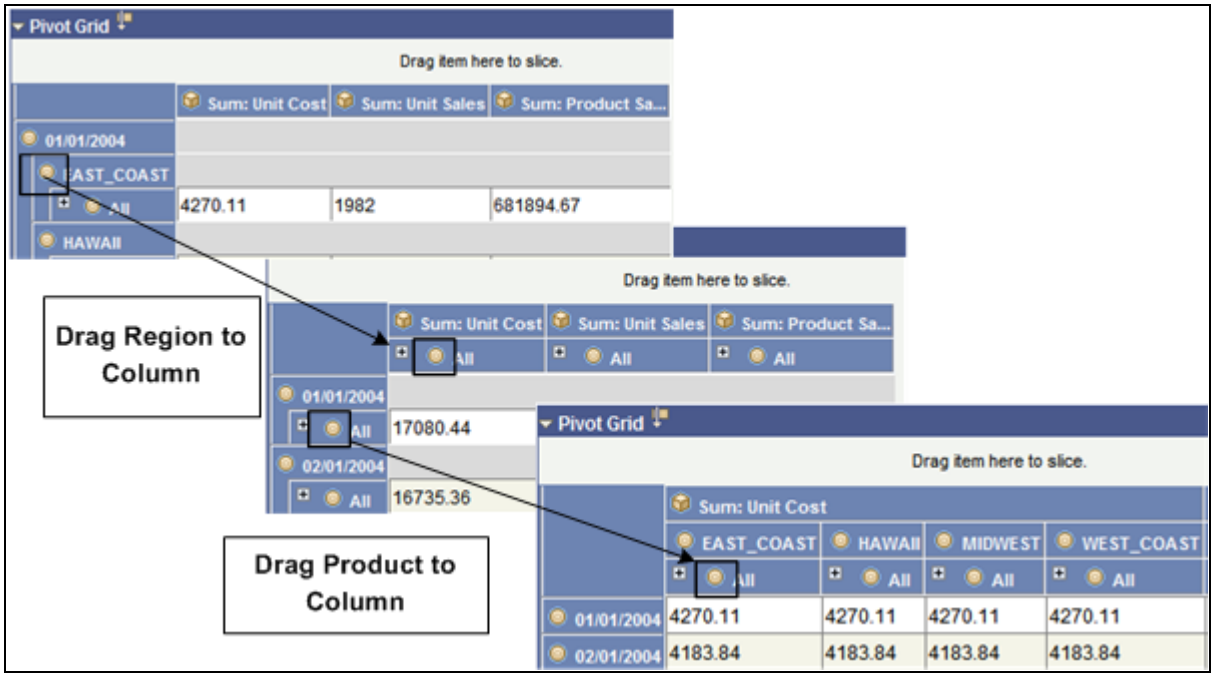
This example shows the entire chart after changing the dimension level:



Example chart display after changing the dimension level

Moving a Row to a Column

In this example, the Region and Product fields have All (Total) enabled. The Region and Product fields were moved to columns, as shown in this example:



Example of how to drag rows to columns

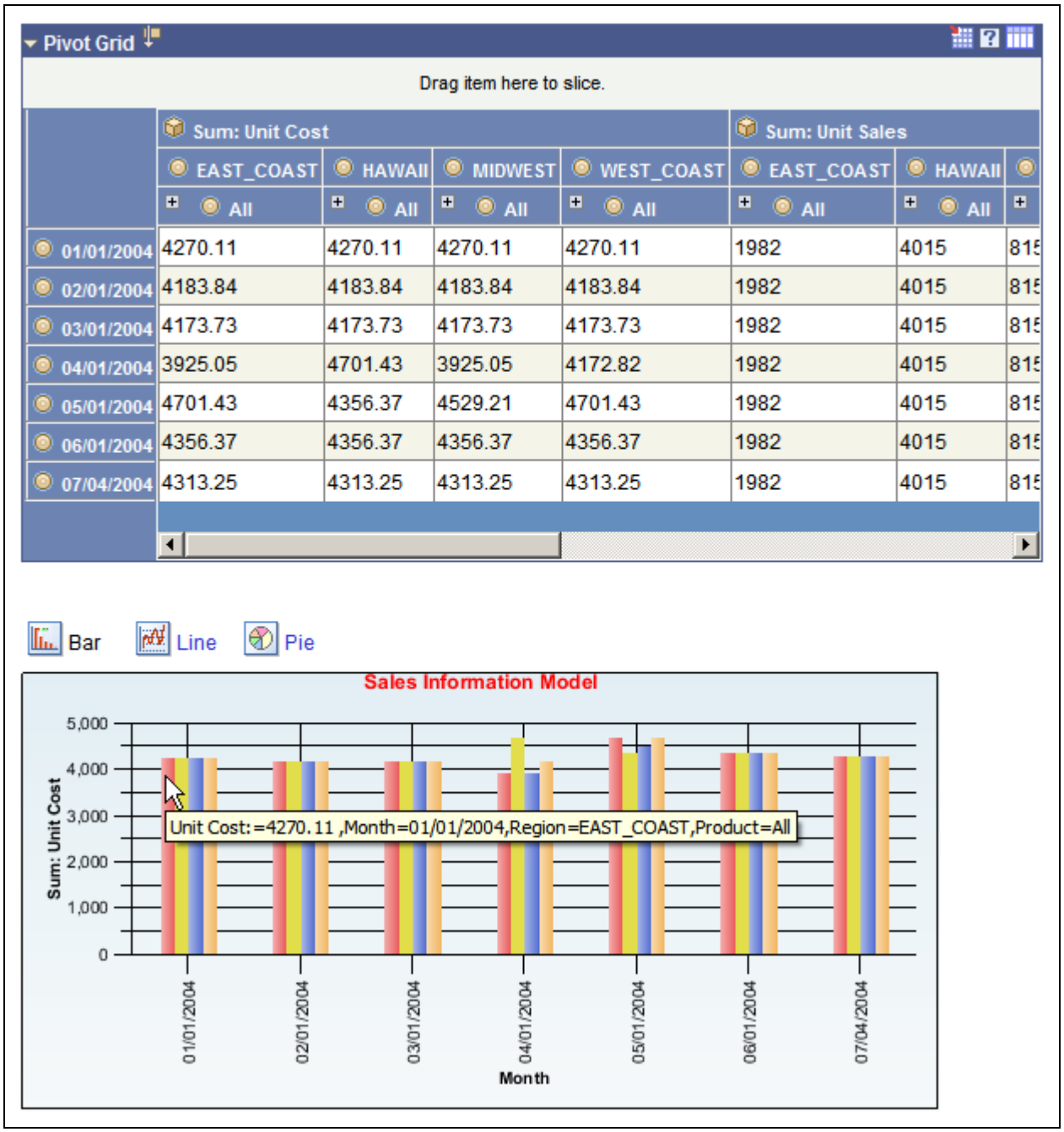
- Execute the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month); (2) the totals of aggregate values for each month, for all the regions, for all the products because the grid is collapsed initially; and (3) the list of Unit Cost Values for each 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.
- Add a combination of the Region and Product fields as a chart series.

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



Example of grid and chart after moving 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.

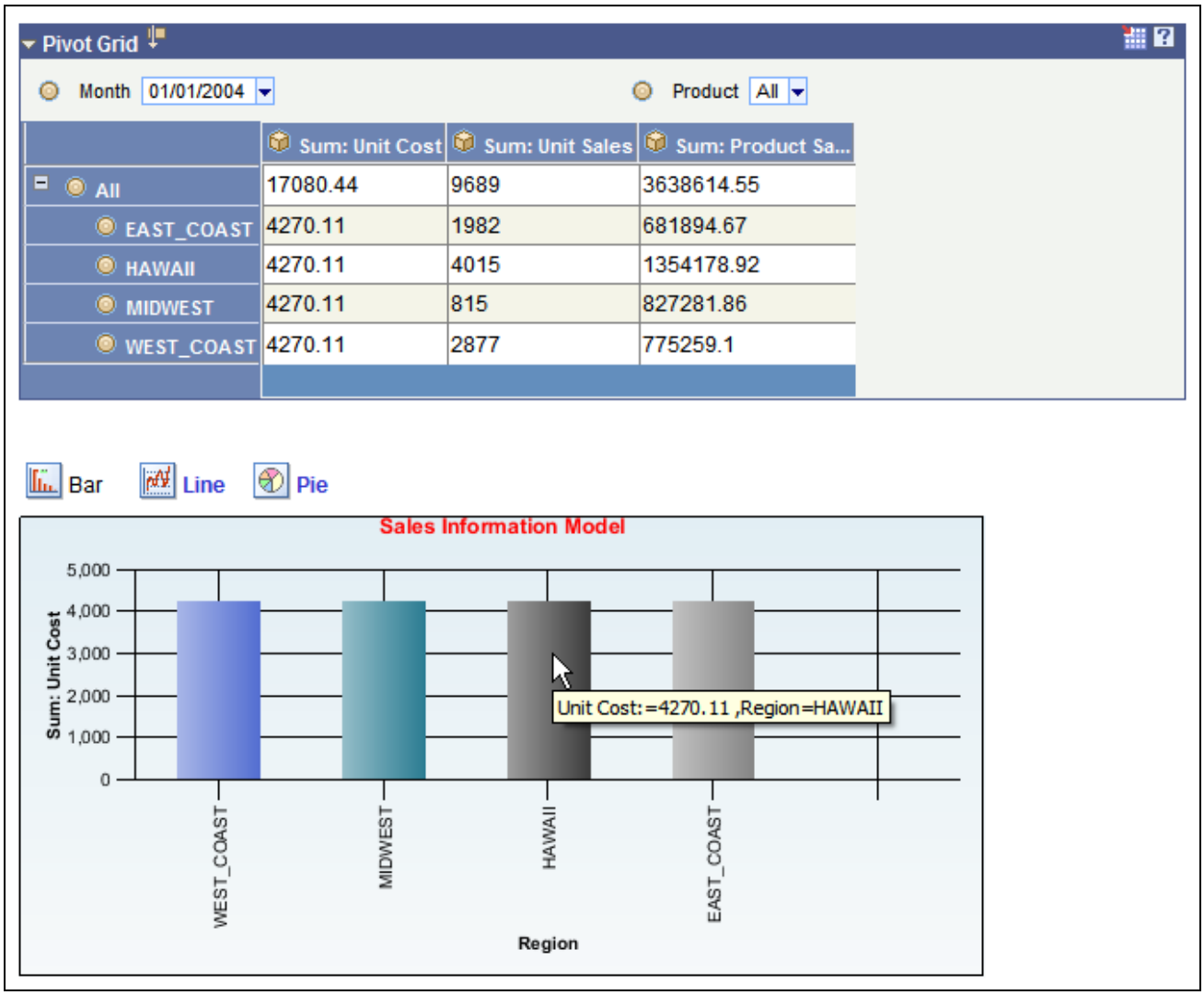
- Run the PSQuery to retrieve (1) a unique list of all the axis columns values (including Region, Product, and Month) and (2) the aggregate values for each region based on the selected month and product values.
- Use the axis information and the rowset to set the initial grid layout.

- 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.

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.



Example grid and chart based on month and product filters

Selecting a Value for the Report Filter

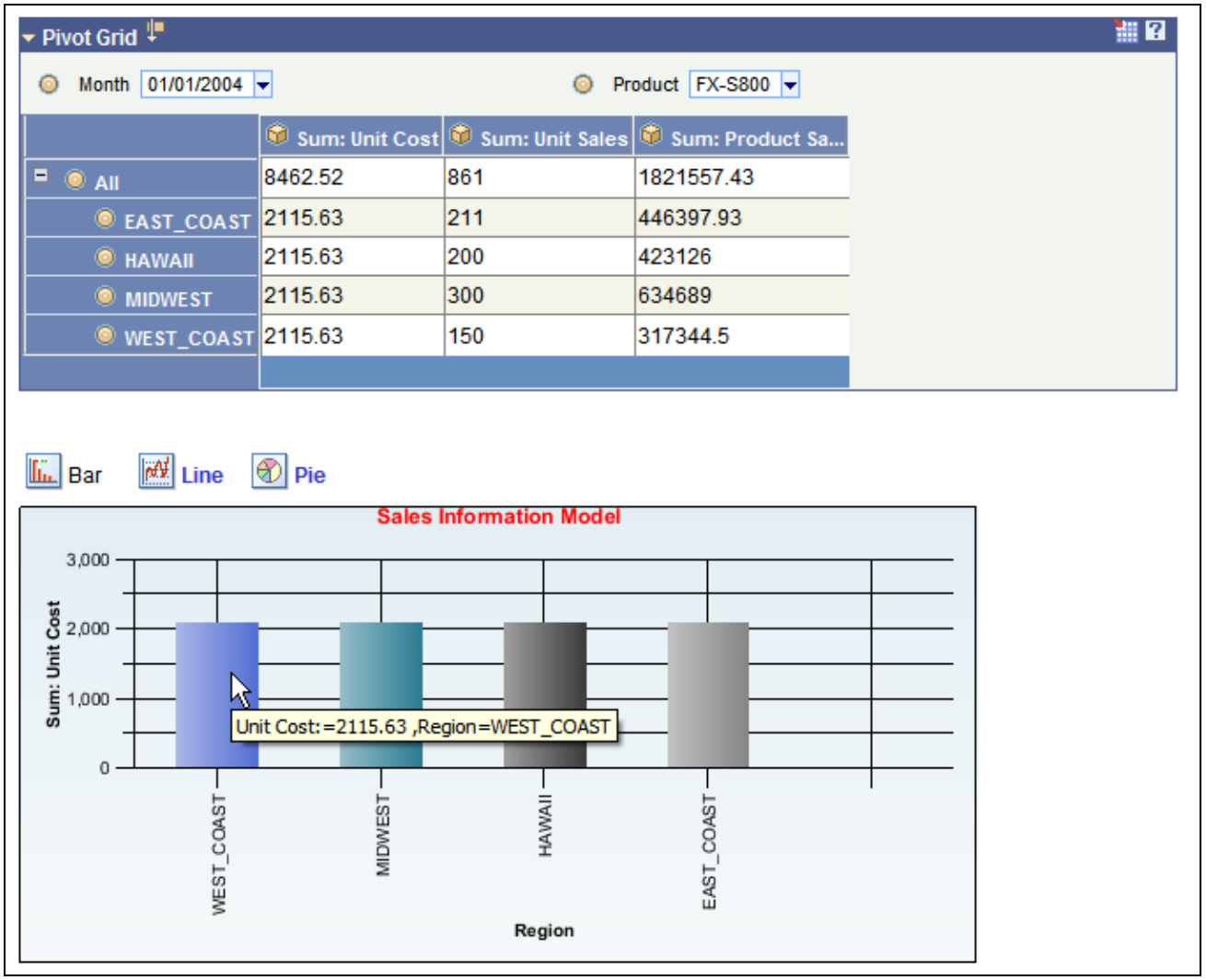
Changing the report filter value will result in filtering of the data in the grid. The following actions are performed for the grid:

- 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.
- 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.

This example displays the grid and chart for the filtered month and product:

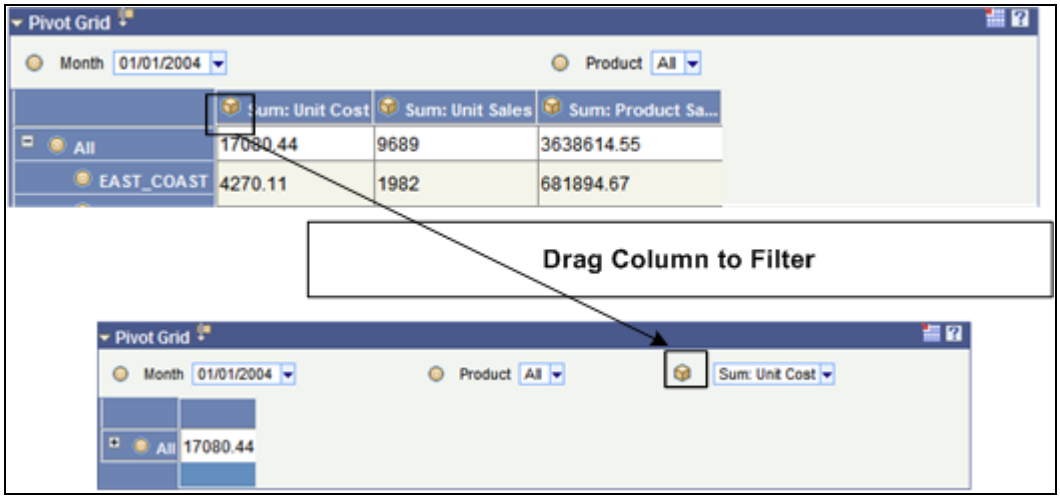


Example grid and chart displayed with new values based on filters

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.

This example illustrates dragging a column to a report filter:



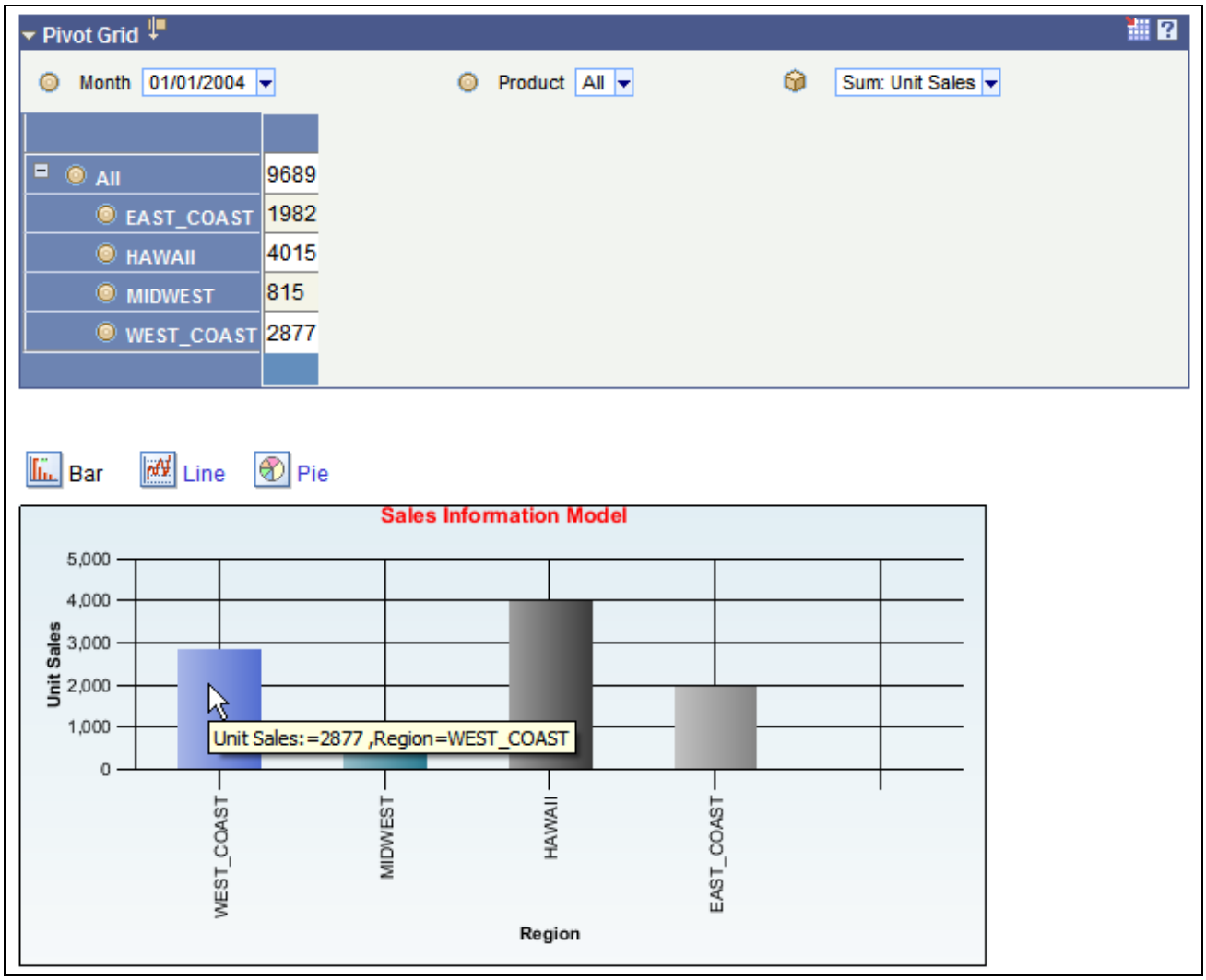
Example of dragging a column to a report filter

- 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.

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.

This example shows the grid and chart for unit sales:



Example grid and chart displaying unit sales

User Actions Listener When the Display Option is Chart Only

This section discusses how to:

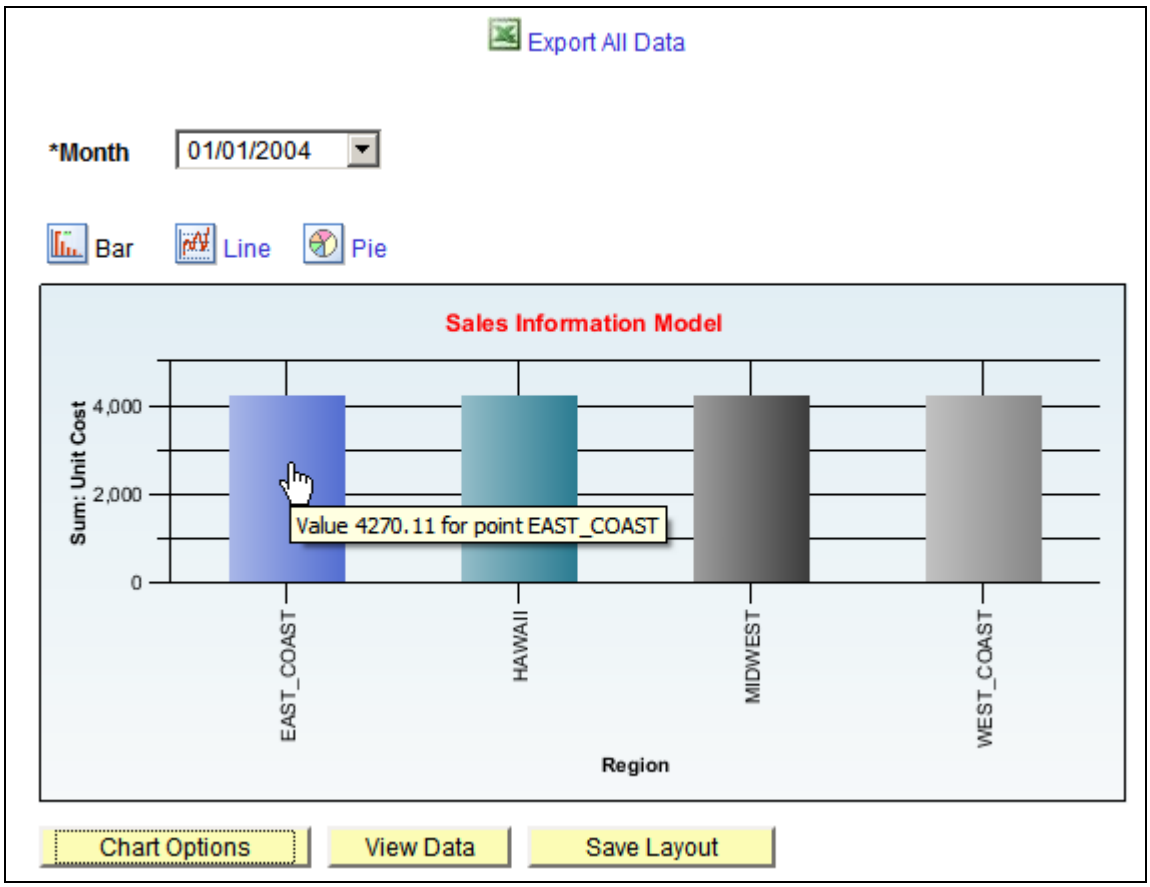
- Display a chart based on the initial chart layout.
- Drill down in a chart.
- Drill out in a chart.
- Add a series to the chart.
- Add an overlay option to the chart.
- Add a chart filter to the chart.

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 section. 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.

This example displays the chart using the initial layout:



Example chart using initial layout

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.
- The chart includes locator links from the drilldown.

When you click the bar, the Drill Down On page appears:

Drill Down On page

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

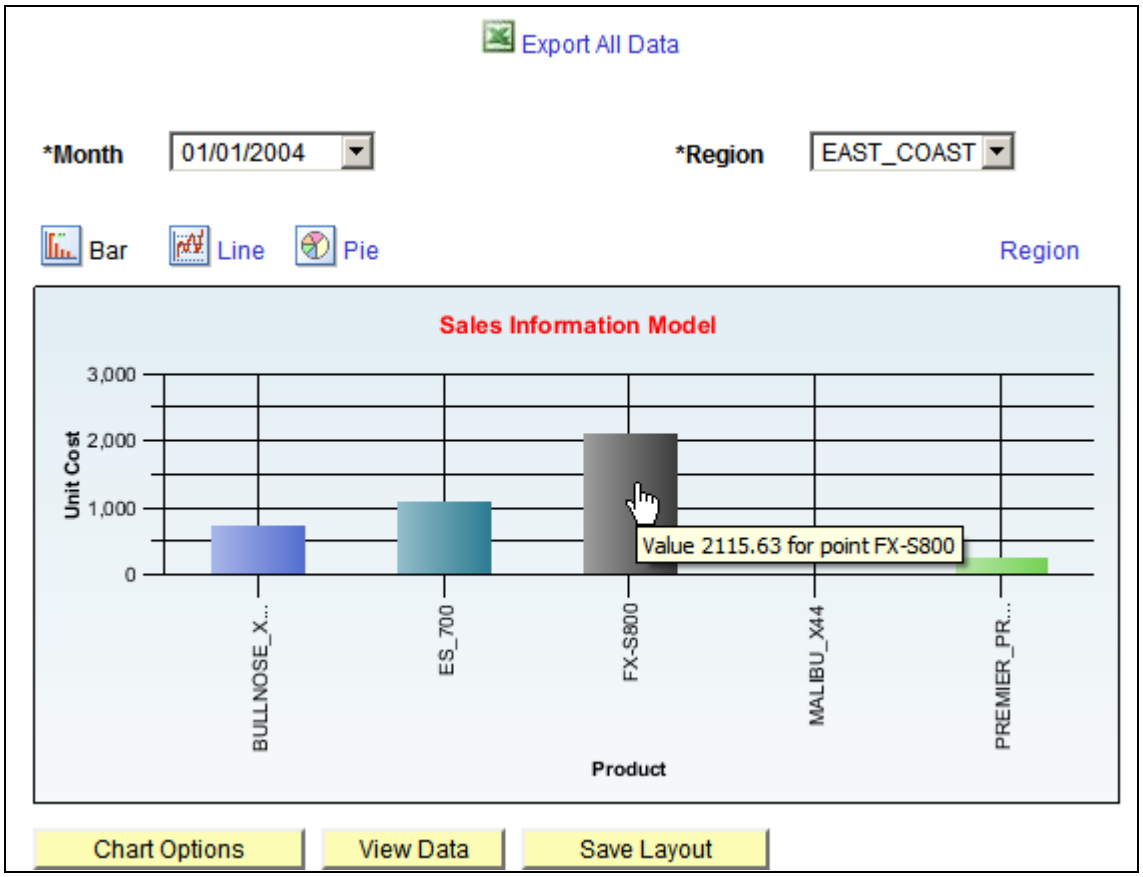


Chart showing drilldown on Product

Drilling Out on a Chart

To drill out, you click the locator links at the top 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.
- Plot the chart.

This chart is restored to the original display:

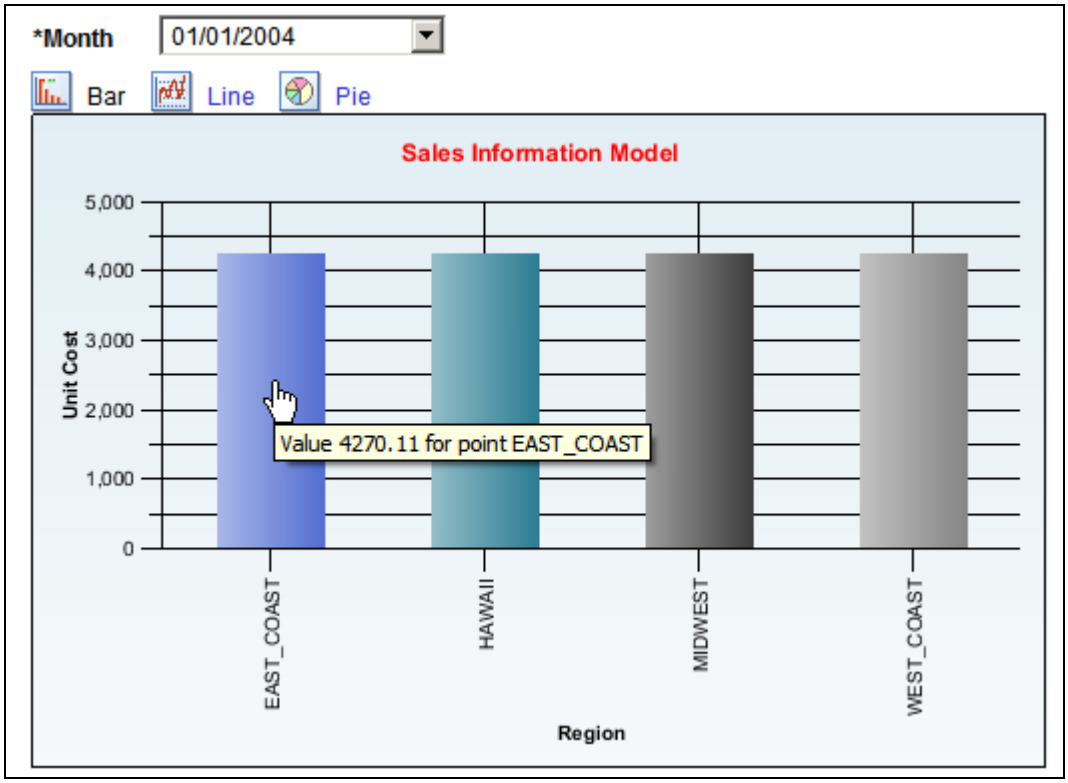


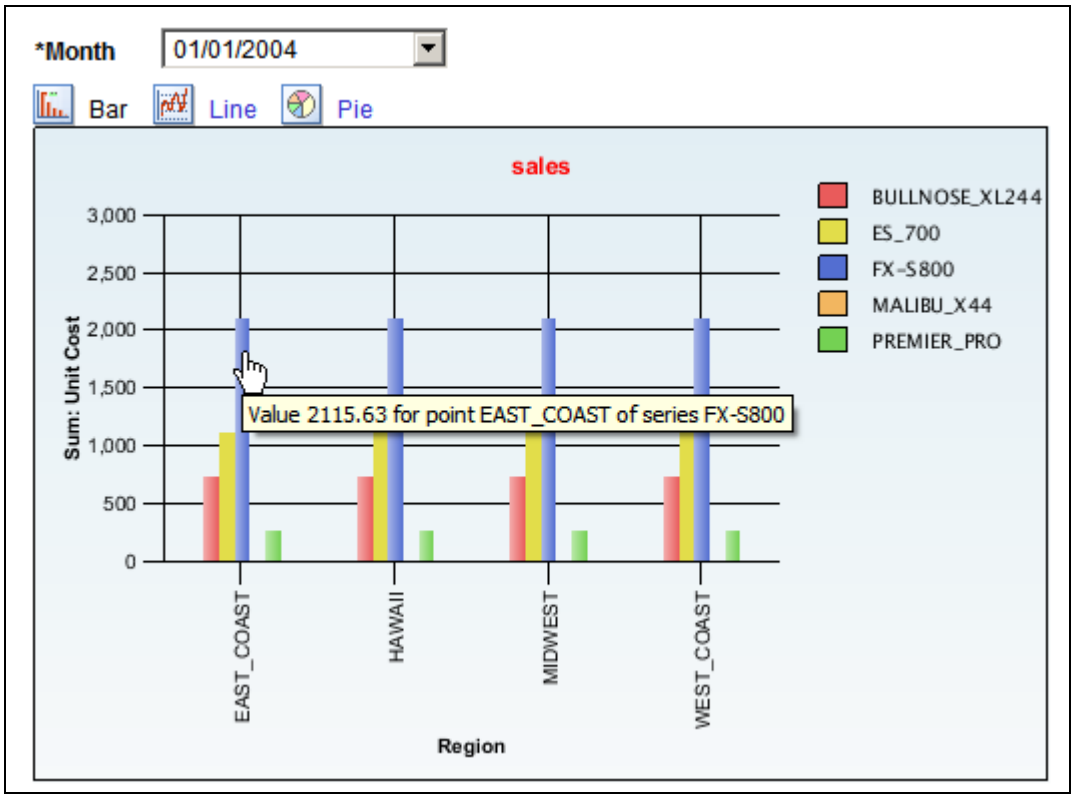
Chart returned to initial state after drilling out

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.
- Plot the chart.

This example displays Product as a series:



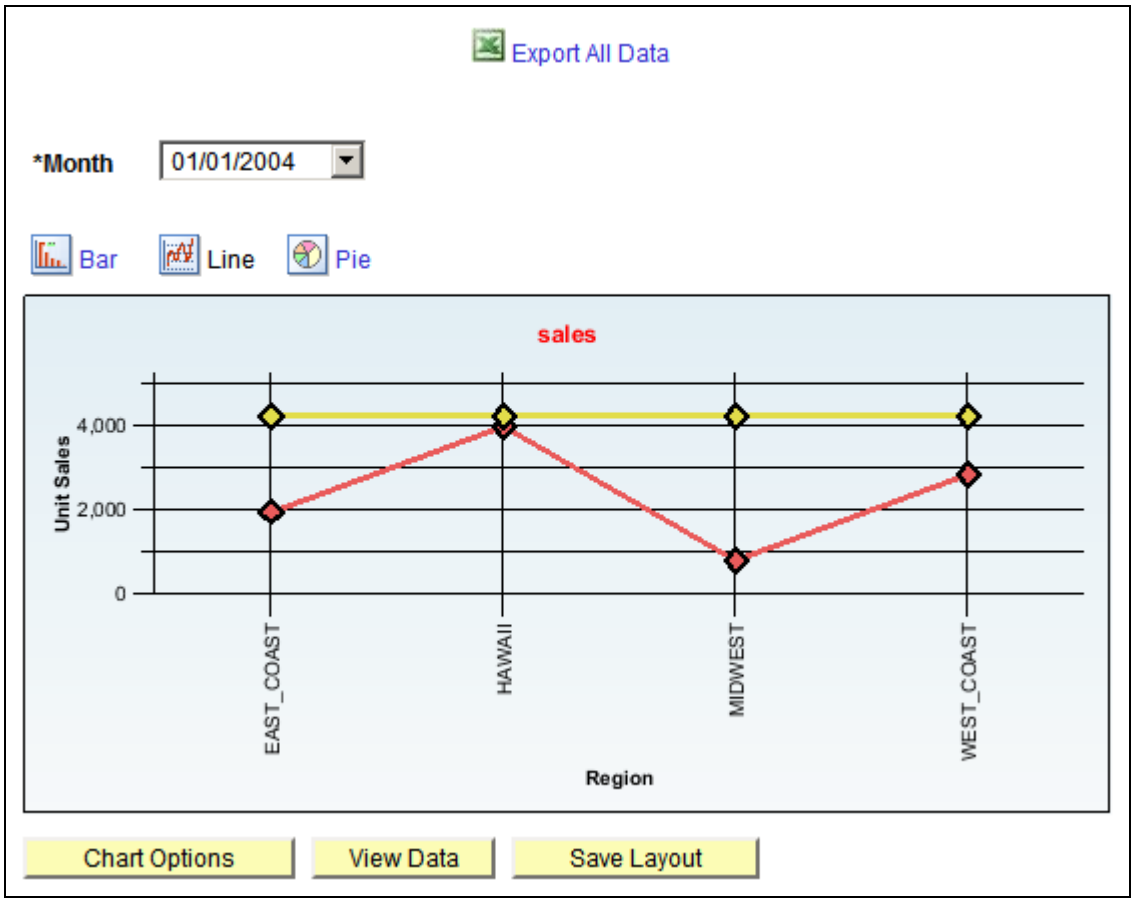
Example chart displaying Product as a series

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.
- Plot the chart.

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



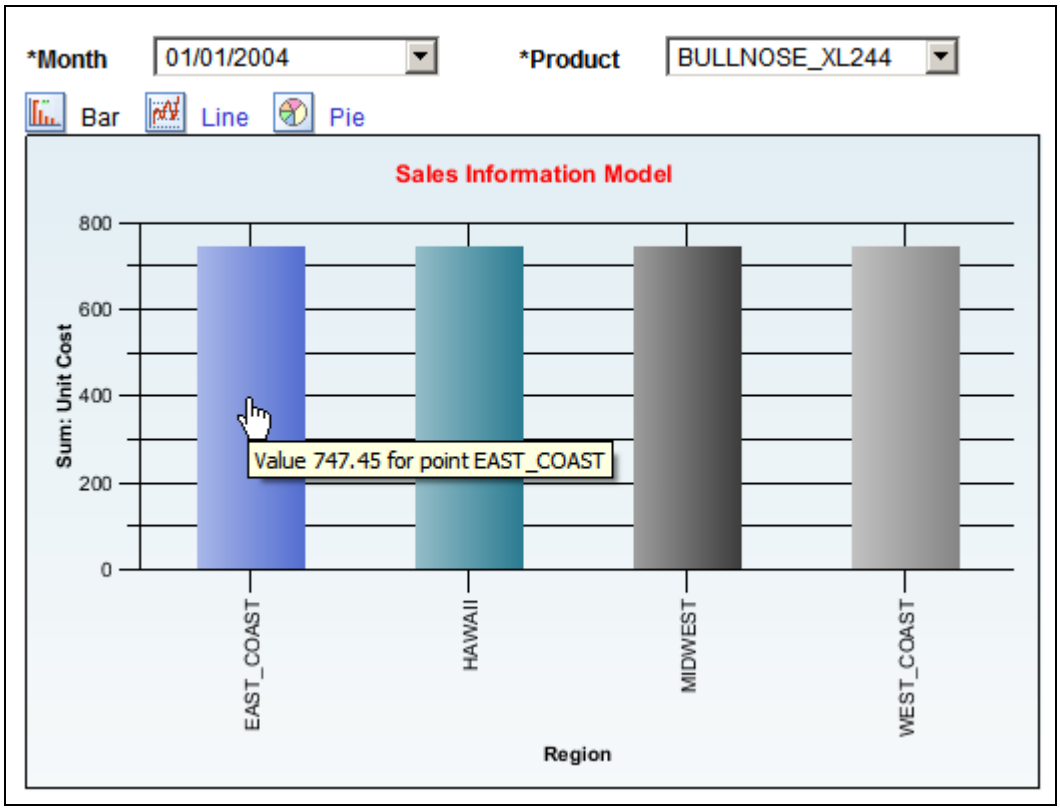
Example chart with Unit Cost as an overlay

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.
- Plot the chart.

This example displays a chart with two filters:



Example chart with filters on Month and Product

Chapter 4

Using Pivot Grid Wizard

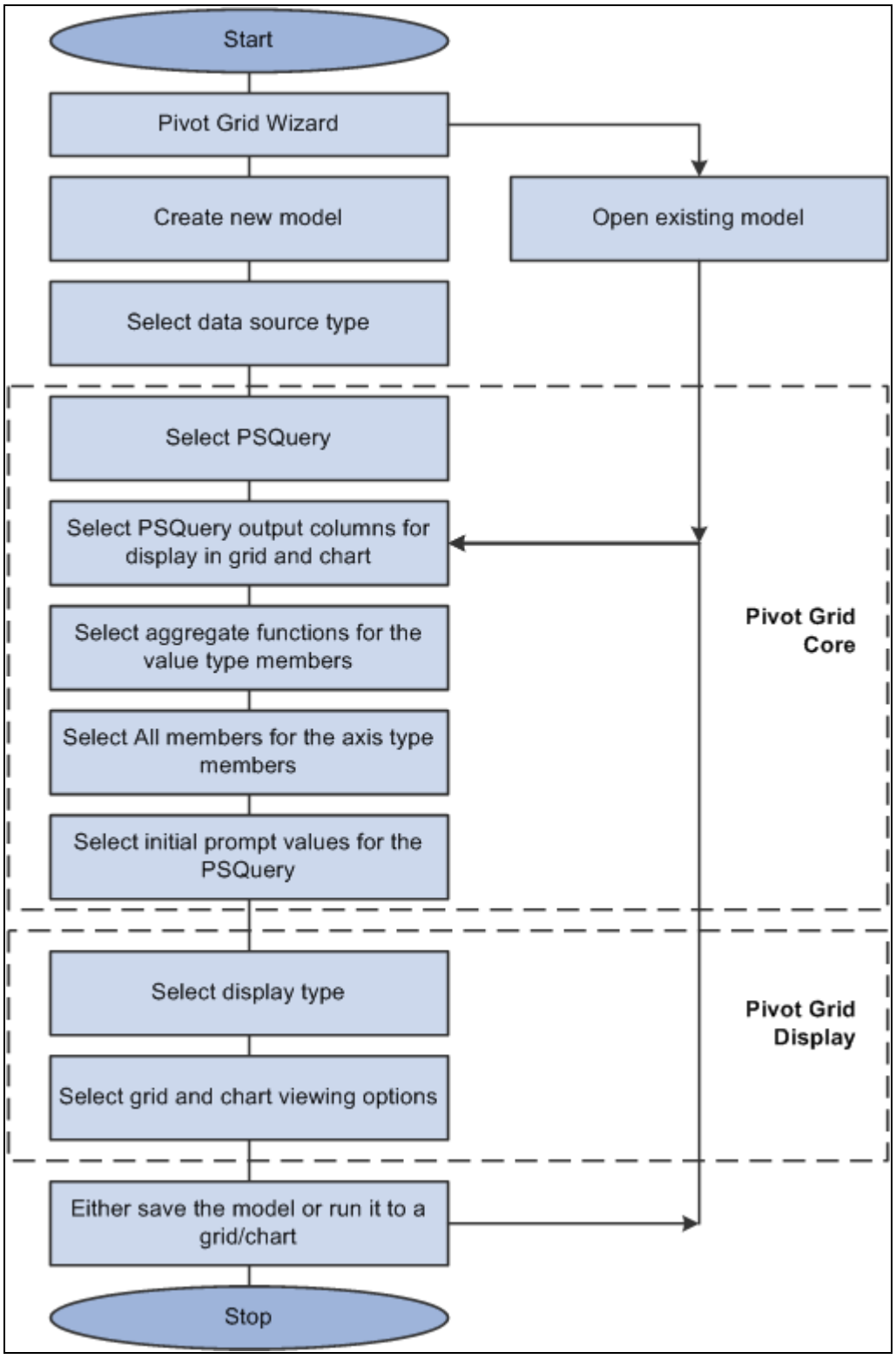
This chapter provides an overview of the Pivot Grid wizard and discusses how to:

- Create a Pivot Grid model using the Pivot Grid wizard.
- Specify data model options.
- Update a Pivot Grid model using the 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 pivot display (chart type and viewing options). Users with the appropriate security also use the Pivot Grid wizard to update existing models.

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



Flowchart for creating and updating a Pivot Grid model

Creating a Pivot Grid Model Using the Pivot Grid Wizard

This section discusses how to:

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

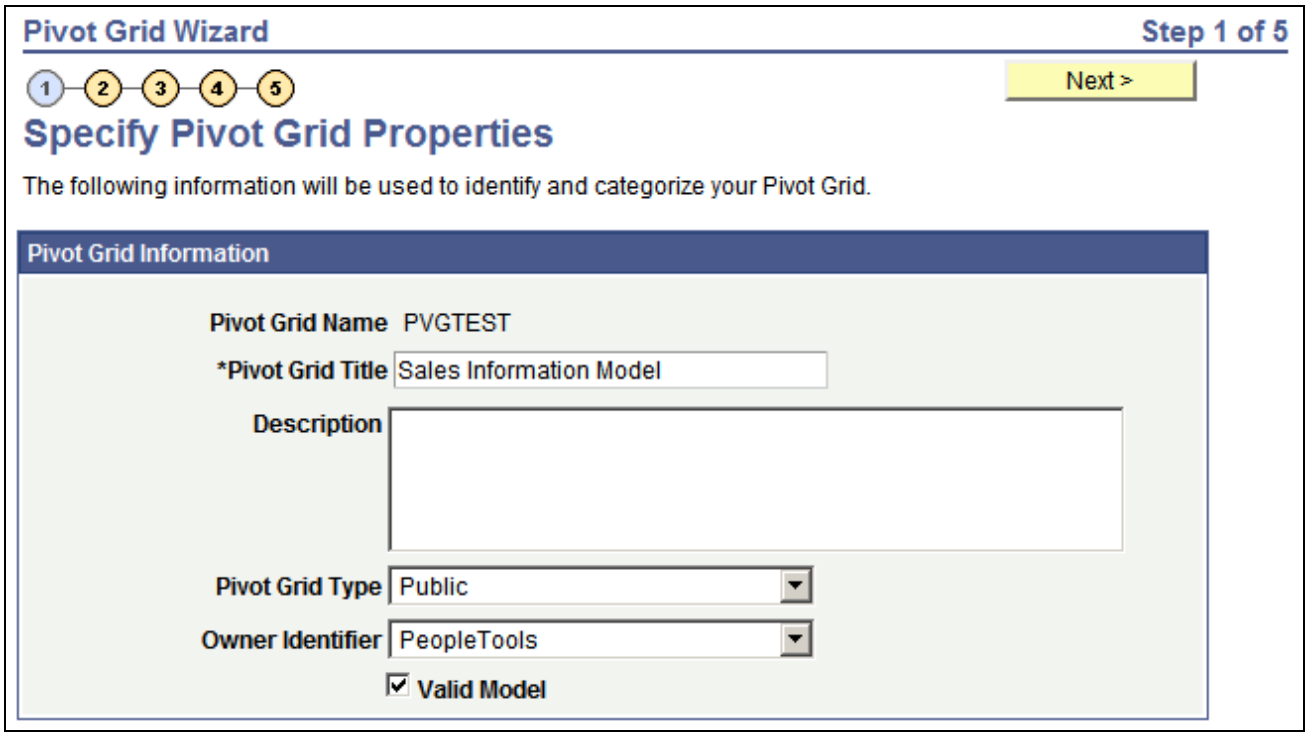
Pages Used to Create a Pivot Grid Model Using the Pivot Grid Wizard

Page Name	*Definition Name*	*Navigation*	*Usage*
Specify Pivot Grid Properties	PTPG_WIZ_INFO	Reporting Tools, Pivot Grid, Pivot Grid Wizard	Use this page to identify and categorize the data model for the pivot grid.
Select Data Source	PTPG_WIZ_DATASRC	From the Specify Pivot Grid Properties page, click the Next button.	Use this page to select the PSQuery and output columns from the PSQuery for the data model.
Specify Data Model Values	PTPG_WIZ_MODEL	From the Select Data Source page, click the Next button.	Use this page to define the column type and aggregate functions for the selected data model.
Specify Data Model Options	PTPG_WIZ_OPT	From the Specify Data Model Values page, click the Next button.	Use this page to define the initial layout of the grid and the chart.
Pivot Grid Display	PTPG_WIZ_DISP	From the Specify Data Model Options page, click the Next button.	Use this page to review the Pivot Grid model based on the display option and layout selected.

Specifying Pivot Grid Properties

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

This example shows the Specify Pivot Grid Properties page:



Specify Pivot Grid Properties page

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.

Valid Model Select the check box if the model is valid.

Note. Only valid models are available from the Pivot Grid Viewer.

Next

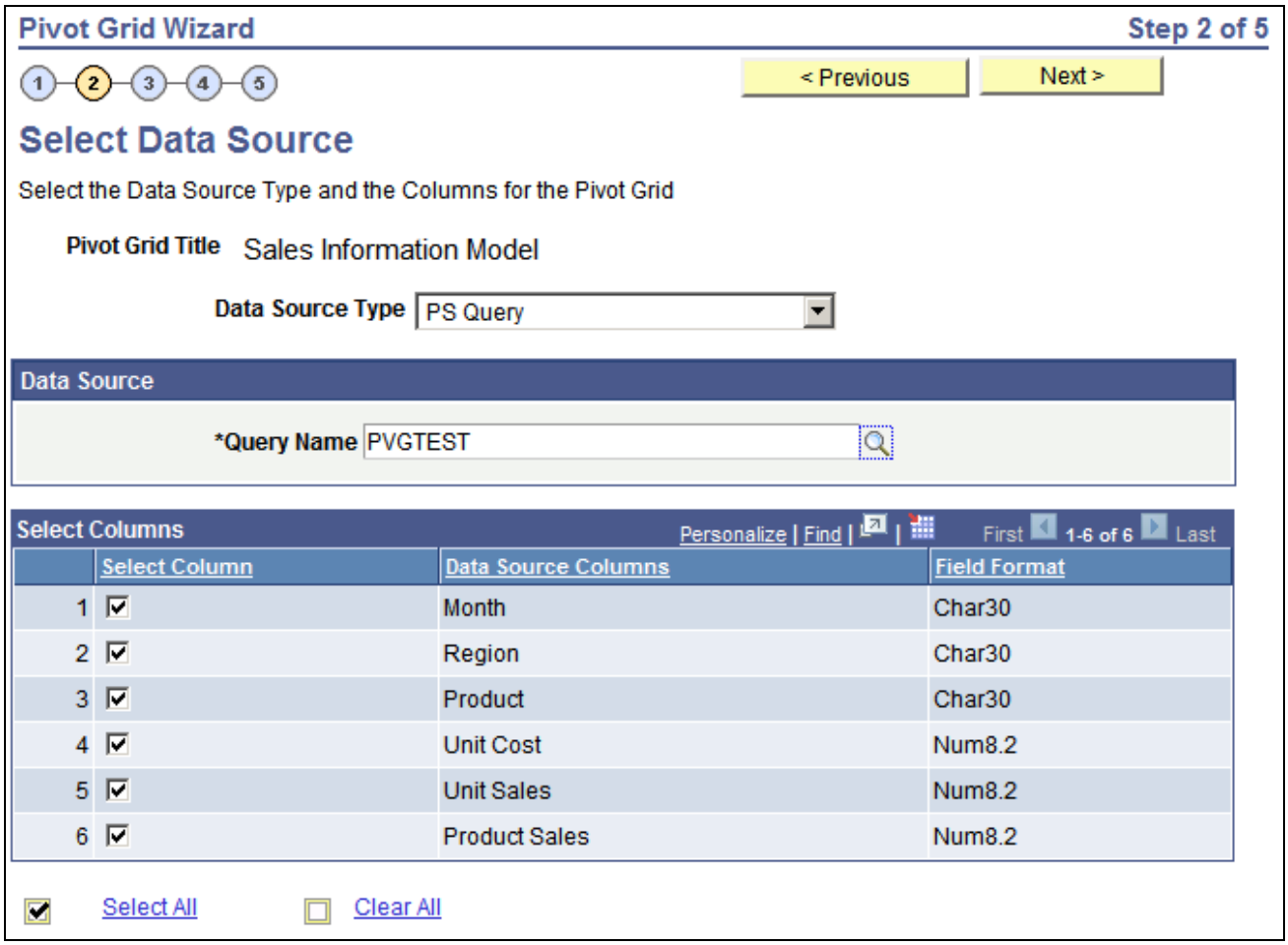
Note. The Next button is available after you enter the title of the pivot grid in the Pivot Grid Title field and move to any other field.

Click to advance the wizard to the next page.

Selecting a Data Source

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

This example shows the Select Data Source page:



Select Data Source page

Data Source Type Select a data source type.

Note. In PeopleTools 8.52, Pivot Grid supports only PSQuery.

Query Name 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 on the Pivot Grid model.

Note. The Select Column section 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.

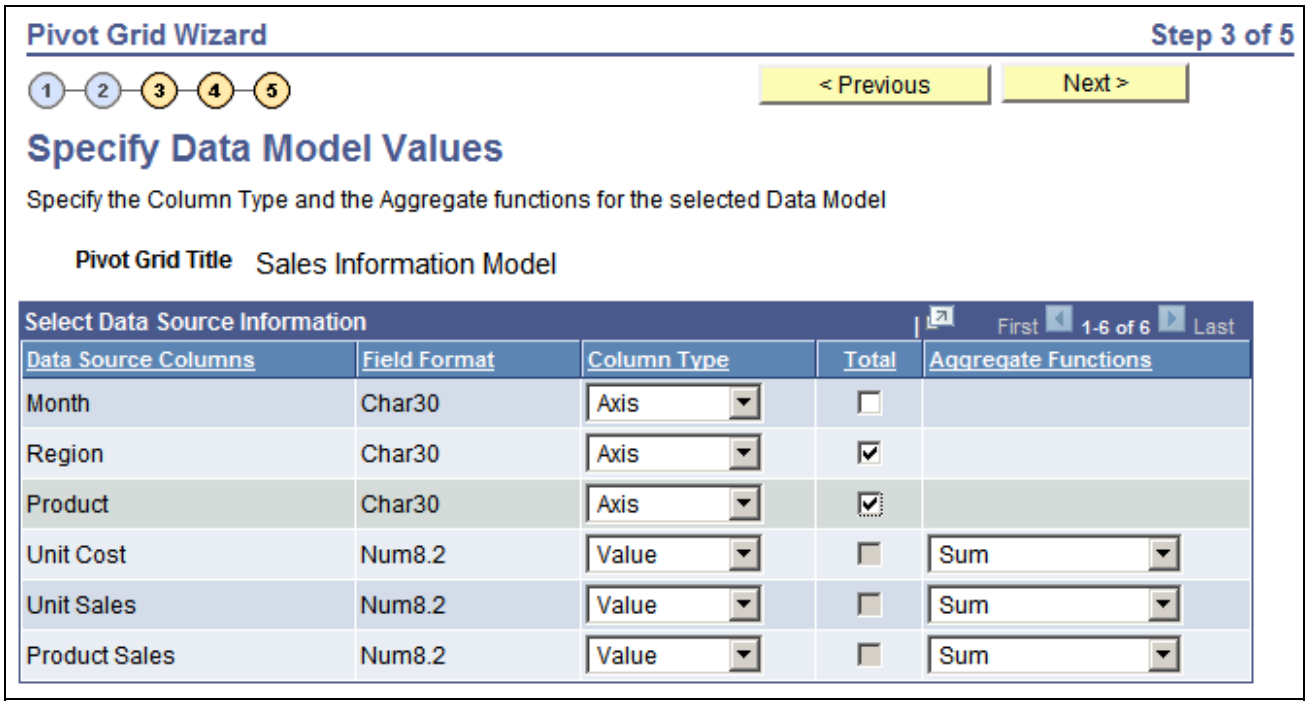
Next Click to advance the wizard to the next page.

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

Specifying Data Model Values

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

This example shows the Specify Data Model Values page:



Specify Data Model Values page

Column Type Define the axis and value members for a column.

Note. At least one *Axis* and one *Value* member is required.

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 Functions 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.

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

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

The default value in the Query Prompt Values column is blank and you are able to define your prompt values. However, in some specific cases, if the Query Prompt Values column is blank, an error message appears when you preview the Pivot Grid model in the Pivot Grid Display page.

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

Specifying Data Model Options

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

This example shows the Specify Data Model Options page:

Specify Data Model Options page

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

Display Options

Expand to display the view options.

Display

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

Available options are:

- Grid Only
- Chart Only
- Grid and Chart

Specify Axis Information

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 on the pivot grid.
- 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.

Note. In PeopleTools 8.52, the number of filters is limited to four if the display option is Chart Only.

Grid Options

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

Grid Options section

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.

Chart Options

Expand the Chart Options section to enter additional chart options:

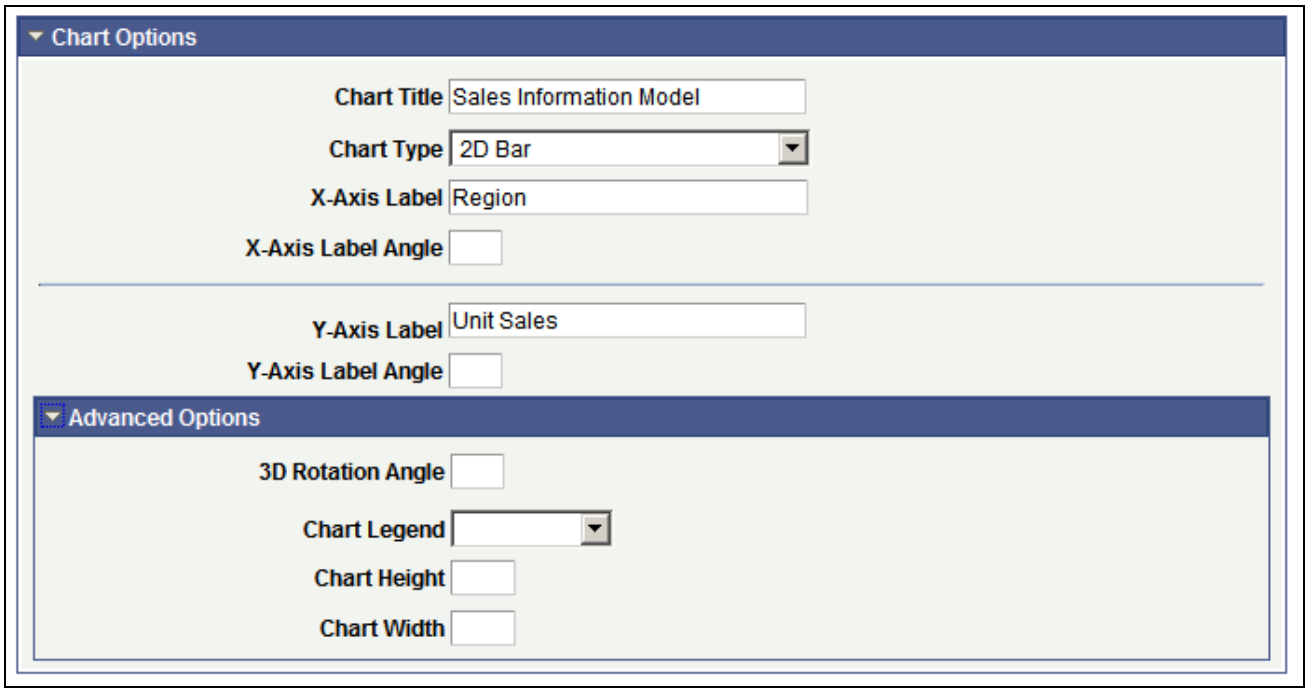


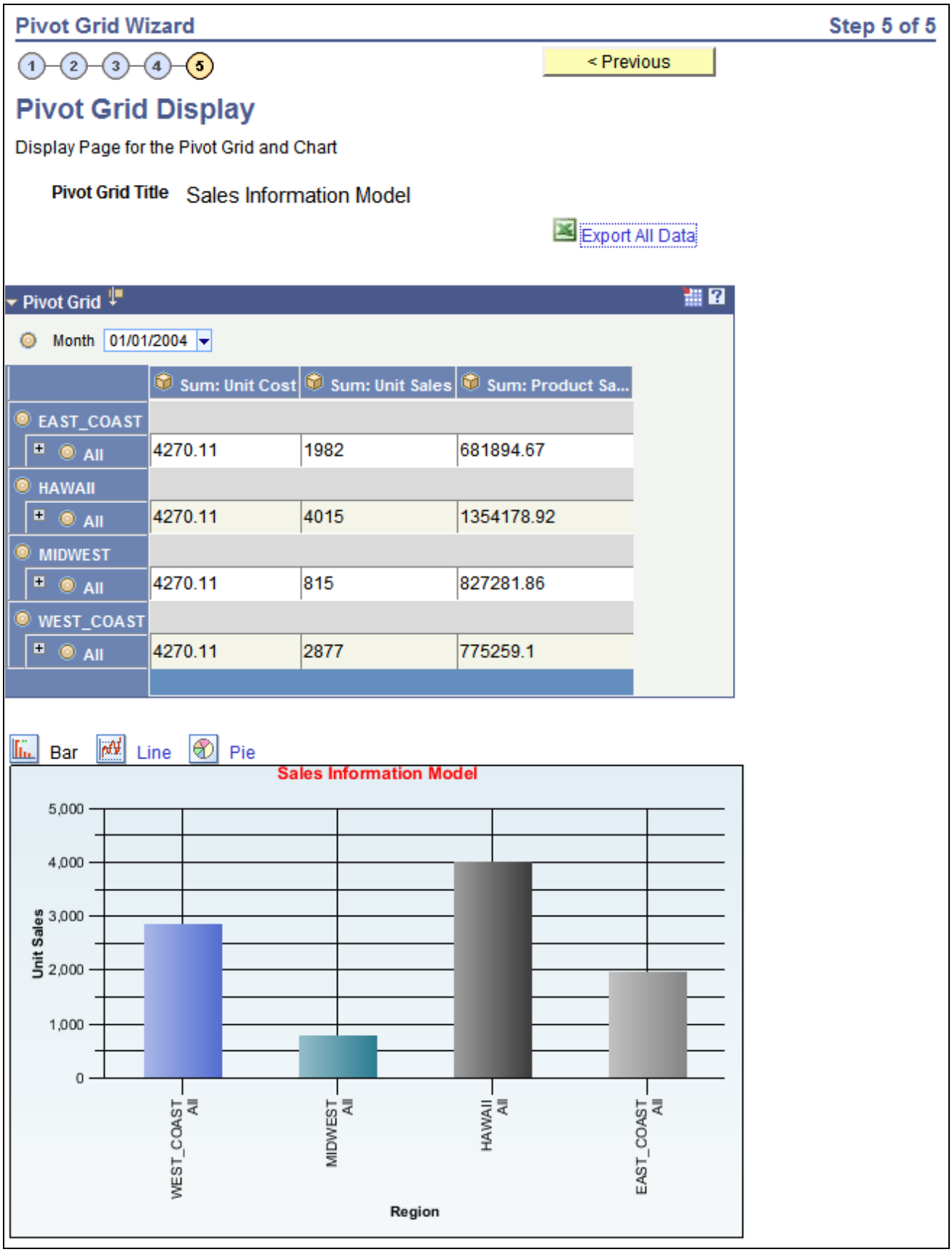
Chart Options section

Chart Title	Enter a title for your chart. By default, the Pivot Grid model name is used.
Chart Type	All PeopleSoft chart types are supported.
X-Axis Label	Enter a label for the X axis. By default, the field name for the X axis is used.
X-Axis Label Angle	Enter an angle for the axis. If this field is left blank, the default angle of the vertical text is 90 degrees.
Y-Axis Label	Enter a label for the Y axis. By default, the field name for the Y axis is used.
Y-Axis Label Angle	Enter an angle for the axis. If this field is left blank, the default angle is 45 degrees.
Advanced Options	Define display options for the chart, including rotation angle, chart legend, and height and width of the chart.
Next	Click to advance the wizard to the next page.

Viewing Pivot Grid Displays

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

This example shows the Pivot Grid Display page:



Pivot Grid Display page

Use the Pivot Grid Display page to preview of the Pivot Grid model based on the display option and layout that you 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. 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.

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 section provides some examples of data sources designed to:

- Use a filter.
- Use multiple filters.
- Use a series.
- Use an overlay.

Using a Filter

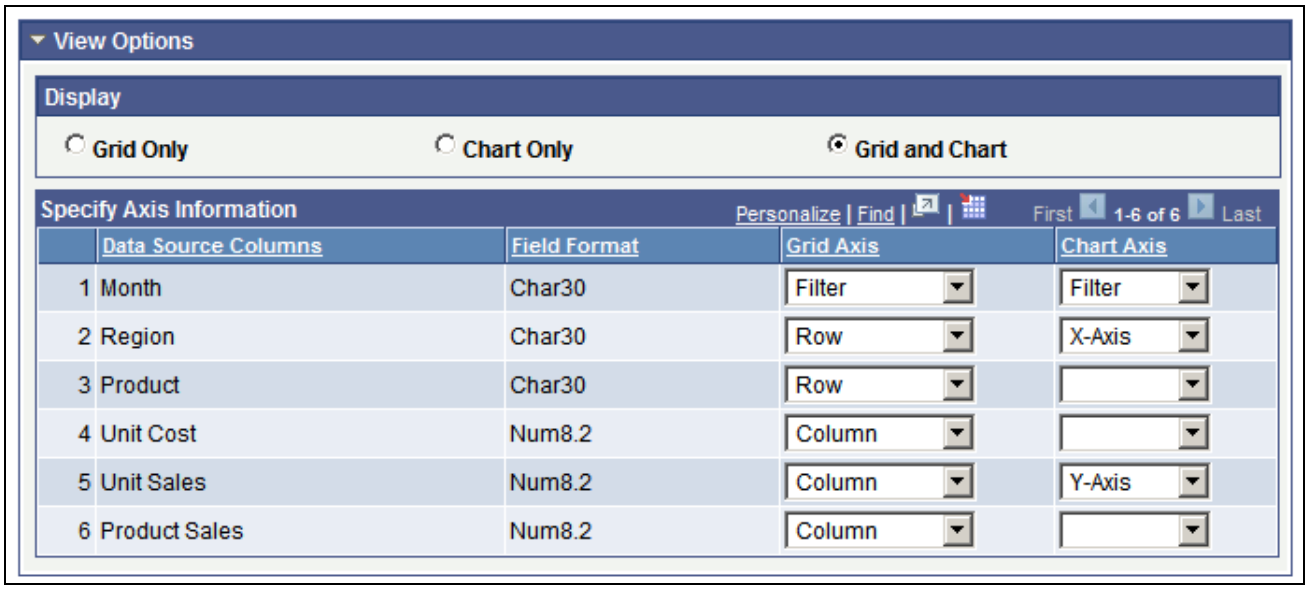
In this example, all the axis columns have Total enabled.

Select Data Source Information | First 1-6 of 6 Last

Data Source Columns	Field Format	Column Type	Total	Aggregate Functions
Month	Char30	Axis	☑	
Region	Char30	Axis	☑	
Product	Char30	Axis	☑	
Unit Cost	Num8.2	Value	☐	Sum
Unit Sales	Num8.2	Value	☐	Sum
Product Sales	Num8.2	Value	☐	Sum

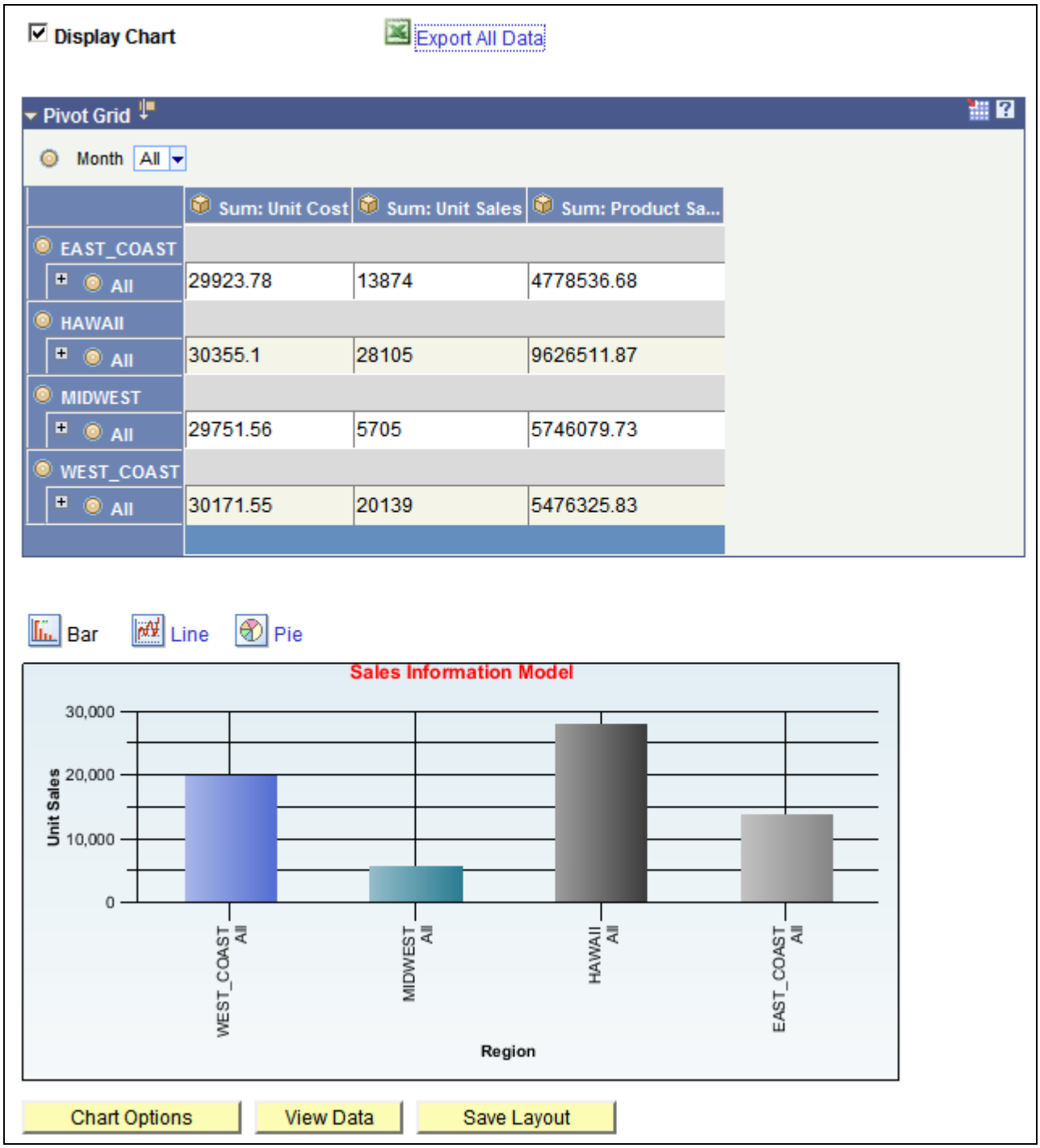
All axis columns have Total selected

On the Data Source page, Month is defined as a filter:



Example of filtering on Month

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



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

Note that:

- You can change the grid layout at runtime by dragging members onto a different axis.

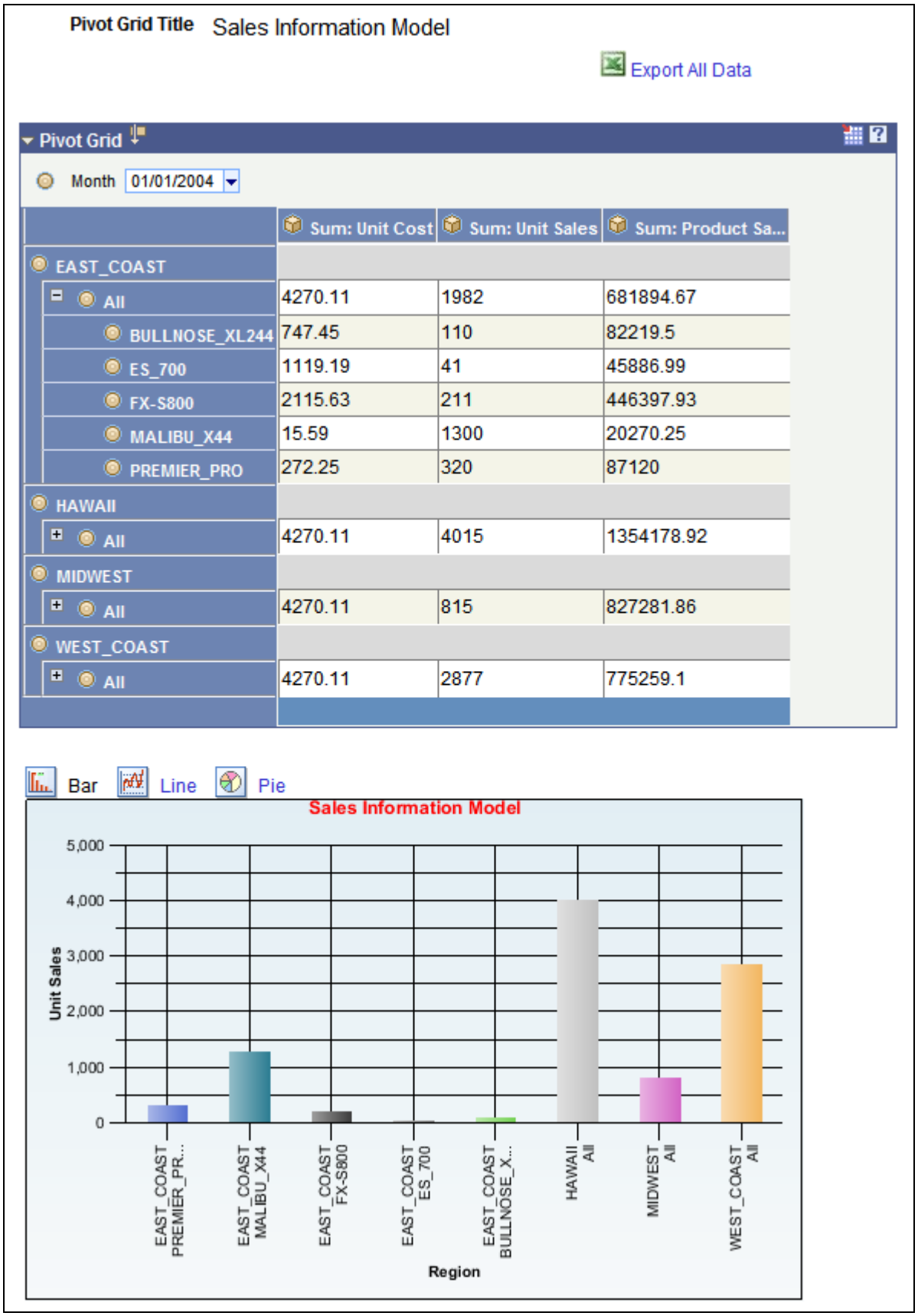
  The chart layout also changes based on the grid layout to preserve synchronization between the grid and the chart.

- Click the Chart Options button to change the chart type and the Y axis of the chart.

Drilling Down on a Region

The Pivot Grid displays detailed data based on the region on which a drilldown 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.

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

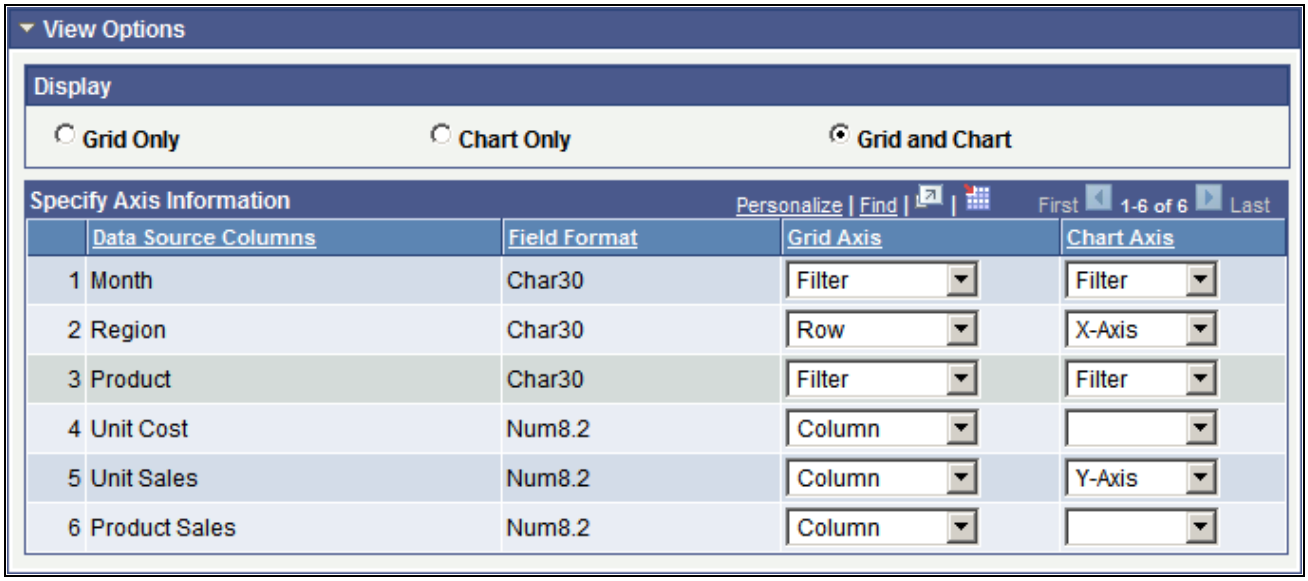


Example of a Pivot Grid model when the display option is Grid and Chart and the user drilled down on a

region

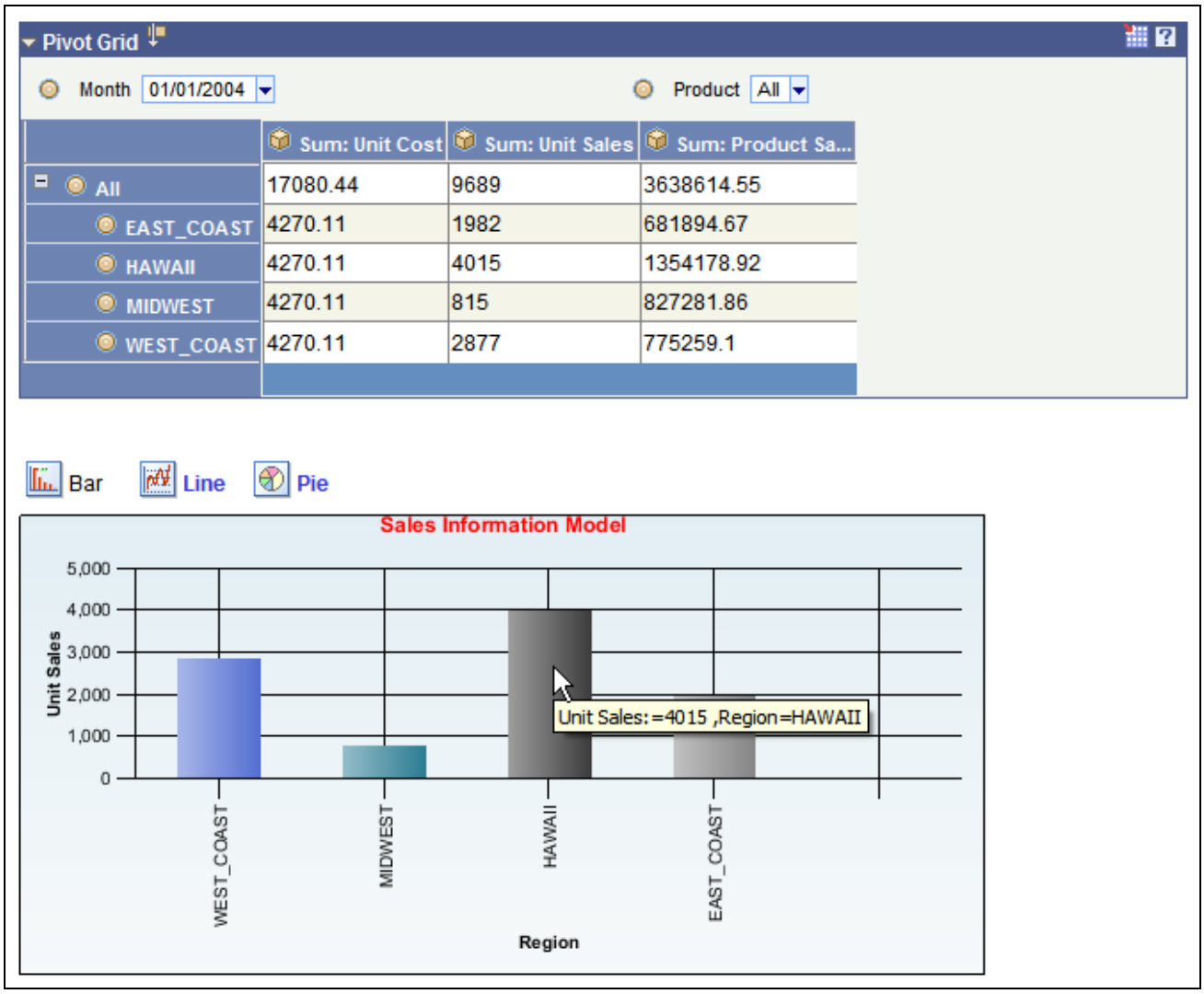
Using Multiple Filters

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



Data model with multiple 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.

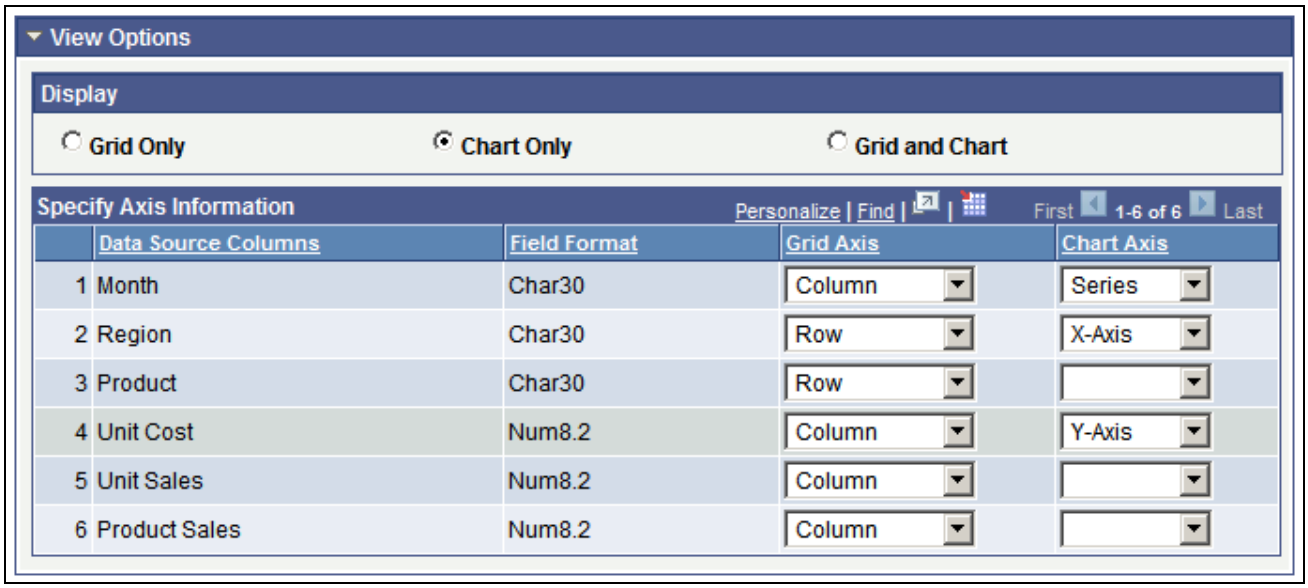


Example of Pivot Grid with Month and Product fields as report filters

Using a Series

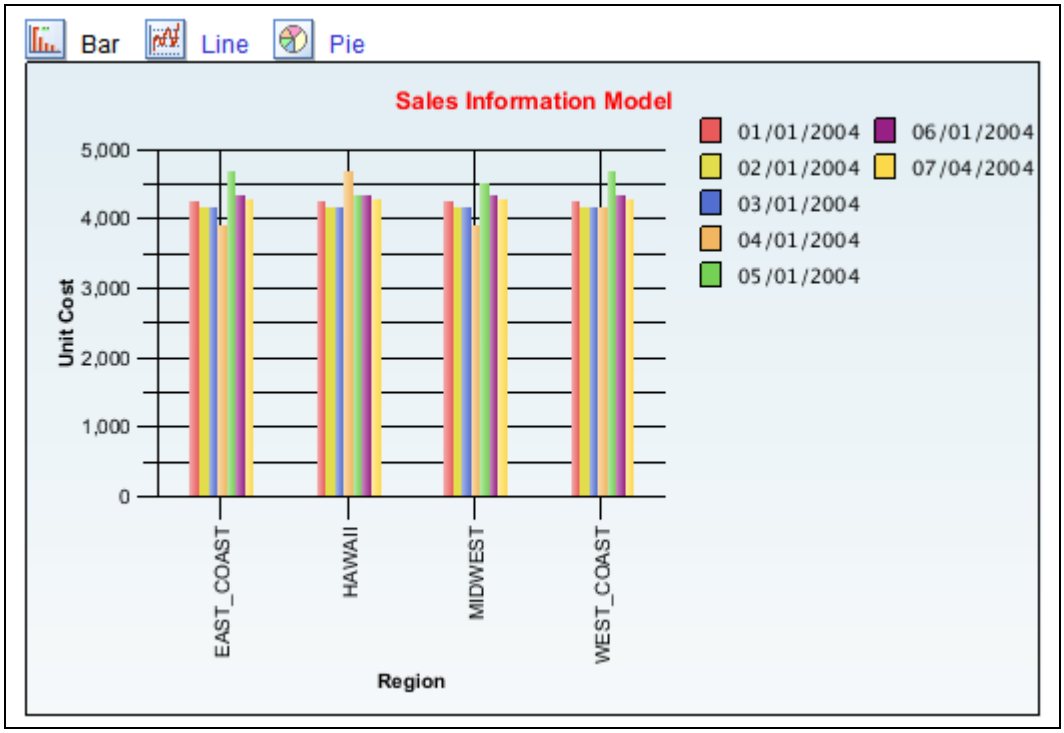
Series value is automatically determined for the chart when the display option is *Grid and Chart.* The automation is dependant on the grid layout; if any dimension (axis type) is selected on the column, then it is automatically selected as a series for the chart.

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:



Using Month for a series

This example shows the chart with detailed data based on the Month field:

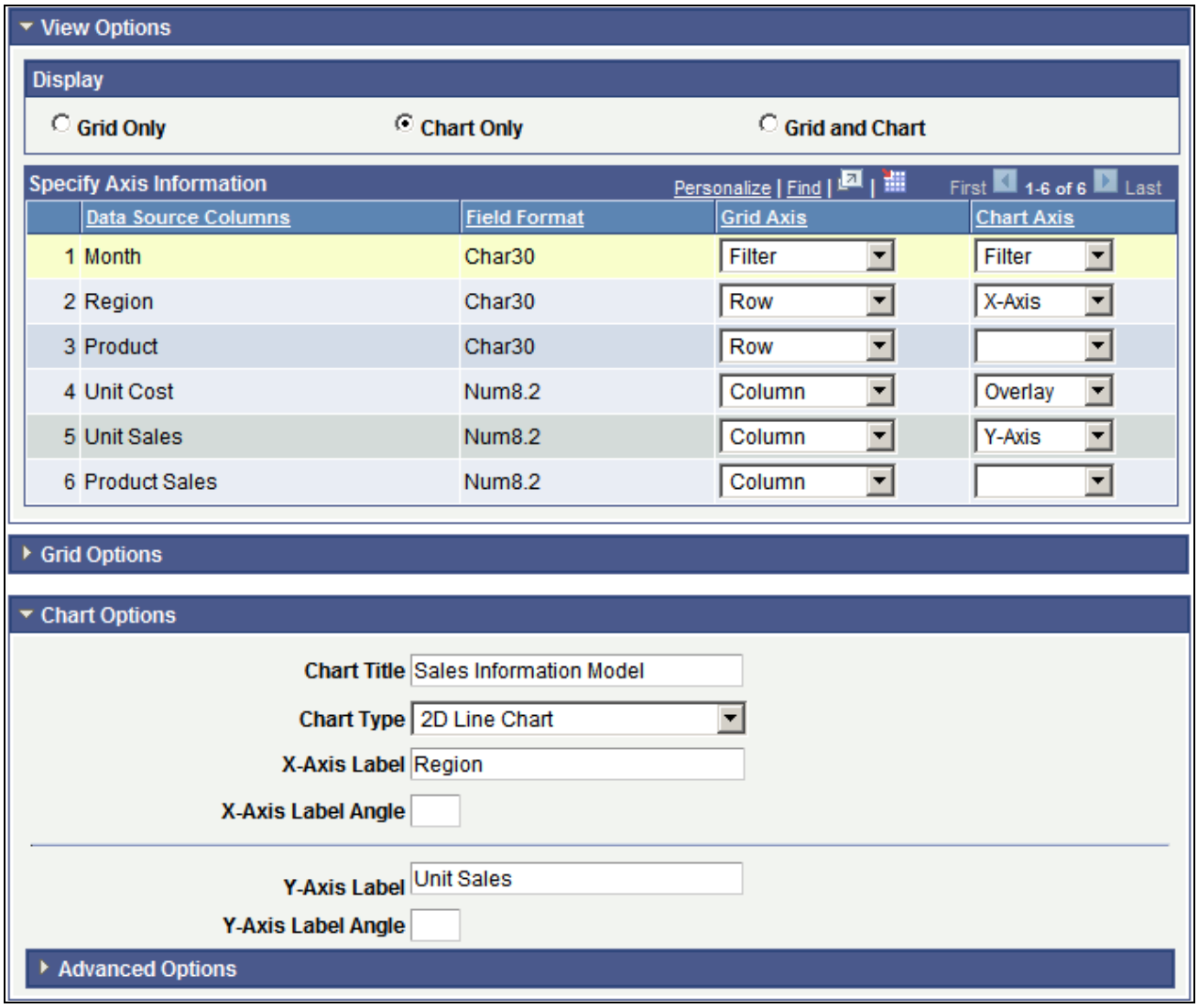


Months displayed as a series on a chart

Using an Overlay

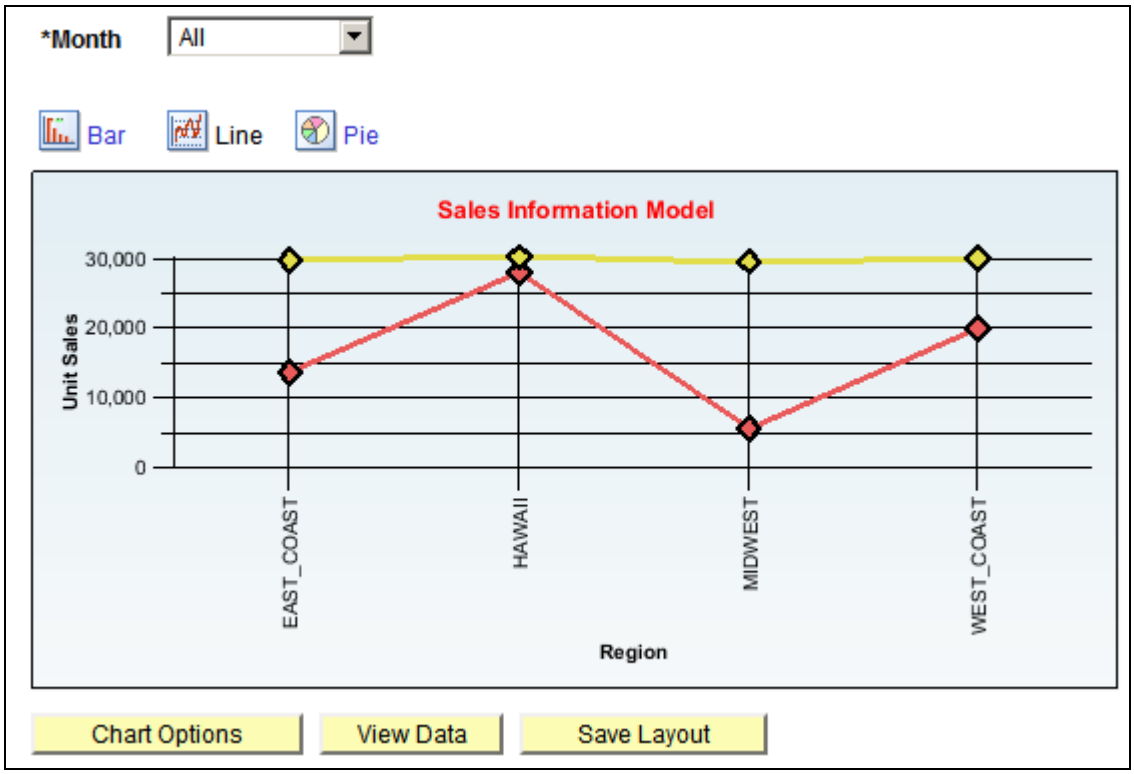
If the display option is *Chart Only,* selecting a column as an overlay field results in plotting multiple charts based on the Y axis and the overlay field. In this example, Unit Cost is used as an overlay field.

Note. In PeopleTools 8.52, chart overlay is not available when the display option is *Grid and Chart.*



Example using 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.



Initial display for overlay

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

Updating a Pivot Grid Model Using the Pivot Grid Wizard

This section discusses how to update a Pivot Grid model using the Pivot Grid wizard.

Steps Used to Update 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.
4. Preview the changes on the last page of the wizard.
5. Save the Pivot Grid model.

   The Pivot Grid model metadata is saved to the database.

Chapter 5

Using Pivot Grid Viewer

This chapter provides an overview of Pivot Grid Viewer, discusses how to view a Pivot Grid model using the Pivot Grid Viewer, and provides examples of viewing a Pivot Grid model using the 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, drilldown can be performed by clicking the chart. If the display option is Grid and Chart, drilldown 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.

  This table lists the attributes that can be view options and that can be customized by users:

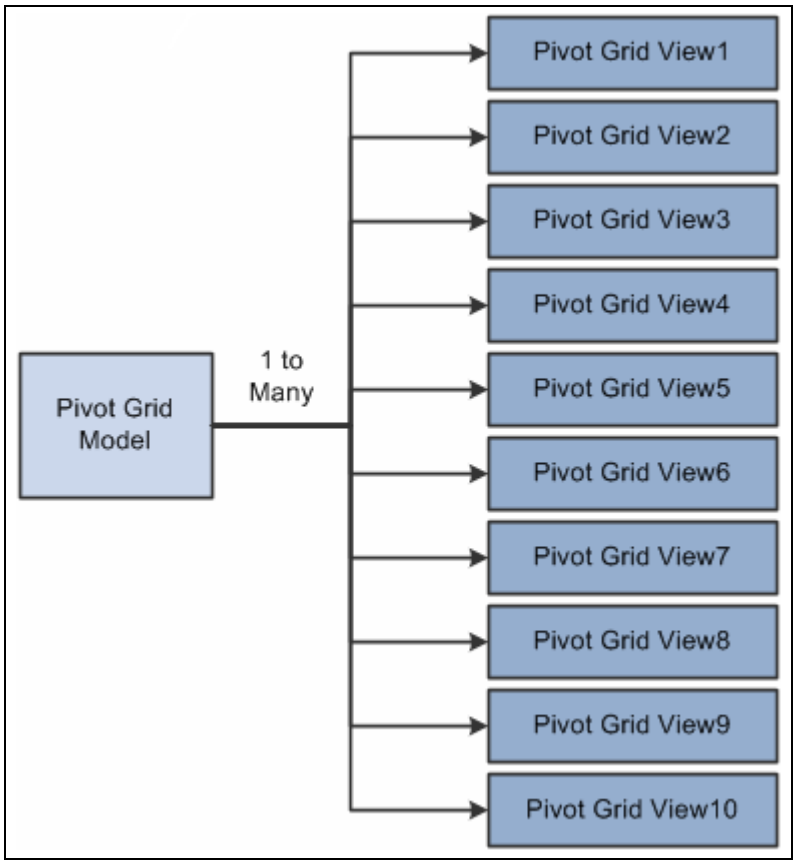
Attribute	*View Option*	*User Preference*
Pivot Grid core (including axis, values, aggregation functions, and All members).	No	No
Pivot Grid display option (including Grid, Chart, or Grid and Chart).	Yes	No
Grid Display Options (including Collapsible Data Area, expanded or collapsed Initial Grid View, 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

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 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.

This diagram shows Pivot Grid view options:



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.

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: Grid and Chart, Grid Only, or Chart Only.

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

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

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

   The Pivot Grid Viewer page appears with three filter options: Pivot Grid Name, Pivot Grid Data Source Name, and Pivot Grid Data Source Type.

2. Optionally, enter the filter options and perform the search.

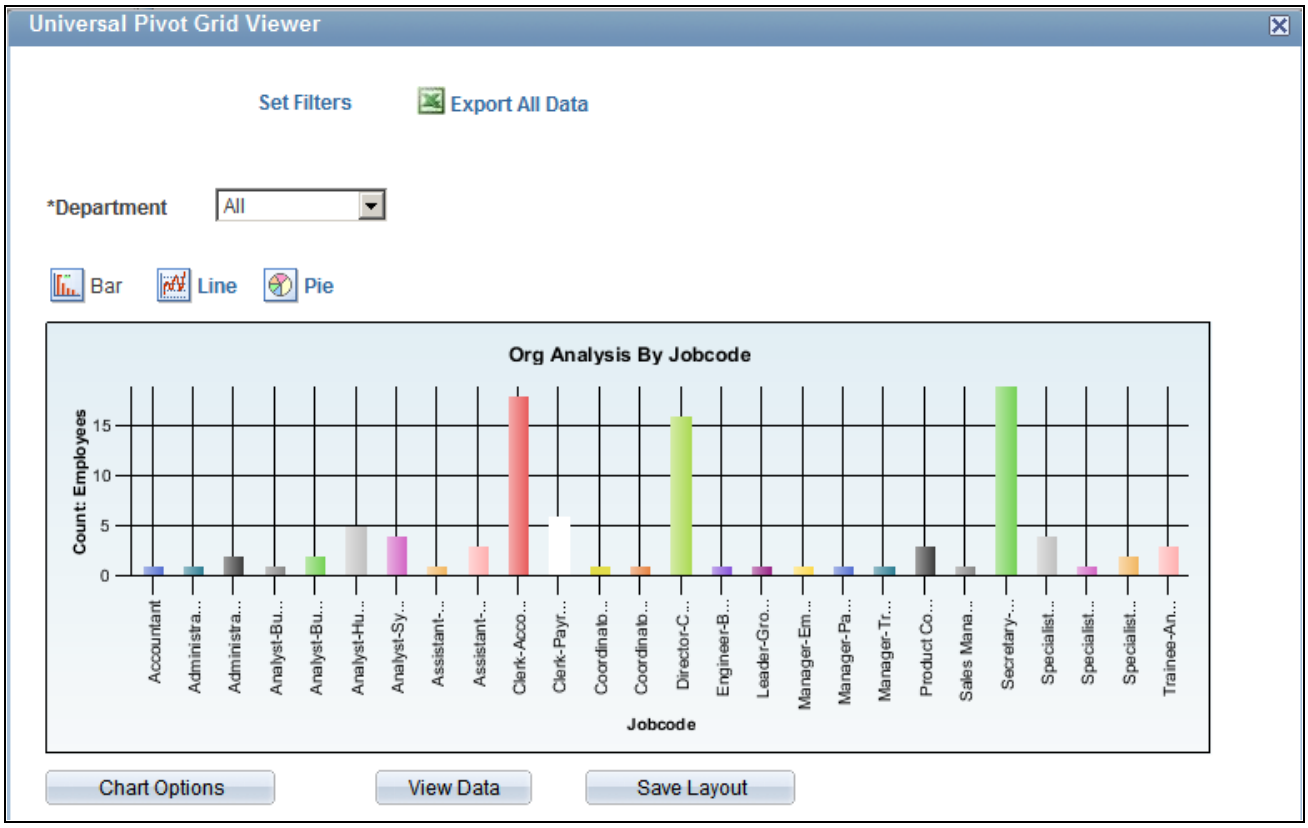
   All the available and accessible Pivot Grid models are listed. Invalid Pivot Grid models are not listed for this search.

   Note. In PeopleTools 8.52, Pivot Grid supports only PSQuery data source and PSQuery type.

3. Select a Pivot Grid model for viewing.
4. On the Pivot Grid Viewer page, view the Pivot Grid model with different options.

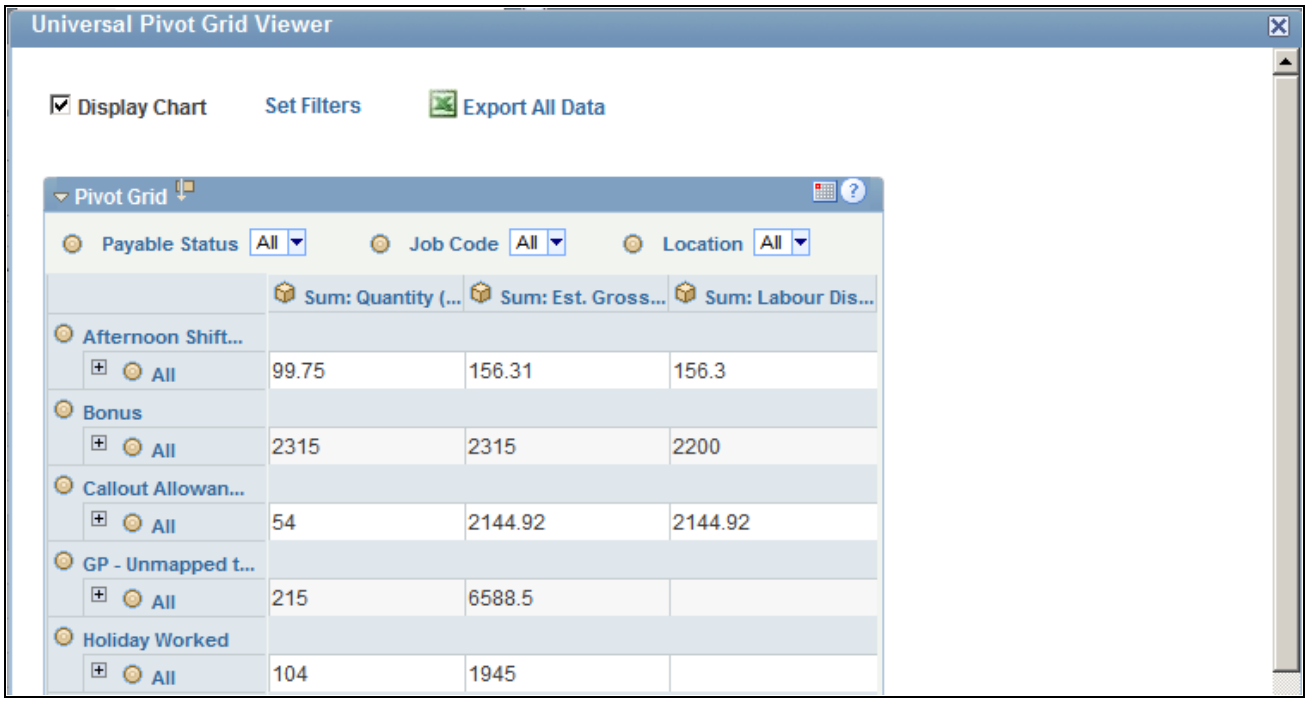
   The Pivot Grid model appears with the grid, chart, or both based on the display option selected.

This example shows the Pivot Grid Viewer page with the default display of Chart Only:



Pivot Grid Viewer page displaying chart only

This example shows the Pivot Grid Viewer page with the default display of Grid Only:



Pivot Grid Viewer displaying grid only

Display Chart	The Pivot Grid model appears with the grid, chart, or both based on the Display Chart option selected.
Set Filters	Click to open the Datasource Prompts dialog box, where you can change the values for Query prompts.
Export All Data	Click to export the underlying PSQuery data to Microsoft Excel.
Pivot Grid	You can change the grid layout at runtime by dragging members to a different axis.
	Click the Collapse Filter Bar icon to collapse or expand the section that displays the Pivot Grid filter options.
	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 Help for Drag and Drop icon to display help information for drag-and-drop functionality in the pivot grid.
	The axis icon is used to drag and drop the axis to row, column or filter. The axis name is displayed next to this icon when it is in filter. The axis member name is displayed next to this icon when in row or column. The axis name/axis member name in the grid is truncated when it is more than 15 characters. If you place the mouse on the axis icon, the axis name or axis member name is fully displayed.

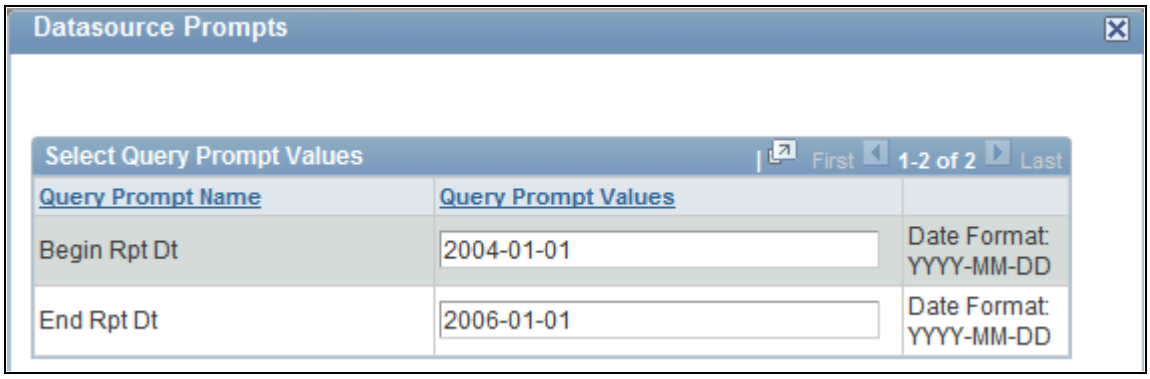
	The value icon is used to drag and drop the values to row, column, or filter. The value name appears next to this icon when in row or column. The value name doesn't appear next to this icon when it is in filter. The value name in the grid is truncated when it is more than 15 characters. If you place the mouse on the axis icon, the value name is fully displayed.
	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.
Chart Options	Click to open the User Charting Options dialog box, where you can change the chart layout, chart axis, 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. See Chapter 5, "Using Pivot Grid Viewer," Using the Chart Options, page 73.
View Data	Click to open the Pivot Grid Chart Data dialog box, where you can view the data that is being plotted. **Note.** You can change PSQuery runtime prompt values.
Save Layout	Click 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, the filter values, and PSQuery prompt values are also saved as preferences.

Setting Filters

Open the Datasource Prompts dialog box by clicking the Set Filters link on the Pivot Grid Viewer page.

Use the Datasource Prompts dialog box to change the values for Query prompts.

This example shows the Datasource Prompts dialog box:



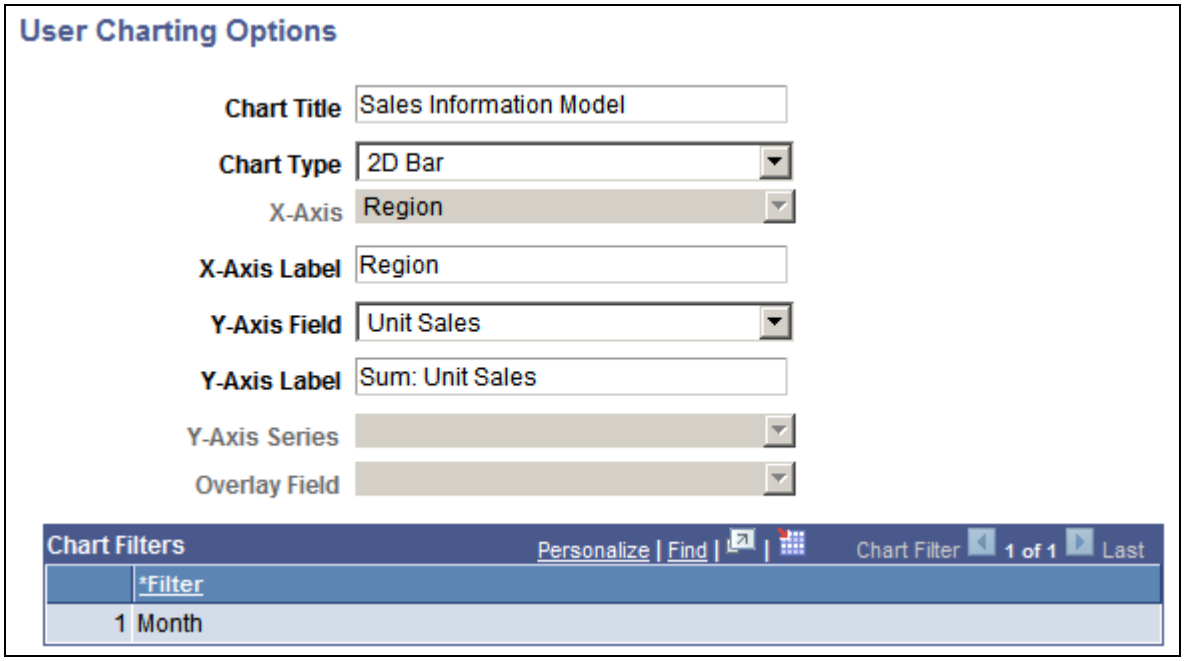
Example of Datasource Prompts dialog box

Using the Chart Options

Open the User Charting Options dialog box by clicking the Chart Options button on the Pivot Grid Viewer page.

Use the User Charting Options dialog box to change the chart layout, chart axis, and filters.

This example shows the User Charting Options dialog box when the display option is Grid and Chart:



User Charting Options dialog box when the display option is Grid and Chart

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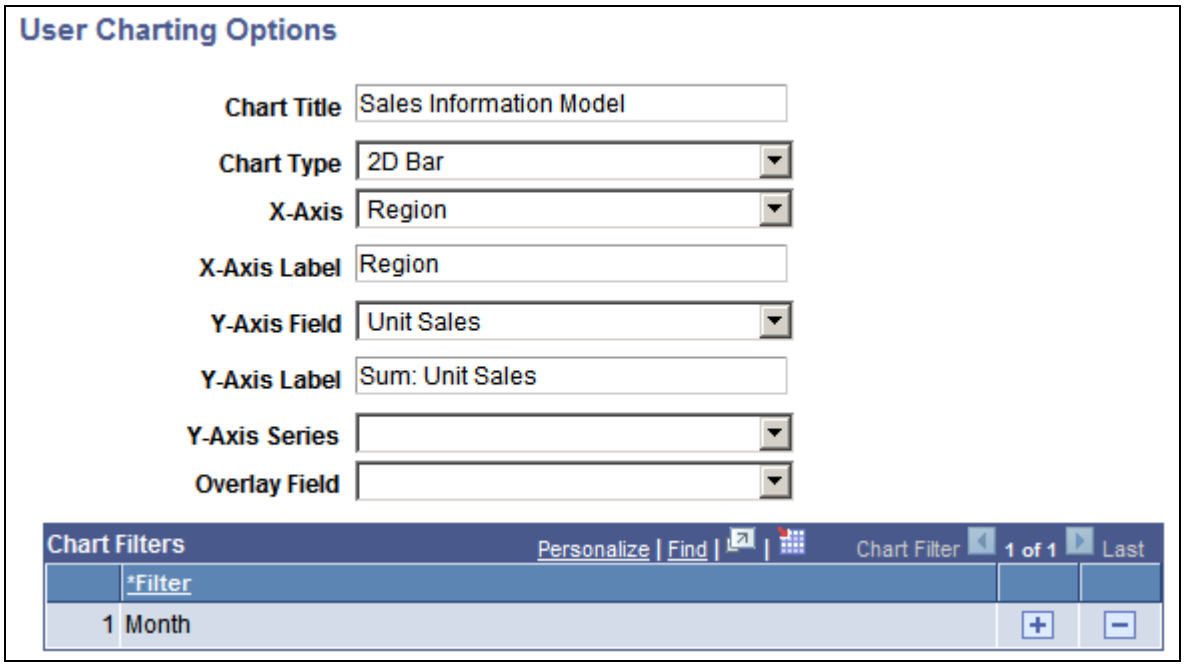
Note. The X Axis,Y-Axis Series,Overlay Field, and Chart Filters fields in the User Charting Options dialog box are not editable if the display option is *Grid and Chart.*

This example show the User Charting Options dialog box when the display option is Chart Only:



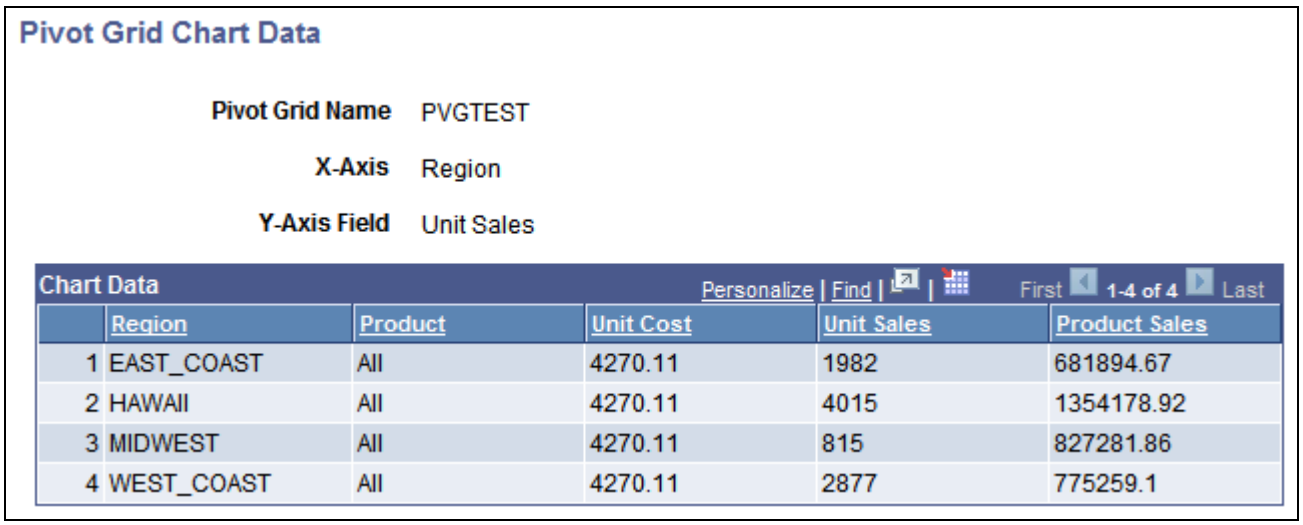
Example of the User Charting Options dialog box when the display option is Chart Only

Viewing Chart Data

Open the Pivot Grid Chart Data dialog box by clicking the View Data button on the Pivot Grid Viewer page.

Use the Pivot Grid Chart Data dialog box to view the data that is being plotted.

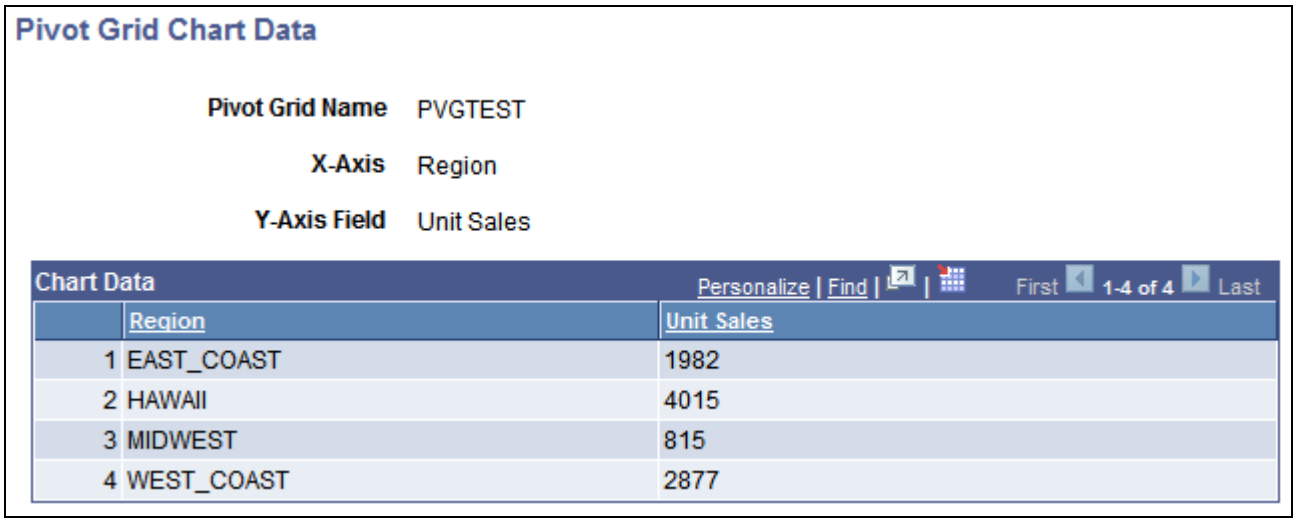
This example shows the Pivot Grid Chart Data dialog box when the display option is Grid and Chart:



	Region	Product	Unit Cost	Unit Sales	Product Sales
1	EAST_COAST	All	4270.11	1982	681894.67
2	HAWAII	All	4270.11	4015	1354178.92
3	MIDWEST	All	4270.11	815	827281.86
4	WEST_COAST	All	4270.11	2877	775259.1

Example of the Pivot Grid Chart Data dialog box when the display option is Grid and Chart

This example shows the Pivot Grid Chart Data dialog box when the display option is Chart Only:



Example of the Pivot Grid Chart Data dialog box when the display option is Chart Only

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 this table:

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 Grid and Chart

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

The initial grid layout has:

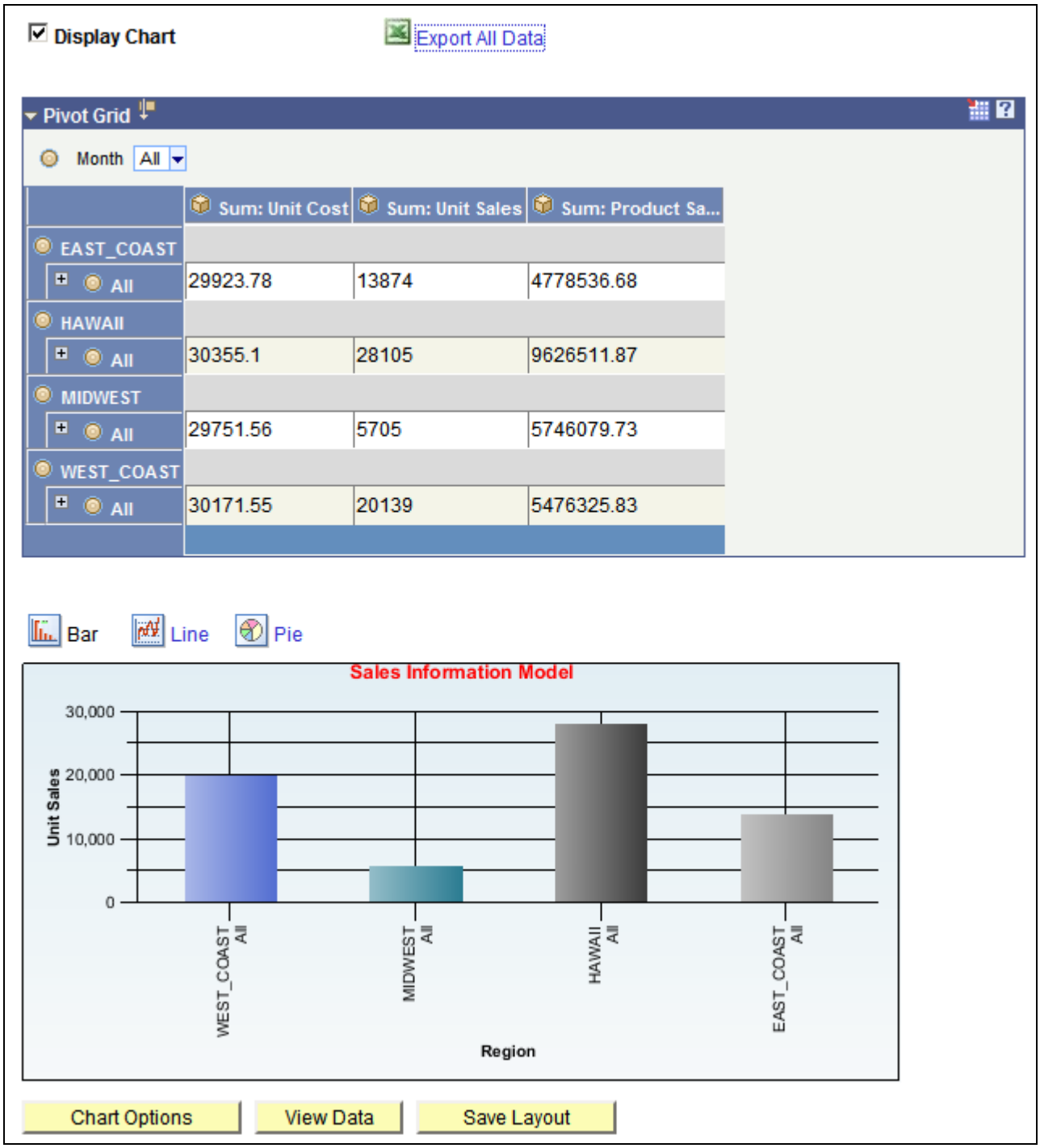
- Row axis is Region and Product.

- 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.
- Report Filter Field is Month.

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



Example of a Pivot Grid model when the display option is 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.

Drilling Down on a Region

The Pivot Grid displays detailed data based on the region on which the drilldown 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.

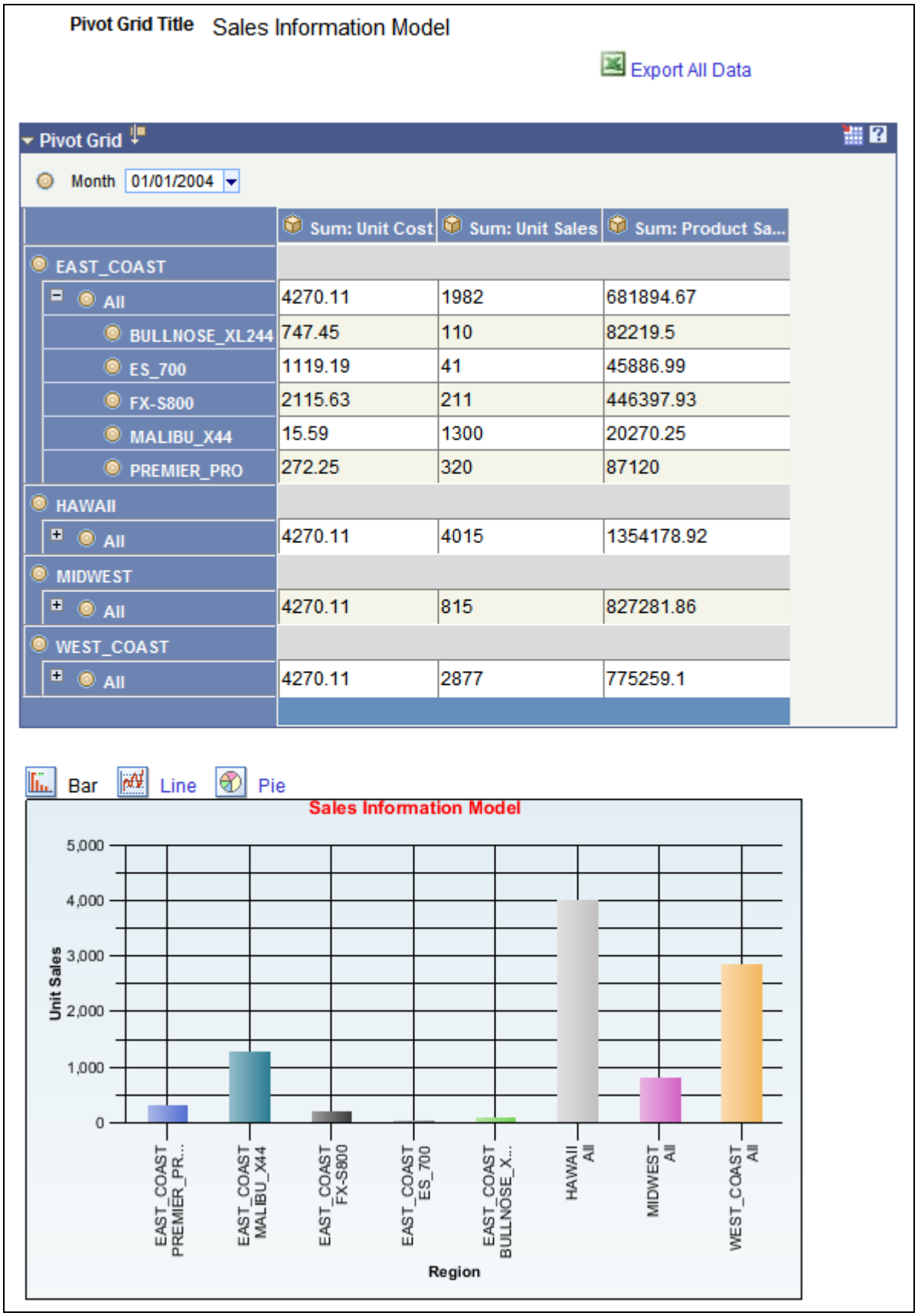
The pivot grid has:

- 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.
- Series field is Product.

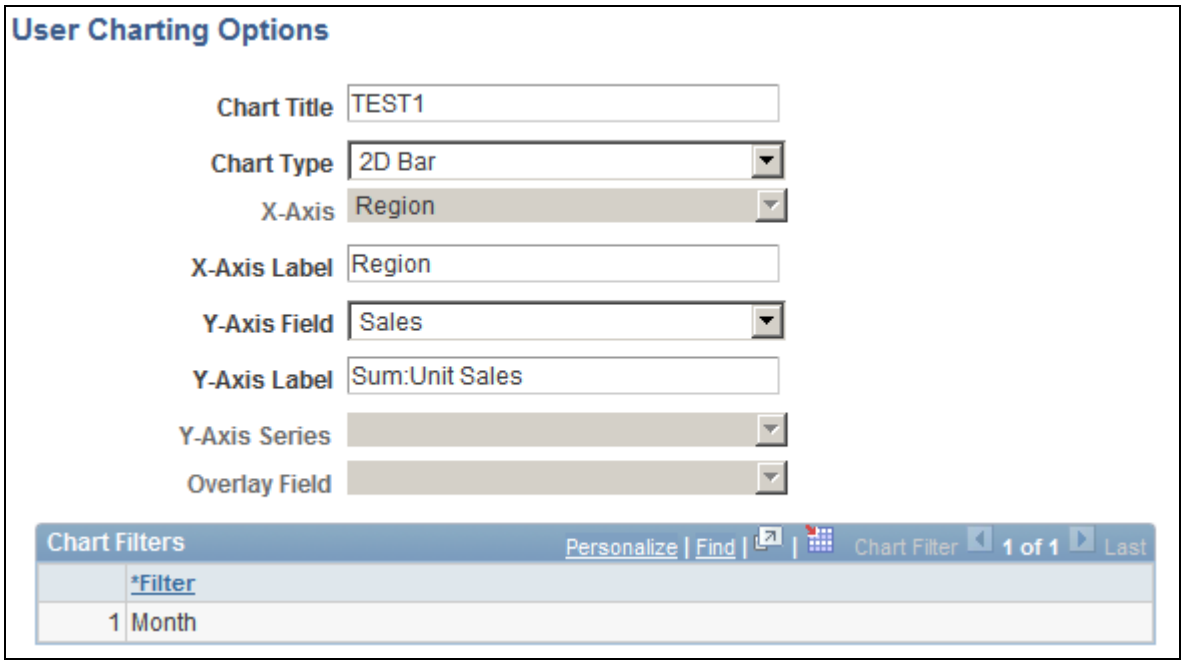
This example shows a Pivot Grid model when the display option is Grid and Chart and drilldown was on a region:



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

Changing Chart Options

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



User Charting Options dialog box

Changing Filters

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

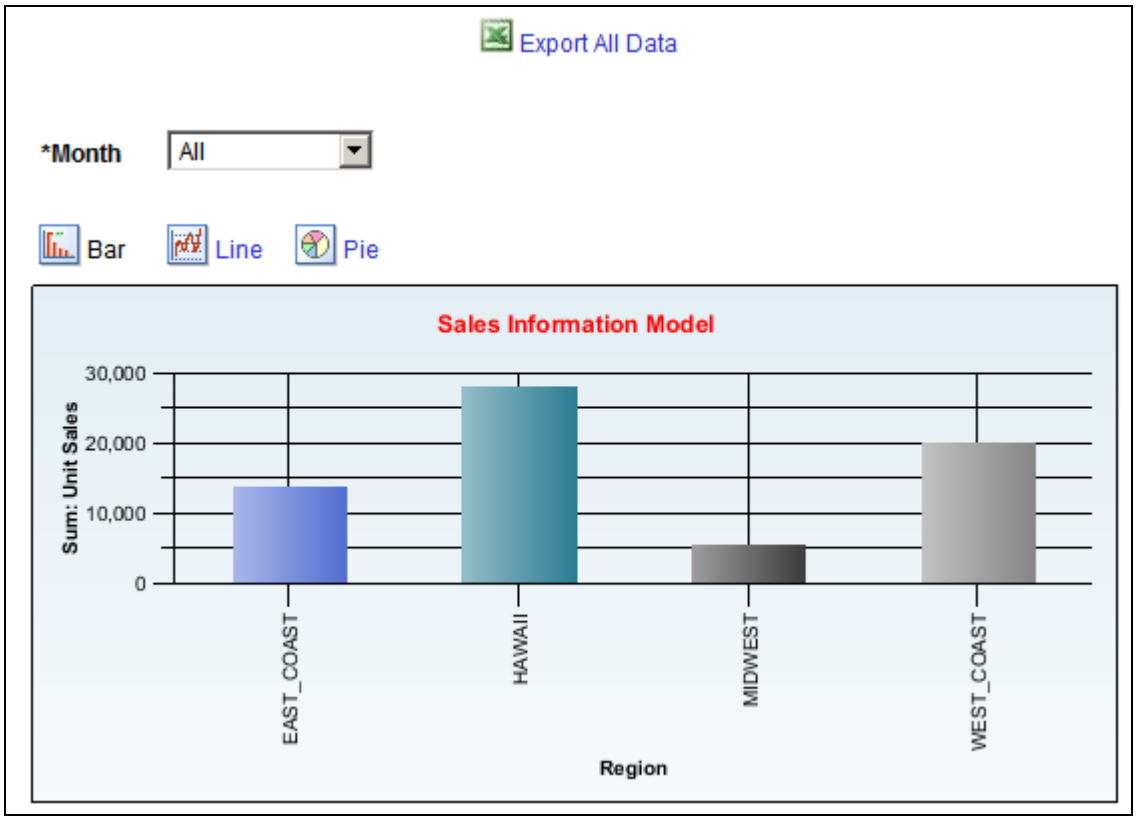
To remove a filter, place the cursor on the circle for the filter listed on the top part of the grid and drag it to back to the lefthand column.

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:

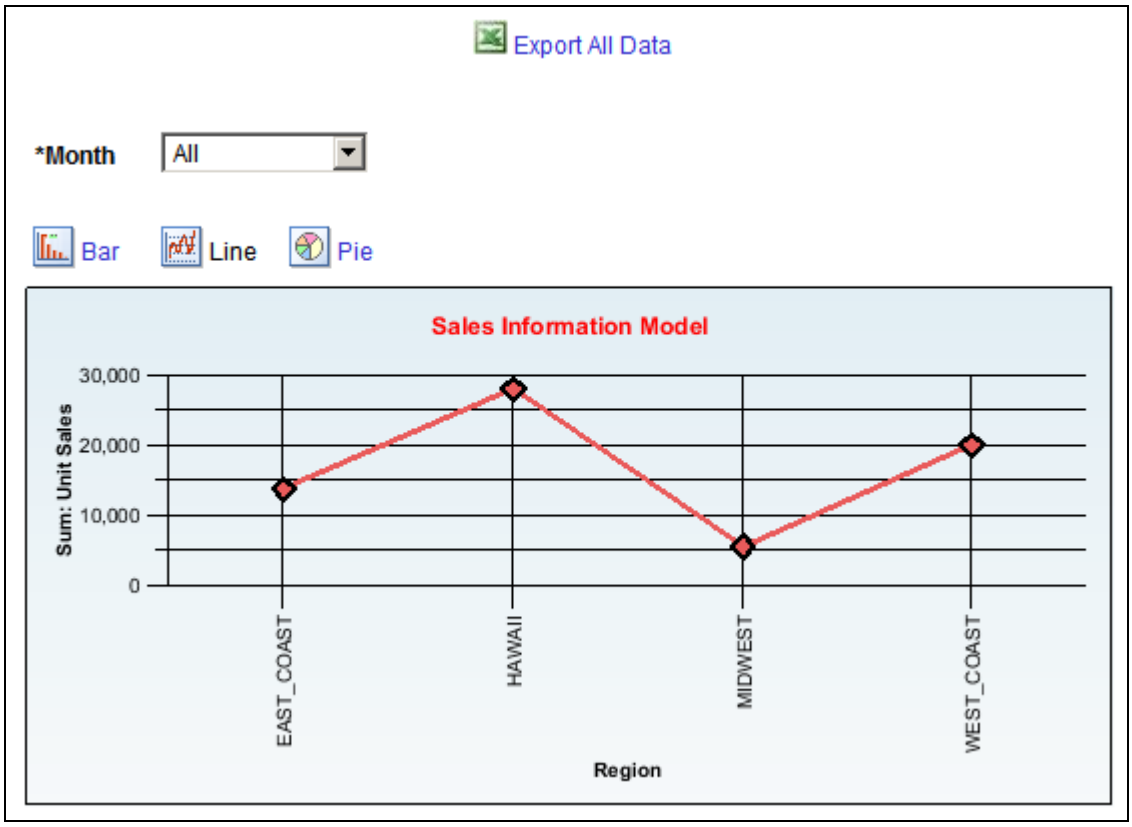
- X axis is Region.
- Y axis is Unit Sales.
- Report filter is Month.

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



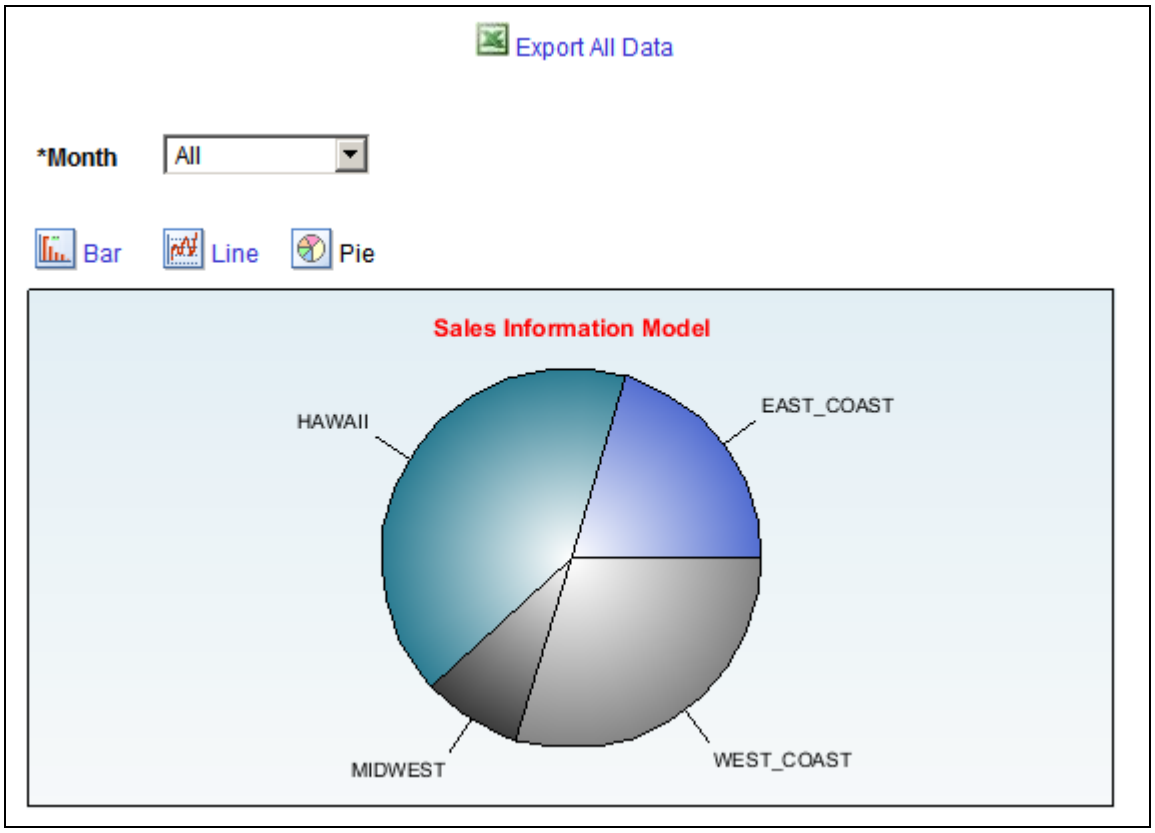
Initial view of a Pivot Grid model in bar chart format when the display option is Chart Only

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



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 pie chart format when the display option is Chart Only:



Initial view of a Pivot Grid model in pie 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, or click the line for a line chart) and the drilldown dialog box appears:

Drill Down On dialog box

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*.

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.

This example shows a Pivot Grid model when the display option is Chart Only and drilldown was on a Region:

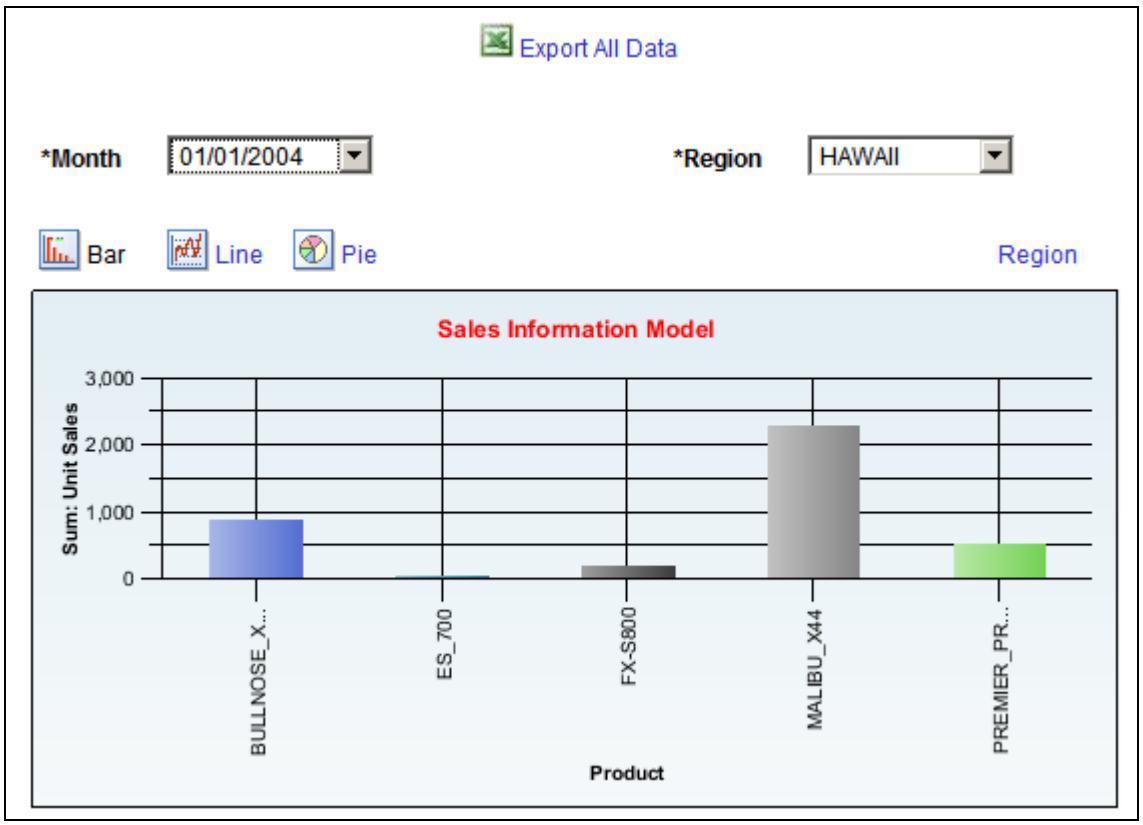


Chart with drilldown for Product and locator link for Region

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

The chart shows each product with a legend:

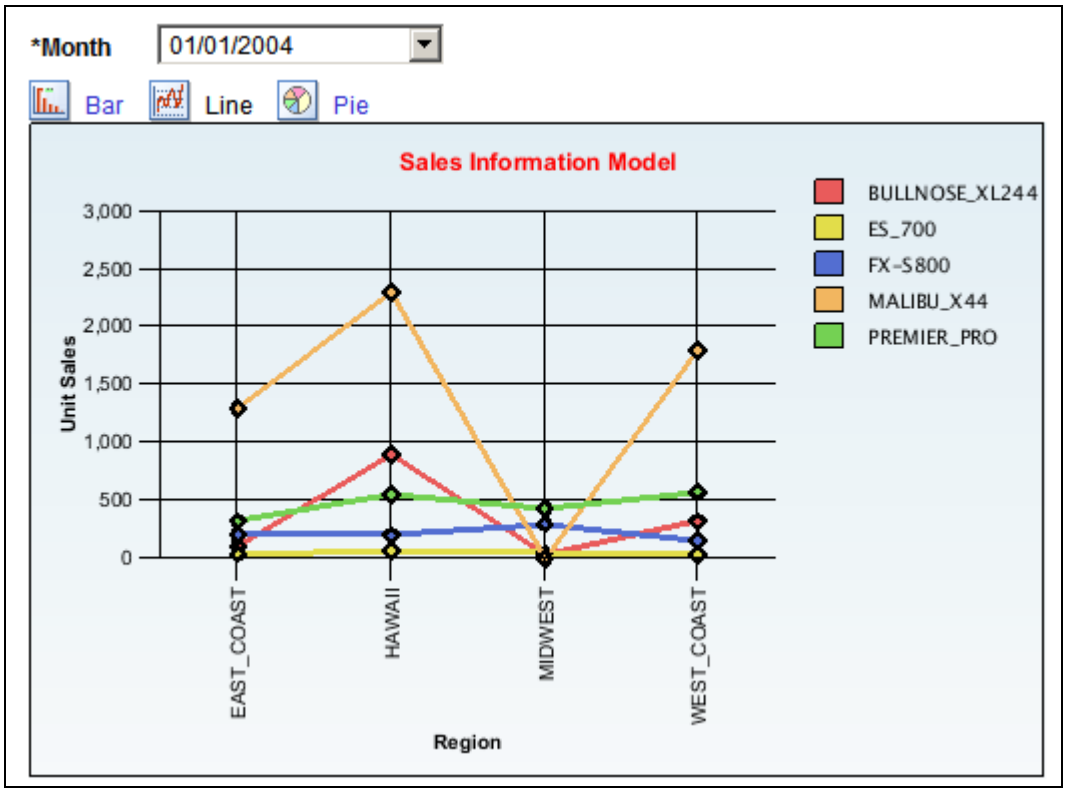


Chart display using a series on the Product field

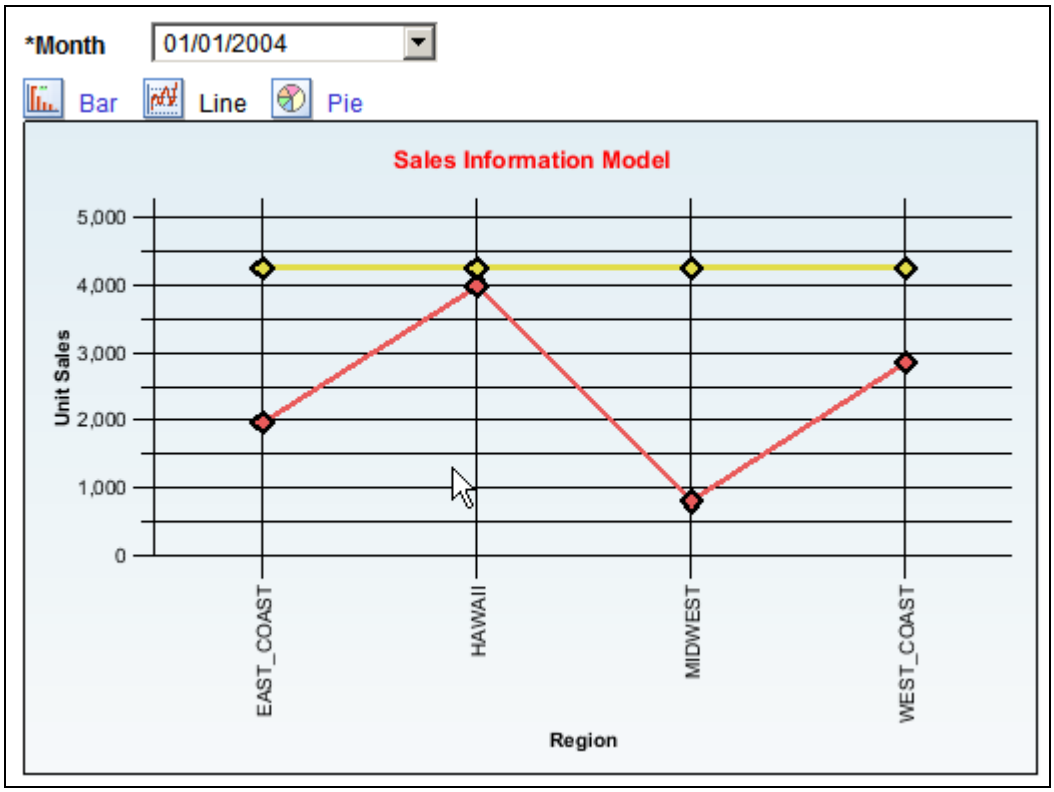
Selecting an Overlay Field

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 Sales.
- Overlay field is Unit Cost.

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



Example chart with the Region field as the X axis, the Unit Sales field as the Y axis, and Unit Cost 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.

Chapter 6

Creating and Viewing a Pivot Grid Pagelet Using the Pagelet Wizard

This chapter provides an overview of the Pivot Grid pagelet and discusses how to:

- Create a new Pivot Grid pagelet using the Pagelet Wizard.
- View an existing Pivot Grid homepage pagelet.

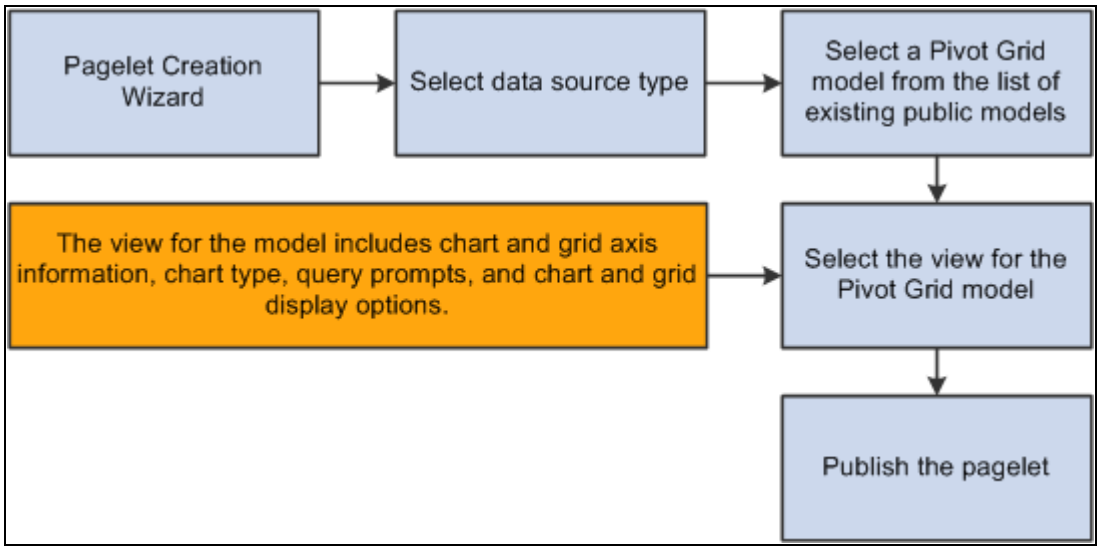
Pivot Grid Pagelet Overview

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 all changes are properly displayed in the Pivot Grid Viewer and Pivot Grid pagelets.

Pagelet Creation

This diagram shows the pagelet creation process flow:



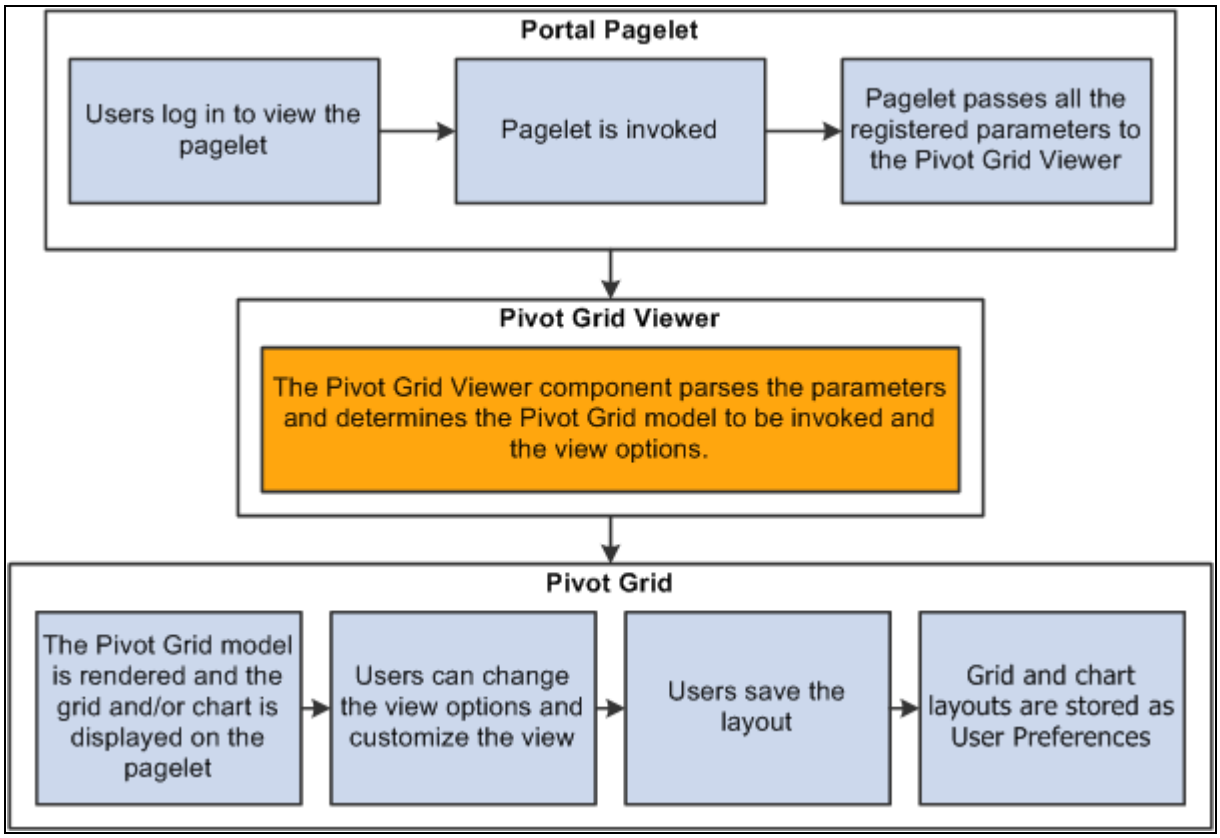
Pagelet creation process flow

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.
- Publish the pagelet.

Pagelet Viewing

This diagram shows the flow for viewing a Pivot Grid pagelet:



Pagelet viewing process flow

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.

Creating a New Pivot Grid Pagelet Using the Pagelet Wizard

This section discusses how to:

- Specify pagelet information.
- Select a data source.
- Specify data source parameters.
- Select a display format.
- Specify display options.
- Specify publishing options.

Pages Used to Create a New Pivot Grid Pagelet Using Pagelet Wizard

Page Name	*Definition Name*	*Navigation*	*Usage*
Specify Pagelet Information	PTPPB_WIZ_INFO	PeopleTools, Portal, Pagelet Wizard, Pagelet Wizard	Enter the pagelet title and other pagelet information.
Select Data Source	PTPPB_WIZ_DATASRC	From the Specify Pagelet Information page, click the Next button.	Select the pagelet data source type that will be used for the pivot grid, and select the Pivot Grid model to be created as a pagelet.
Specify Data Source Parameters	PTPPB_WIZ_DATAPRMS	From the Select Data Source page, click the Next button.	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.
Pivot Grid Views	PTPG_VIEWOPTIONS	From the Specify Data Source Parameters page, click the Configure Pivot Grid Views link.	Configure different views for the selected Pivot Grid model.
Select Display Format	PTPPB_WIZ_DISPFRMT	From the Specify Data Source Parameters page, click the Next button.	Confirm the display format of the pagelet.
Specify Display Options	PTPG_PGVIEWER	From the Select Display Format page, click the Next button.	Define the display options of the pagelet, preview the Pivot Grid model, and view the pagelet that is selected.
Specify Publishing Options	PTPPB_WIZ_PUBOPT	From the Specify Display Options page, click the Next button.	Define the location, type, and security attributes for the pagelet and publish the pagelet.

Specifying Pagelet Information

Access the Specify Pagelet Information page by selecting PeopleTools, Portal, Pagelet Wizard, Pagelet Wizard.

This is an example of the Specify Pagelet Information page:

Specify Pagelet Information page

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.

Next

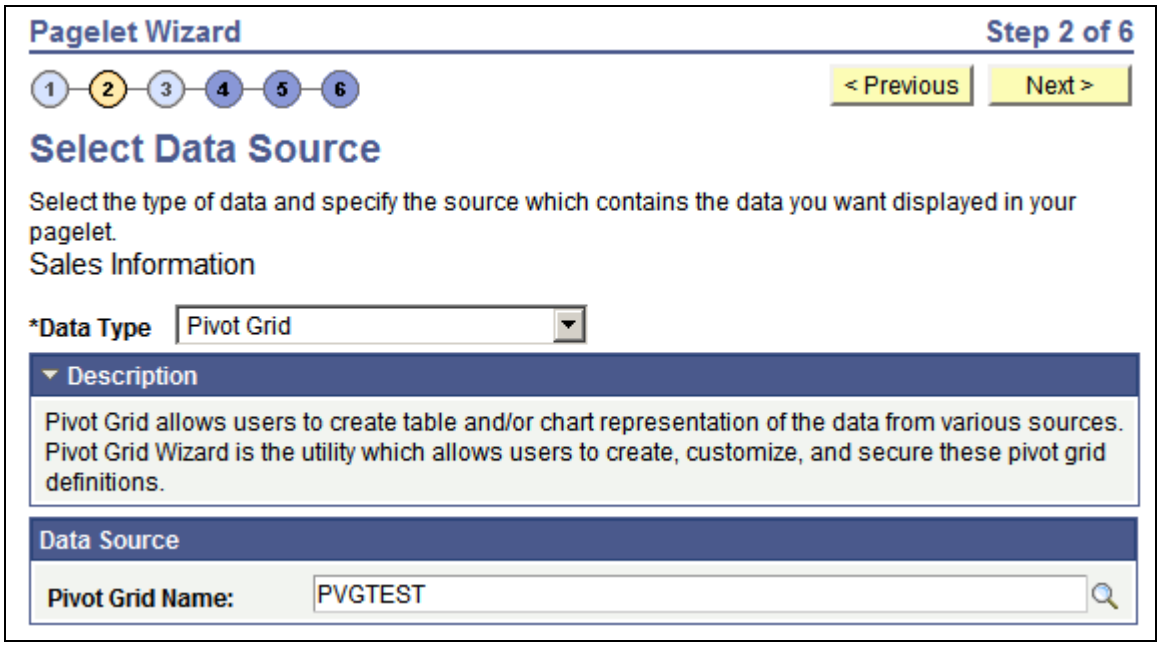
Note. The Next button is available after you enter the pagelet title in the Pagelet Title field and move the cursor to any other field.

Click to advance the wizard to the next page.

Selecting a Data Source

Access the Select Data Source page by clicking the Next button on the Specify Pagelet Information page.

This is an example of the Select Data Source page:



Select Data Source page

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

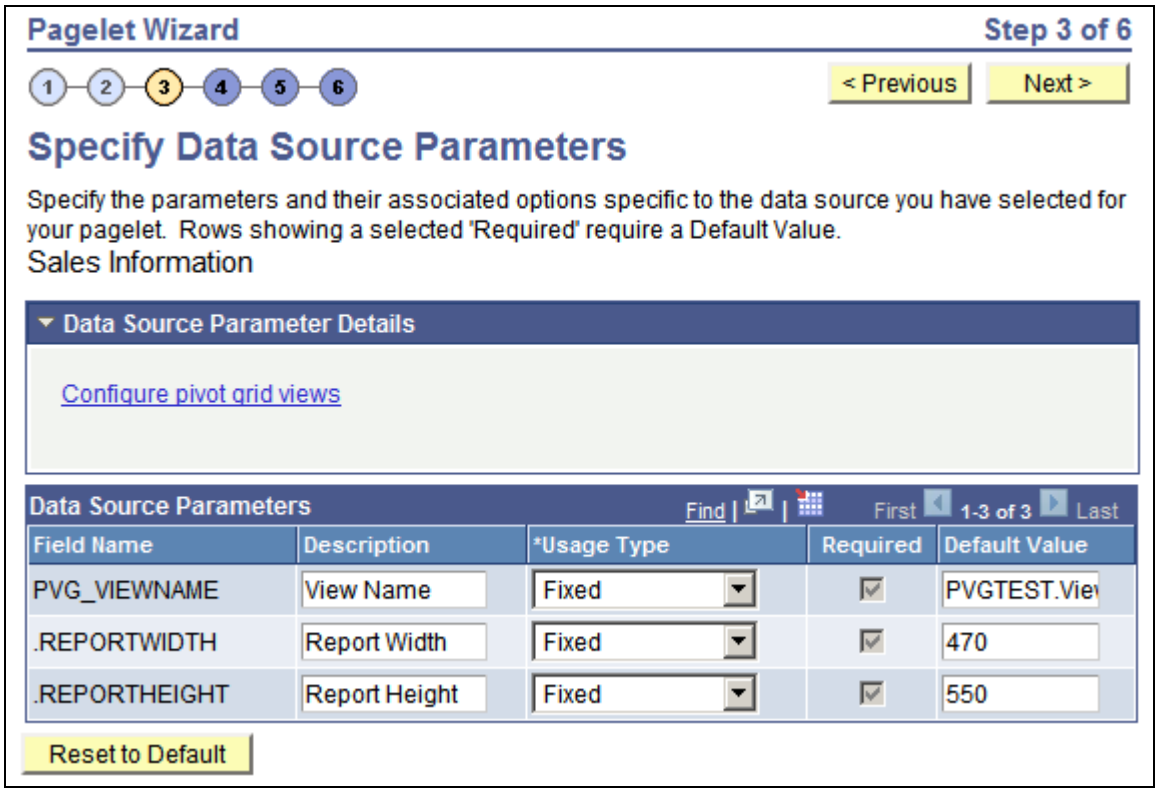
Note. The Next button is available after you select a pivot grid from the Pivot Grid Name field.

Click to advance the wizard to the next page.

Specifying Data Source Parameters

Access the Specify Data Source Parameters page by clicking the Next button on the Select Data Source page.

This is an example of the Specify Data Source Parameters page:



Specify Data Source Parameters page

Configure pivot grid views Click this link to open the Pivot Grid Views Component dialog box, where you can define pivot grid display options.

See Chapter 6, "Creating and Viewing a Pivot Grid Pagelet Using the Pagelet Wizard," Defining the Pivot Grid Display Options, page 94.

Description Enter a description for the pagelet.

Usage Type Select a usage type for your pivot grid. Available options are:

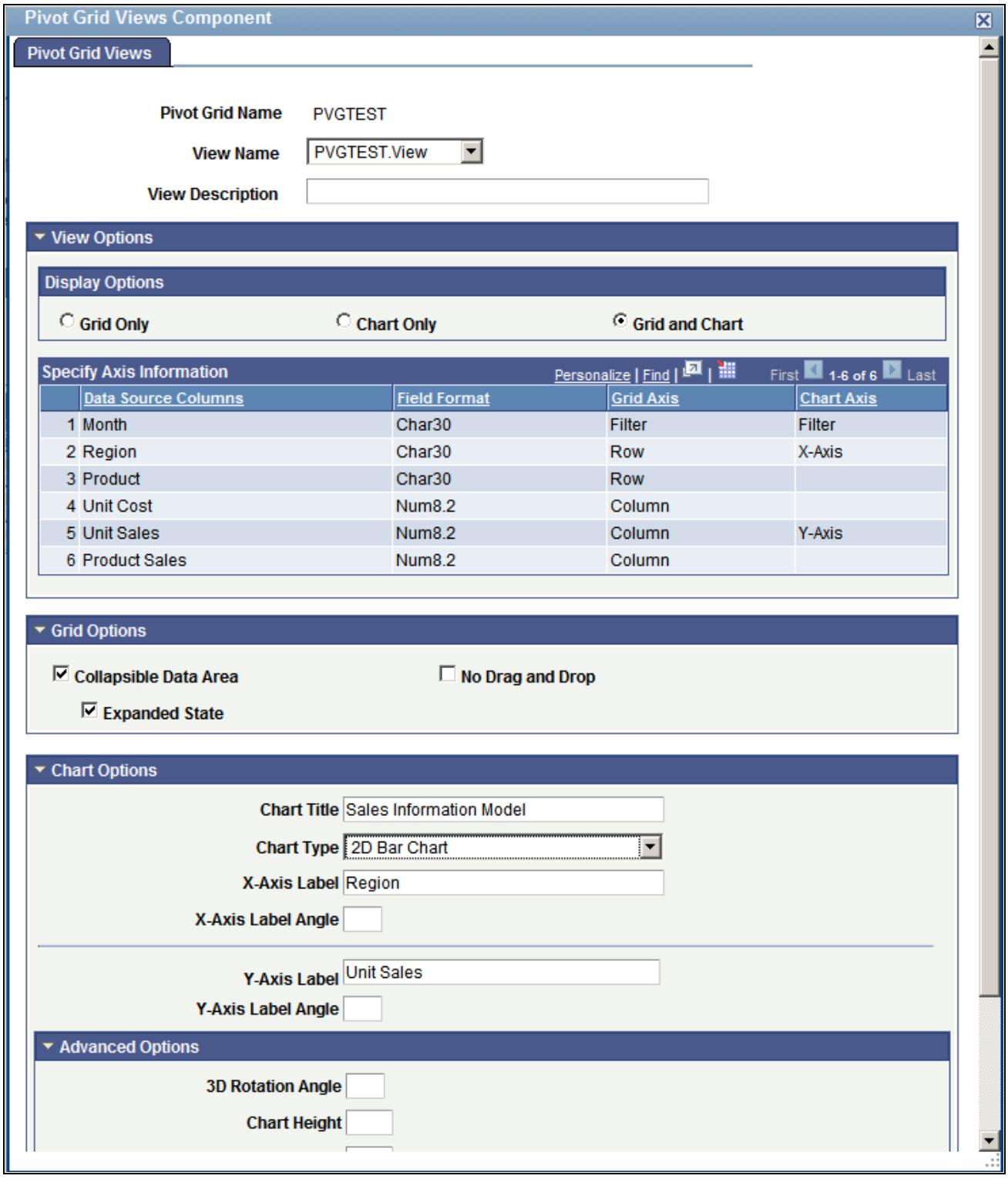
- *Admin Specified*
- *Context Sensitive*
- *Fixed*
- *Not Used*
- *System Variable*
- *User Specified*

Next Click to advance the wizard to the next page.

Defining the Pivot Grid Display Options

Open the Pivot Grid Views Component dialog box by clicking the Configure pivot grid views link on the Specify Data Source Parameters page.

This is an example of the Pivot Grid Views Component dialog box:



Pivot Grid Views Component dialog box

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:

- Grid Only
- Chart Only
- Grid and Chart

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

See Chapter 4, "Using Pivot Grid Wizard," Grid Options, page 53.

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 Chart Title, Chart Type,X and Y axis labels, and X and Y axis label angles.

See Chapter 4, "Using Pivot Grid Wizard," Chart Options, page 53.

Advanced Options Define the 3D rotation angle and height of the chart.

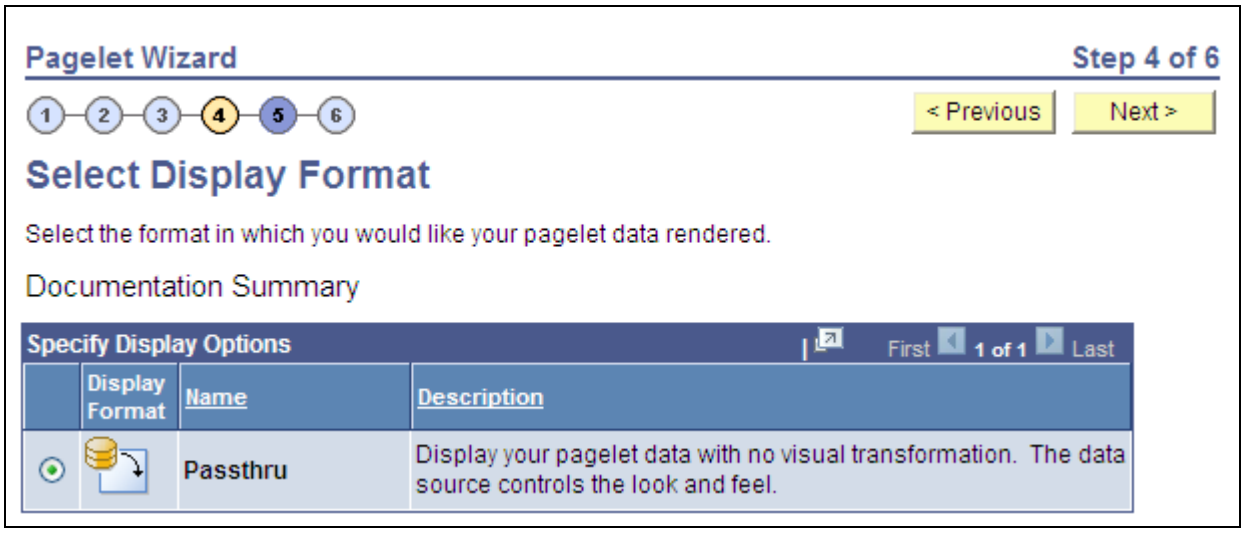
Save As Click to open the Save View As dialog box, where you can either save the current Pivot Grid model as a new view or update an existing view.

See Chapter 5, "Using Pivot Grid Viewer," Viewing Pivot Grid Options, page 68.

Selecting a Display Format

Access the Select Display Format page by clicking the Next button on the Specify Data Source Parameters page.

This is an example of the Select Display Format page:



Select Display Format page

Specify Display Options Confirm the display format of the pagelet.

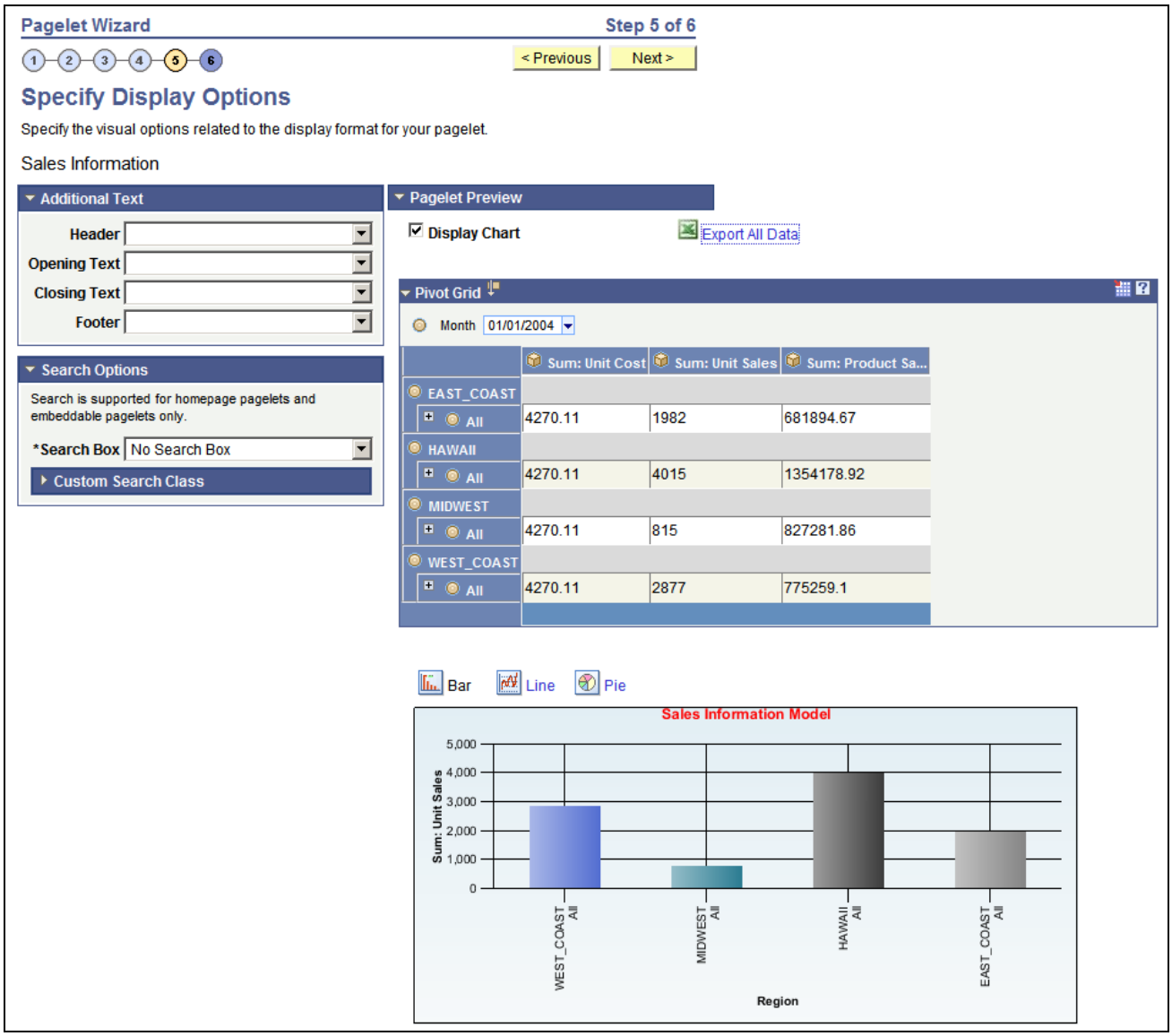
Note. *Passthru* is the only display option available for Pivot Grid.

Next Click to advance the wizard to the next page.

Specifying Display Options

Access the Specify Display Options page by clicking the Next button on the Select Display Format page.

This is an example of the Select Display Options page:



Select Display Options page

Additional Text The Additional Text section contains the options to add headers, footers, opening text, and closing text to a pagelet.

See *PeopleTools 8.52: PeopleTools Portal Technologies*, "Using Pagelet Wizard to Create and Manage Pagelets," Specifying Passthru Display Options.

Search Options The Search Options section contains the options to override the default search functionality for the current pagelet only.

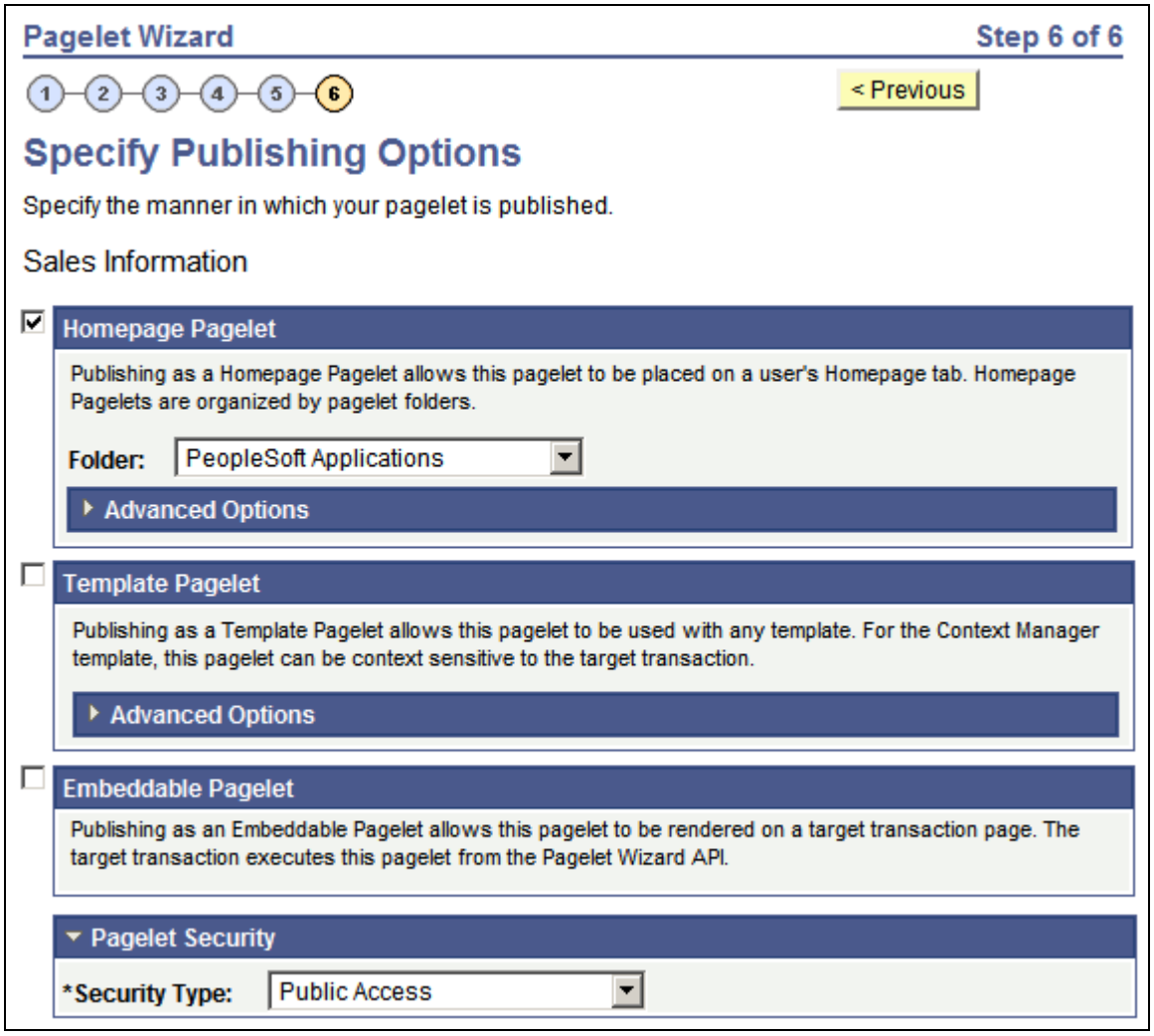
Pagelet Preview When you change the Additional Text or Search Options, the changes automatically update the preview.

Next Click to advance the wizard to the next page.

Specifying Publishing Options

Access the Specify Publishing Options page by clicking the Next button on the Select Display Options page.

This is an example of the Specify Publishing Options page:



Specify Publishing Options page

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.

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 the step number icons. Changes in your selection could change the structure of a pagelet.

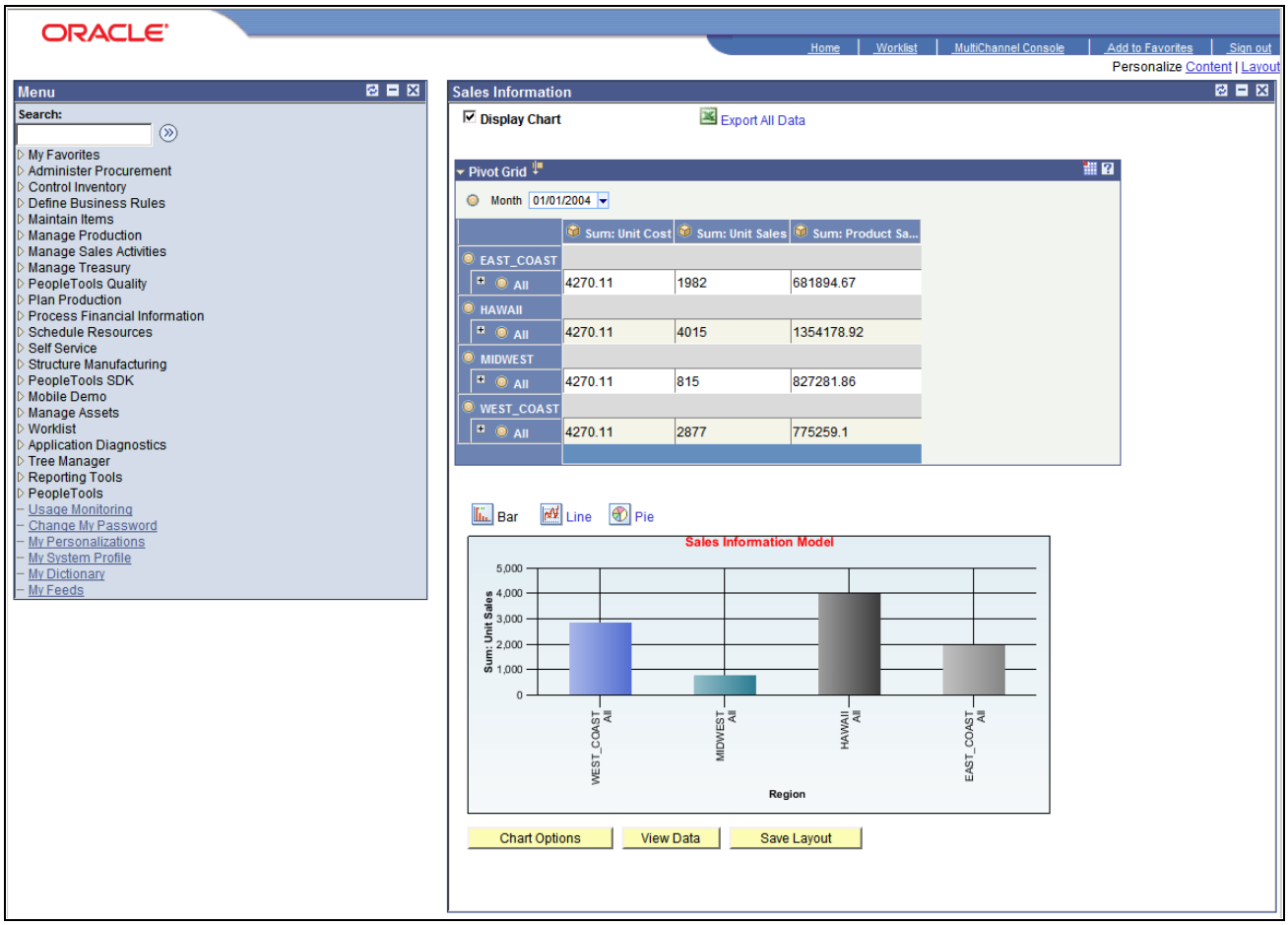
See *PeopleTools 8.52: PeopleTools Portal Technologies*, "Using Pagelet Wizard to Create and Manage Pagelets," Specifying Pagelet Publication Options.

Viewing a Pivot Grid Homepage Pagelet

Access the Pivot Grid homepage pagelet from the Pure Internet Architecture home page.

Use the Pivot Grid homepage pagelet to view and update the Pivot Grid model.

This is an example of the Pivot Grid homepage pagelet:



Pivot Grid homepage pagelet

Viewing the pivot grid from a pagelet is the same as viewing it from the Pivot Grid Viewer.

See Chapter 5, "Using Pivot Grid Viewer," Viewing a Pivot Grid Model Using the Pivot Grid Viewer, page 69.

Appendix A

System Data and Sample Data

This appendix provides two different examples of Pivot Grid models:

- Time and Labor.
- Organizational Analysis.

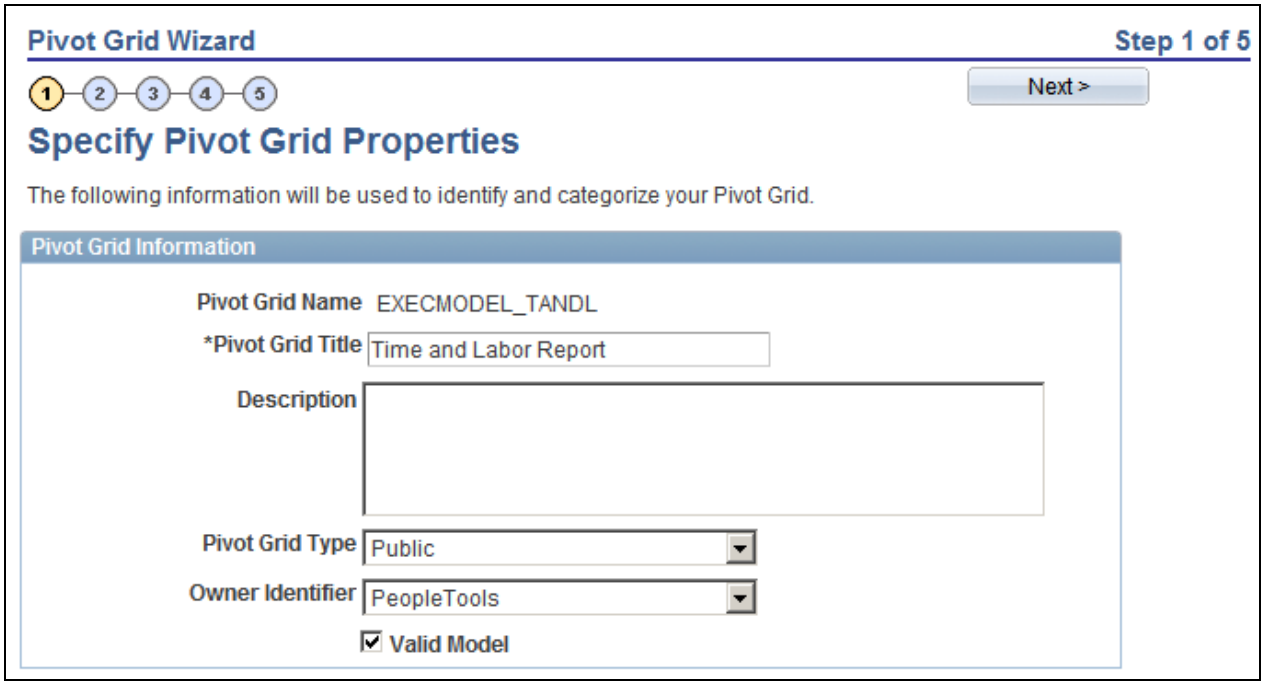
Time and Labor Model

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.



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, Taskgroup, Quantity, Estimated Gross, Labor Distribution Amount, and Diluted Distribution Labor Amount.

Pivot Grid Wizard Step 2 of

1 2 3 4 5 < Previous Next >

Select Data Source

Select the Data Source Type and the Columns for the Pivot Grid

Pivot Grid Title Time and Labor Report

Data Source Type PS Query

Data Source

***Query Name** TL_LABOR_COST_PIVOT_R3

Select Columns Personalize | Find | First 1-25 of 25 Last

	Select Column	Data Source Columns	Field Format
1	☐	Employee ID	Char11
2	☐	Employee Record	Num3.0
3	☐	Name	Char50
4	☐	Date	Date
5	☑	Time Reporting Code	Char30
6	☑	Payable Status	Char2
7	☐	Payable Reason Code	Char3
8	☑	Department	Char30
9	☑	Job Code	Char100
10	☑	Location	Char100
11	☐	Union Code	Char3
12	☐	Position Number	Char8
13	☑	Taskgroup	Char10
14	☐	Business Unit PC	Char5
15	☐	Project	Char15
16	☐	Product	Char6
17	☐	Activity ID	Char15
18	☐	Account	Char10
19	☐	Resource Type	Char5
20	☐	Resource Category	Char5
21	☐	Resource Sub-Category	Char5
22	☑	Quantity (Hours)	SNm14.2
23	☑	Est. Gross ($)	SNm14.2
24	☑	Labour Dist Amt($)	SNm14.2
25	☑	Diluted Dist ($)	SNm14.2

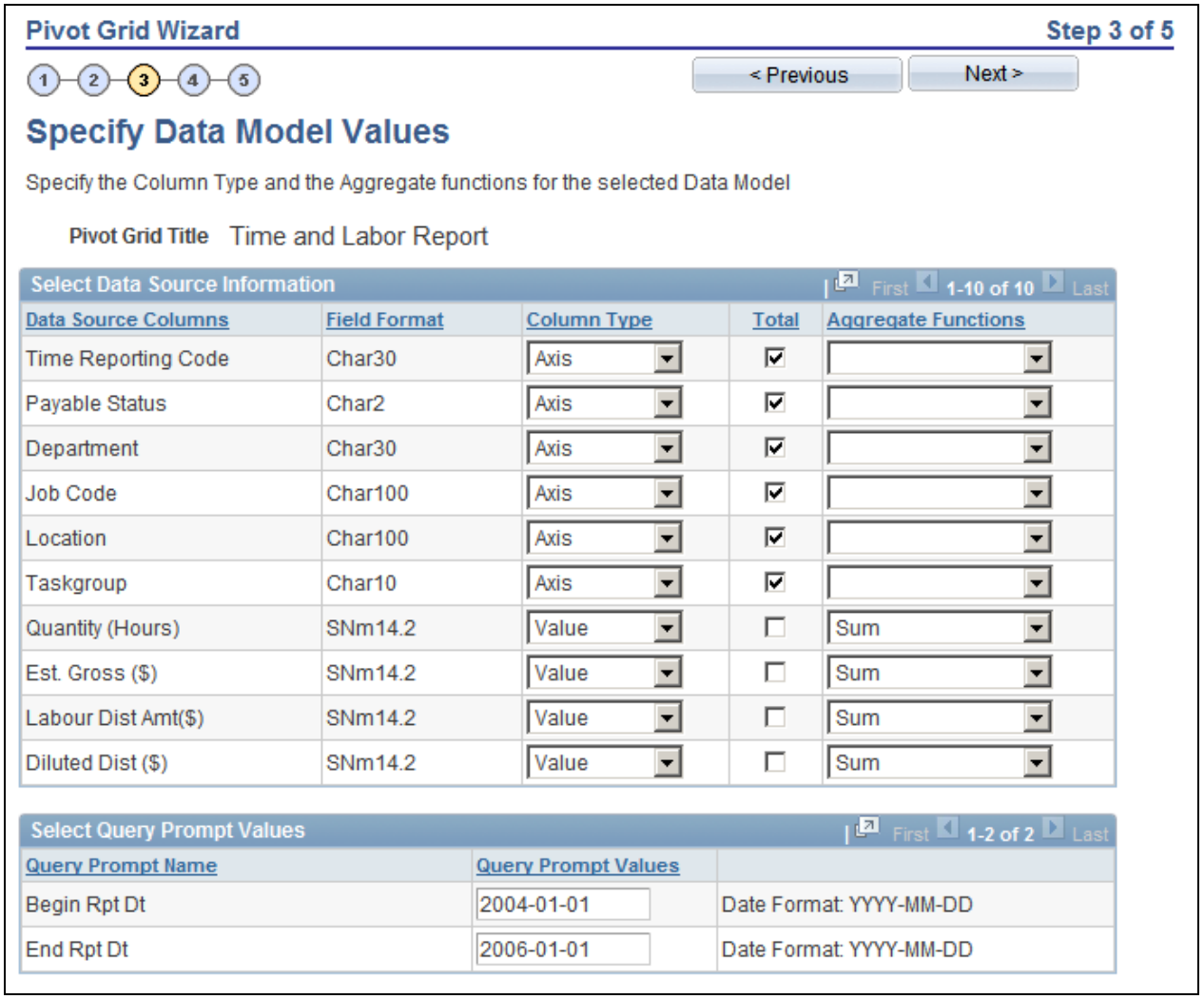
Select Data Source page

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 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.

   All the axis columns have an All (Total) attribute associated with them, and the aggregate function for all the Values is SUM.

   Begin Date and End Date are the runtime prompts for the PSQuery. Default values for these prompts are provided.



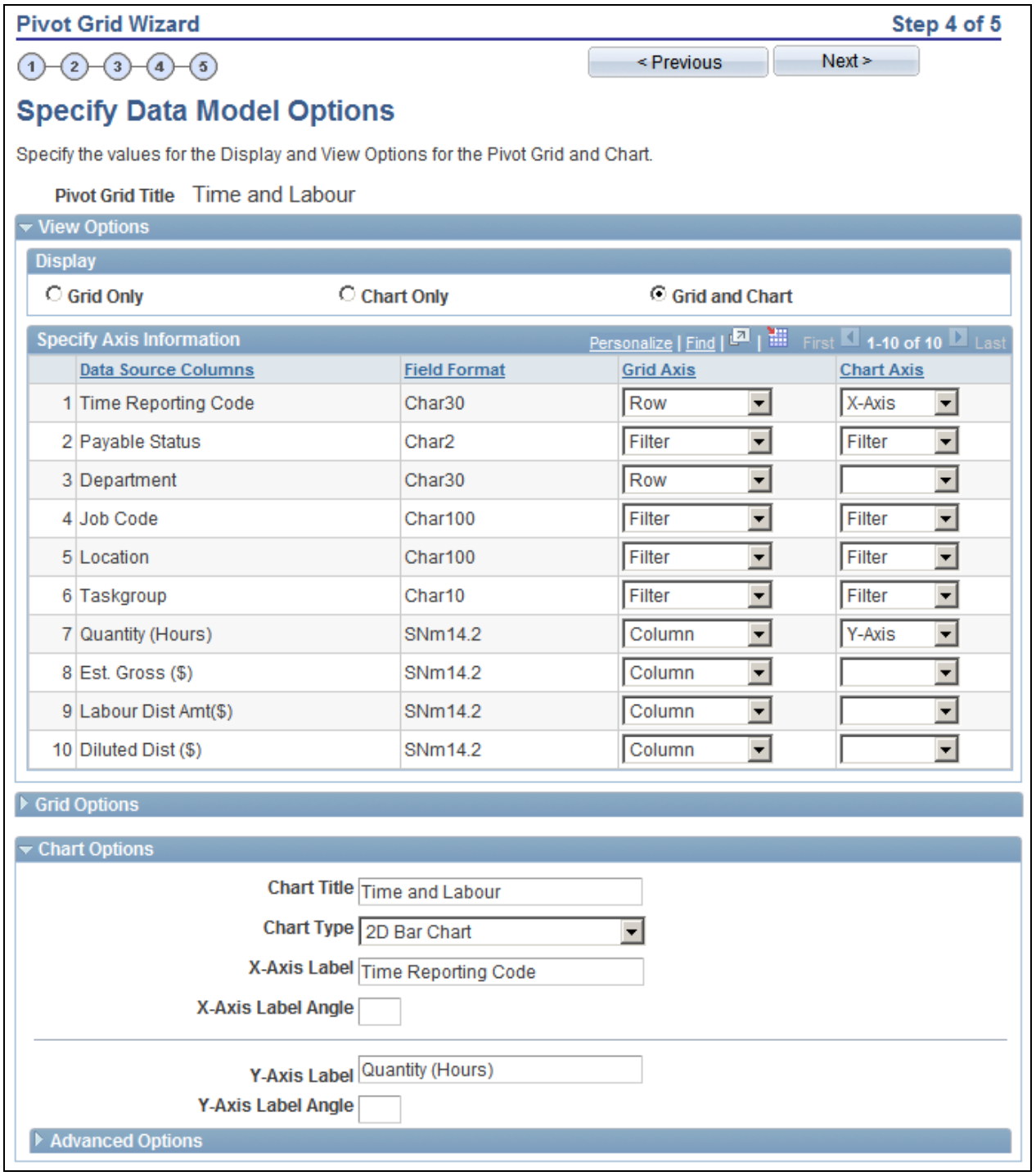
Specify Data Model Values page

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:

   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.

   For the chart, Time Reporting Code automatically becomes the X axis because it is the highest level in the grid; from the Value type members; 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.



Specify Data Model Options page

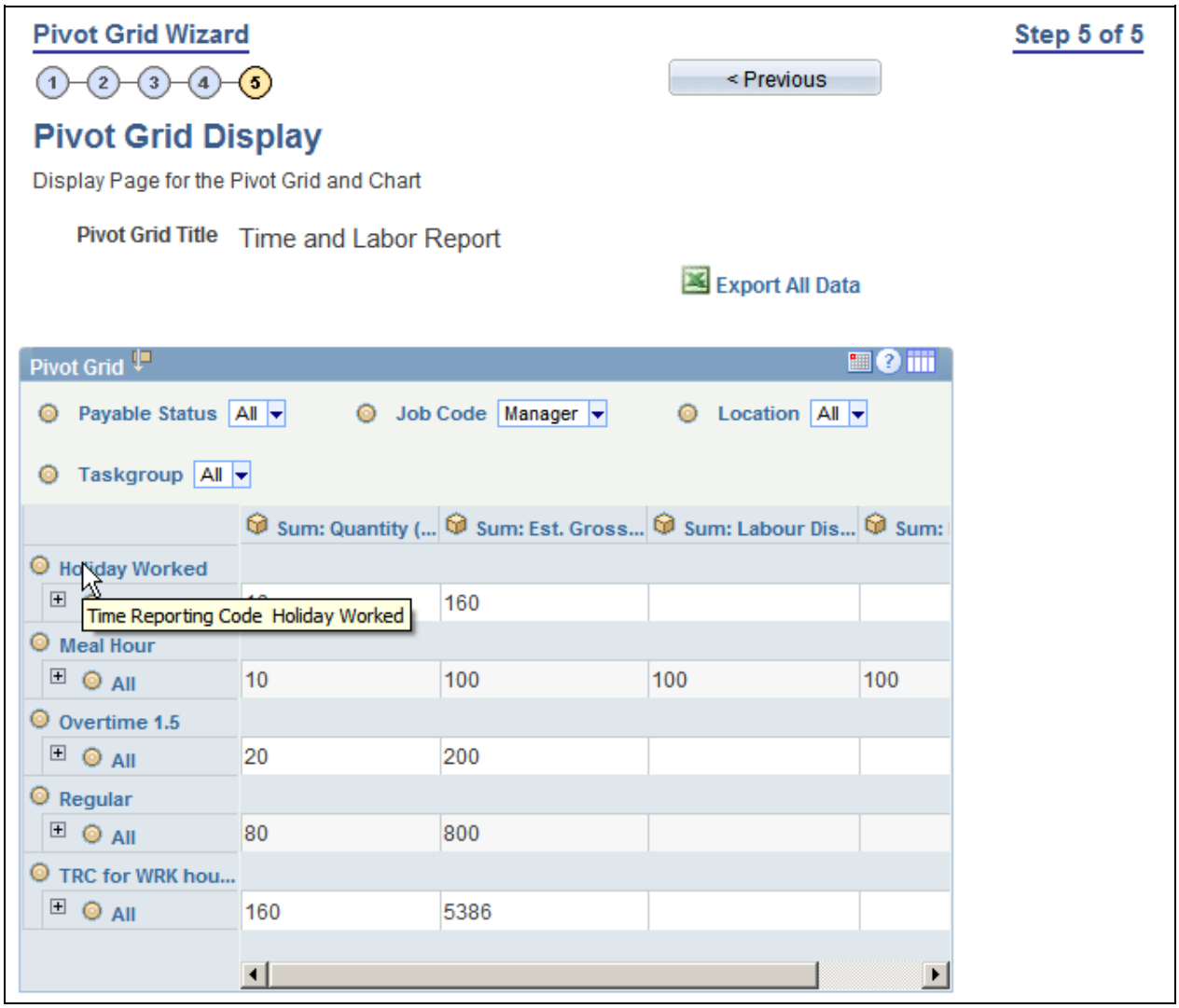
5. Access the Pivot Grid Wizard, Pivot Grid Display page.

   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.

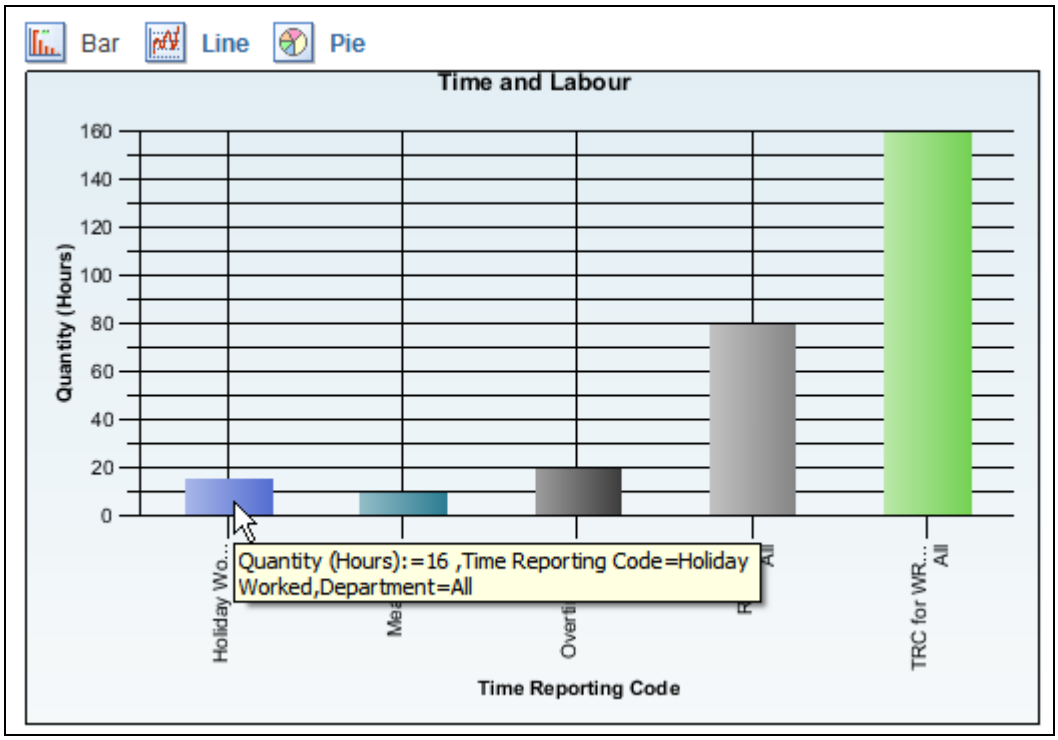
   In the chart, you can see the actual value plotted as a hover item if you bring the mouse close to the bars in the 2D Bar chart.

   This example shows the grid portion of the page:



Example grid portion of the page

   This example shows the chart portion of the page:



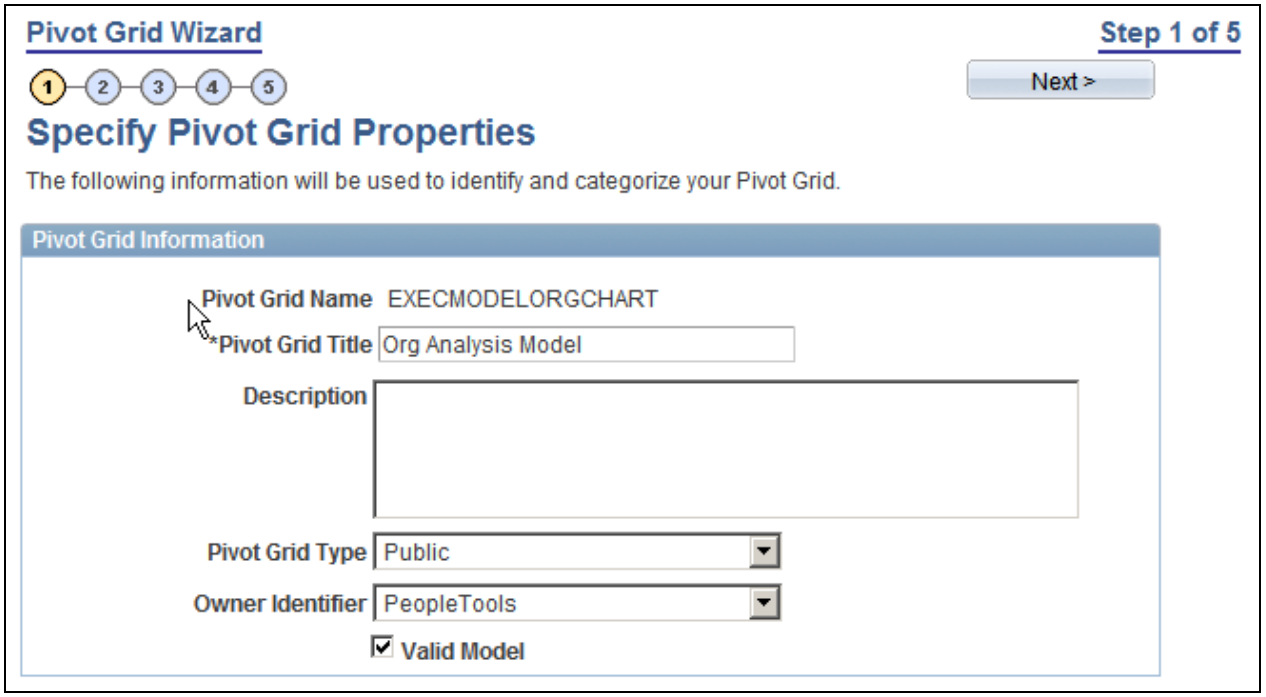
Example chart portion of the page

Organizational Analysis Model

Suppose you create an Organizational Analysis model showing values (count of employees, average salaries based on different attributes like 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:

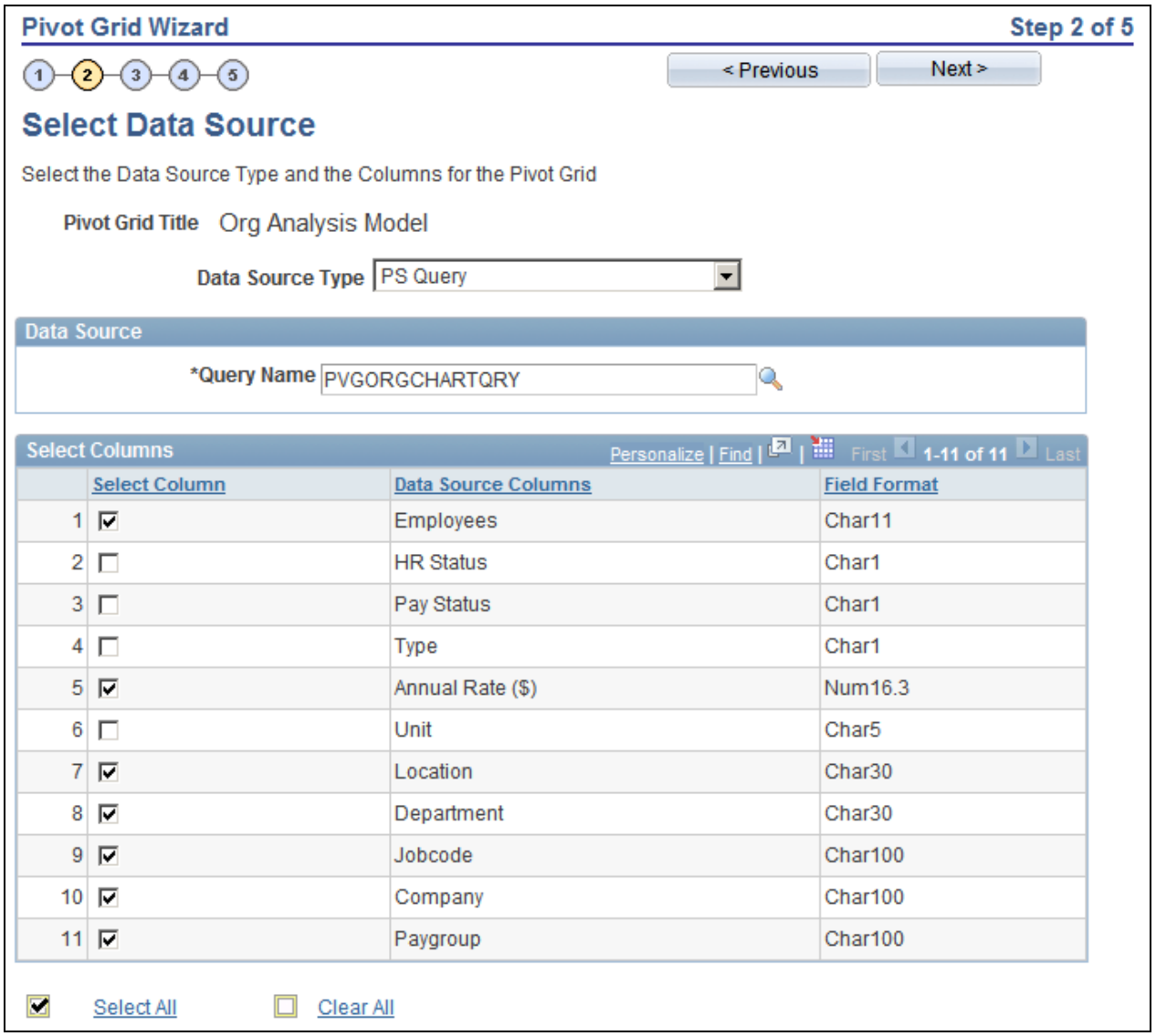
1. Access the Pivot Grid Wizard, Specify Pivot Grid Properties page.



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 to be plotted are Employees, Annual Rate, Department, Job Code, Location, Company, and Paygroup.



Select Data Source page

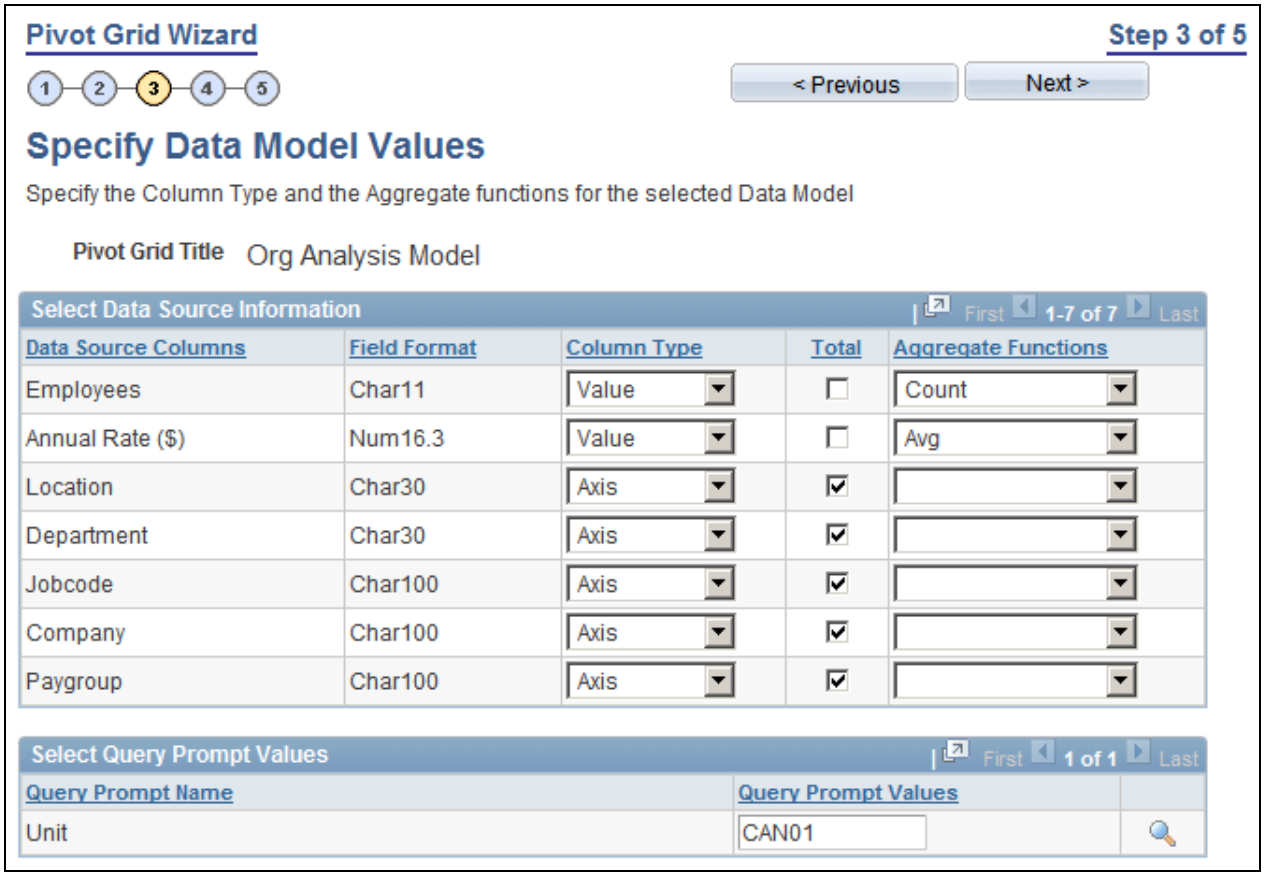
3. Access the Pivot Grid Wizard, Specify Data Model Values page.

   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.

   Business Unit is the runtime prompt for the PSQuery. The default values for this prompt are provided.

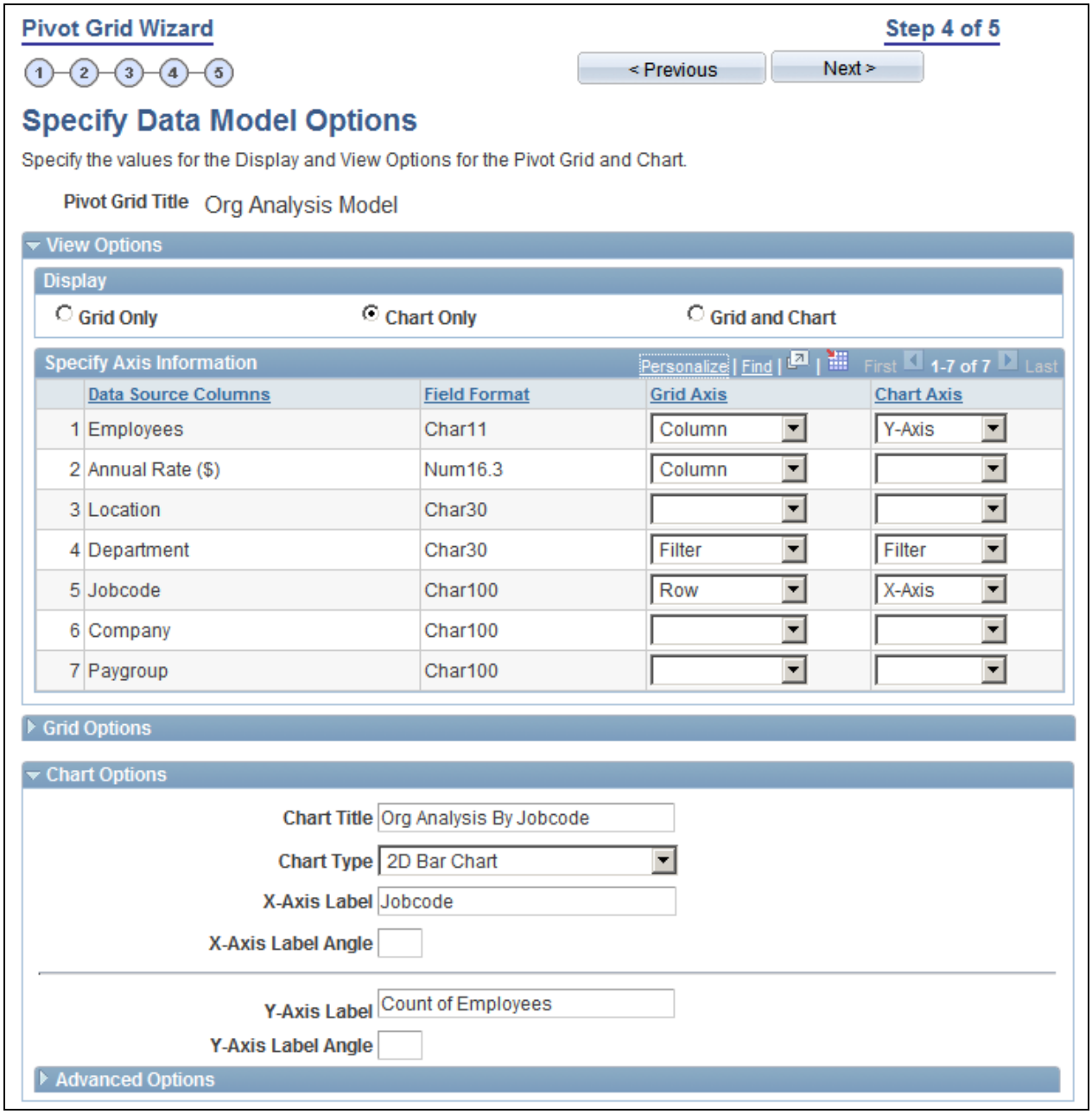


Specify Data Model Values page

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.

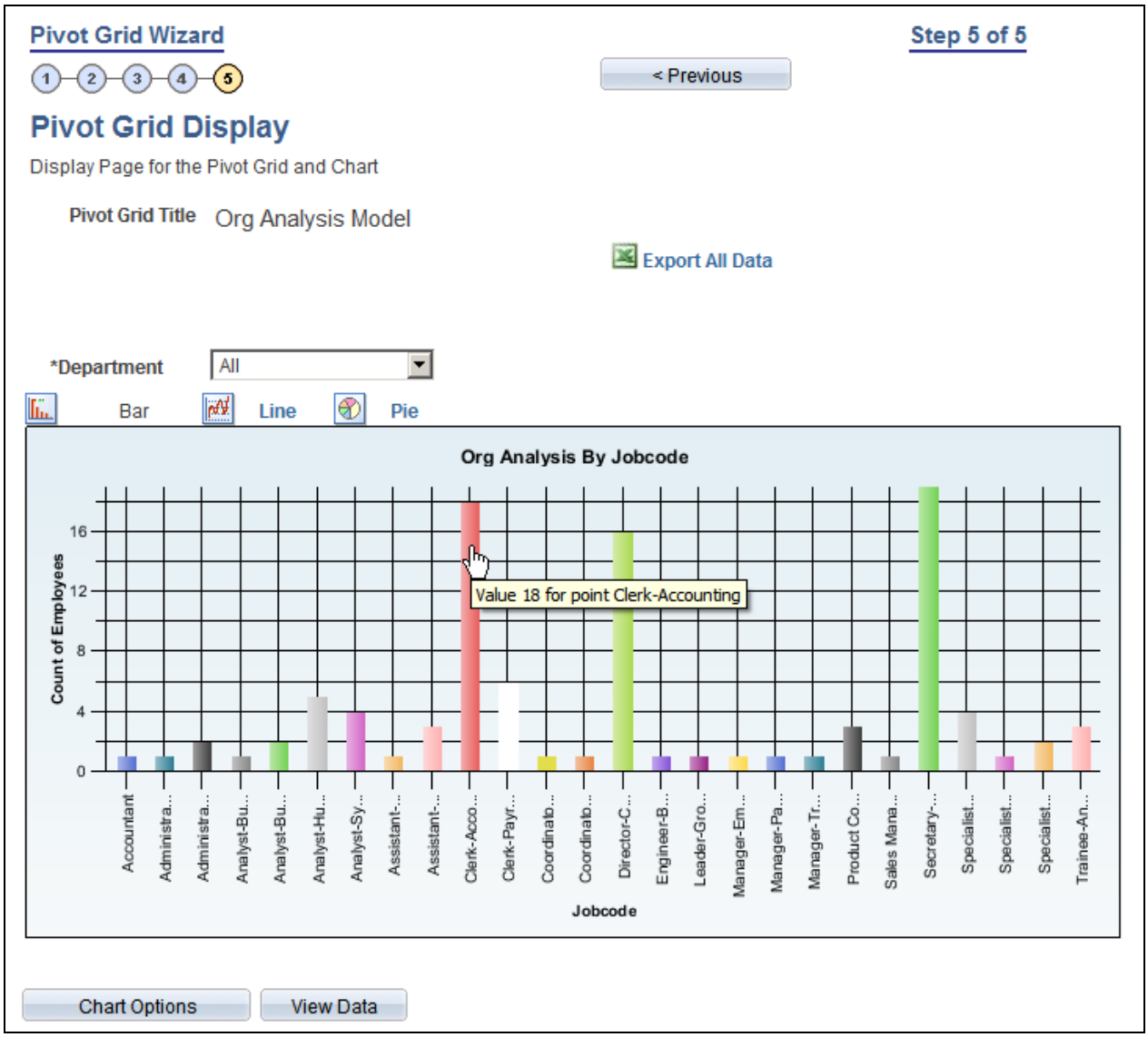
   For the chart, Jobcode is selected as the X axis from the value type members; Employees is selected to be on the Y axis; Department is selected as a filter for the chart; chart title and axes labels are specified; and chart type is selected as the 2D Bar.



Specify Data Model Options page

5. Access the Pivot Grid Wizard, Pivot Grid Display page.

   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 on the 2D Bar chart.



Pivot Grid Display page

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