Endeca® Discovery Framework

Component Catalog

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Preface

The Endeca® Information Access Platform is the foundation for building applications that help people understand complex information, fostering discovery and improving daily decision-making. These applications instantly summarize data and content for users—even for unanticipated requests. The Guided Summarization™ experience leads to unexpected insights in millions of everyday decisions, increasing revenue, decreasing costs, and accelerating operations.

The Endeca Information Access Platform is powered by MDEX Engine™ technology, a new class of database designed for exploring information, not managing transactions. The MDEX Engine is supported by:

- An adaptive application component library that enables the rapid development of information access applications that automatically adapt to changes in the data and content.
- A Web-based management suite that empowers managers to highlight the right information at the right time to end users through adaptive presentation rules and dynamic pages.

These essential capabilities are delivered as an enterprise-class platform, with the scalability, reliability, and security that leading organizations demand.

About this guide

This guide contains information about the components that make up the Endeca Discovery Framework.

The Endeca Discovery Framework enables rapid configuration of search applications—often in just minutes—that offer the highly interactive Guided Navigation® user experience across a full range of structured and unstructured enterprise data. It includes a Component SDK, which is a packaged development environment for portlets, themes, layout templates, and other portal element. Endeca has modified Liferay's version of its Plugins SDK to include the Endeca enhancements, such as the `EndecaPortlet` core class.

Who should use this guide

This guide is intended for end users and power users of the Endeca Discovery Framework on Windows or Linux.

Conventions used in this guide

This guide uses the following typographical conventions:

Code examples, inline references to code elements, file names, and user input are set in `monospace` font. In the case of long lines of code, or when inline monospace text occurs at the end of a line, the following symbol is used to show that the content continues on to the next line: ¬

When copying and pasting such examples, ensure that any occurrences of the symbol and the corresponding line break are deleted and any remaining space is closed up.

Contacting Endeca Customer Support

The Endeca Support Center provides registered users with important information regarding Endeca software, implementation questions, product and solution help, training and professional services consultation as well as overall news and updates from Endeca.

You can contact Endeca Standard Customer Support through the Support section of the Endeca Developer Network (EDeN) at *http://eden.endeca.com*.

Chapter 1

About the Discovery Framework component catalog

This guide provides an overview of the components available in the Discovery Framework 1.2.

About components

The Discovery Framework is a portal application, built on the Liferay Portal, that you populate with portlet components.

Endeca standard components are Discovery Framework portlets provided by Endeca. These components contain the logic needed to retrieve and manipulate data from the MDEX Engine and render results. Each Endeca standard component is a self-contained unit that provides specific MDEX Engine features or other application support. By assembling these components together, you can rapidly development robust search applications.

The set of Endeca standard components contains a selection of administrative components, such as **Data Sources** and **Performance Metrics**, that help you configure and control your application.

This catalog describes the way each Endeca-developed component works, and notes any interaction dependencies between components. It also provides basic information about the Liferay components that Endeca makes available by default. It does not include step-by-step instructions for using components.

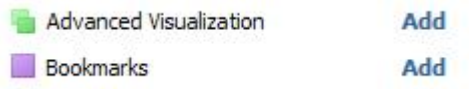
For specific needs, components can be customized, and new components can be developed. This catalog does not cover this process, nor does it discuss the wide range of optional Liferay components that a user could add to the Discovery Framework.

About instanceable and non-instanceable components

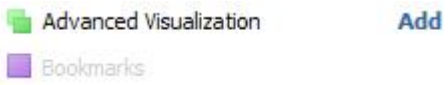
Liferay distinguishes between two kinds of components:

- *Instanceable* components can appear multiple times on a page. Each instance of the component has its own data source.
- *Non-instanceable* components can only appear once per page. If you place the component on additional pages, it will display the same data as the first instance you placed on a page. That is to say, they will be identical.

Instanceable and non-instanceable components are marked with identifying icons in the **Add Component** menu. In the image below, the **Advanced Visualization** component, with the icon featuring two green boxes, is instanceable. The **Bookmarks** component, featuring the single purple box, is not.



After adding the **Bookmarks** component to the page, it is no longer available, as you can see in the following image:



If you have multiple pages in your application, you could place **Bookmarks** on other pages, but the list of bookmarks in the component would be the same.

About component users

This catalog provides information about components from the perspective of two distinct Discovery Framework users. These users have different objectives and different access to component controls.

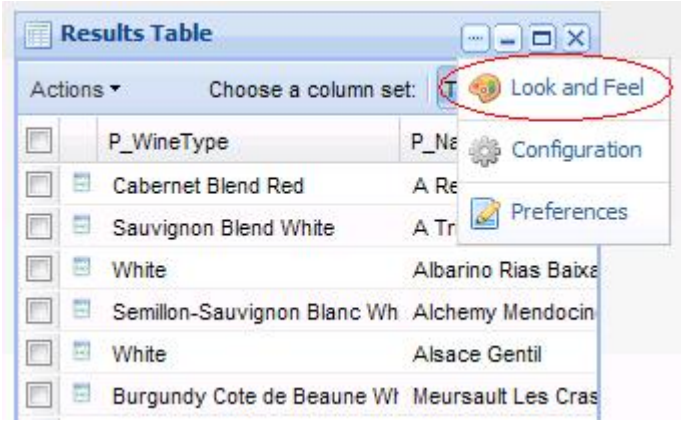
Several job roles might fit into each category.

- **Power users** configure Discovery Framework content. One example would be a business analyst who configures the Discovery Framework for end users and determines what components and data they can access.
- **End users** are Discovery Framework content consumers. This includes executives seeking a dashboard view as well as others who need to drill through interactive visualizations and reports. Typically, the Discovery Framework is configured so that end users cannot access the edit controls found on the **Preferences** page of each component.

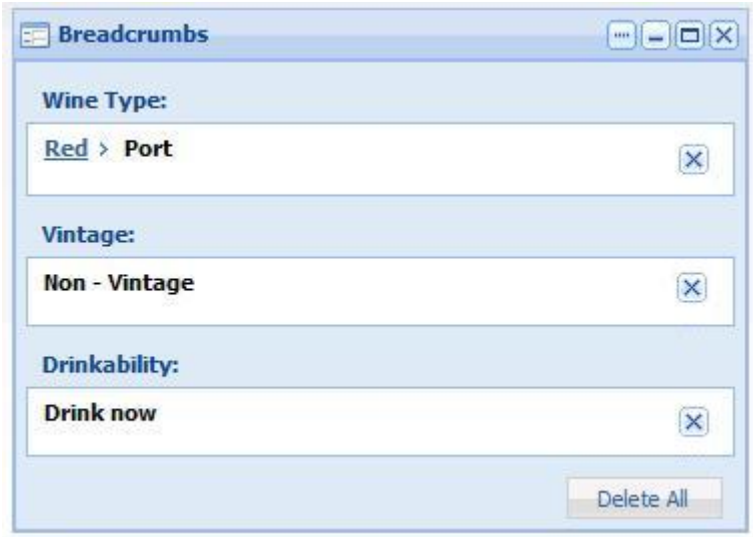
Note: Occasionally this catalog may mention tasks that other Discovery Framework users, such as application developers and data developers, perform. These tasks are not covered in detail in this document.

Modifying component appearance

In any component, the power user can modify certain aspects of the component's appearance on the Look and Feel page.



For example, with slight modifications, the default appearance and text on the Breadcrumbs component:



can be customized as follows:

Obtaining more information about the Discovery Framework

This topic describes places you can obtain more information about the Discovery Framework.

In addition to this guide, the Discovery Framework documentation set contains two other guides:

- The *Discovery Framework Installation Guide* describes how to install and launch the Discovery Framework.
- The *Discovery Framework Extension Guide* describes how developers can extend the Discovery Framework.

In addition, there is a *forum* on the Endeca Developer's Network (EDeN) dedicated to the Discovery Framework. It hosts discussions about development, extension, deployment, and configuration for technical and business users of the Discovery Framework.

Chapter 2

About Endeca standard components

Endeca standard components are pre-packaged components that provide access to MDEX Engine functionality and other features useful to application development.

Administrative components

The components in this section control administrative aspects of the Discovery Framework.

Data Sources

The **Data Sources** component allows you to view configured data sources and test the connection to them. In addition, you can reload updated configuration based on edits you have made on disk.

Each Discovery Framework component that needs to query the MDEX Engine is tied to one particular data source. Changing any individual component's data source is done in that component's edit controls.

Note: For general information about Discovery Framework data sources, see the *Discovery Framework Installation Guide*. For information about data source configuration, security, and state management, see the *Discovery Framework Extension Guide*.

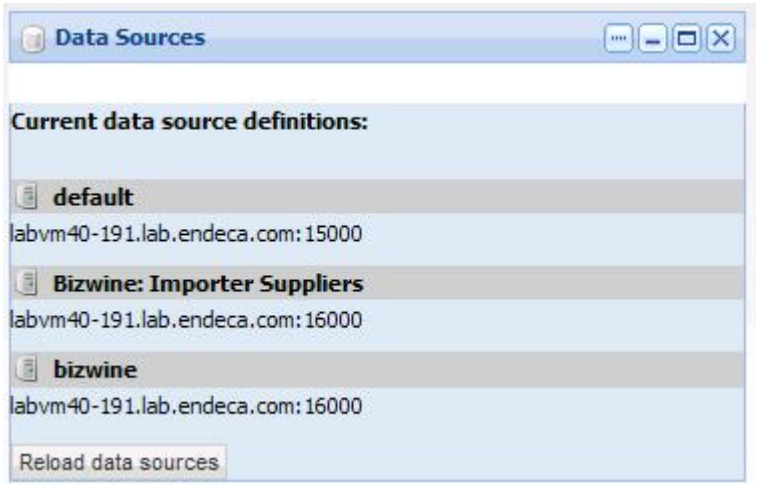
Using Data Sources

End users do not see the **Data Sources** component.

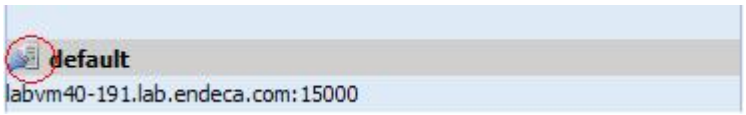
Configuring Data Sources

The **Data Source** component requires no configuration—you simply place it on the page.

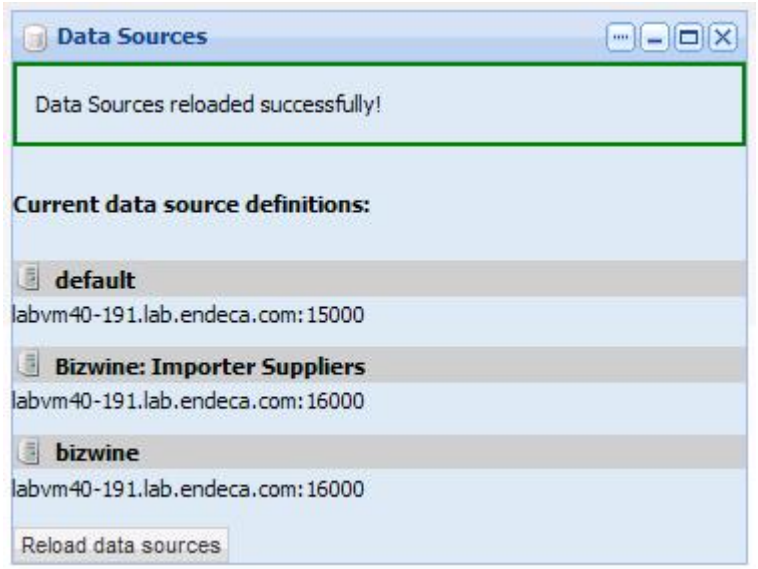
When you open the **Data Sources** component, you can see all of the data sources that have been configured for your application.



By clicking the icon next to a data source name (circled below), you can test its connection. The icon changes and mousing over it provides a confirmation message.



To reload updated configuration based on edits made on disk, you click the **Reload data sources** button. (For details on making these edits, see the *Discovery Framework Extension Guide*.)

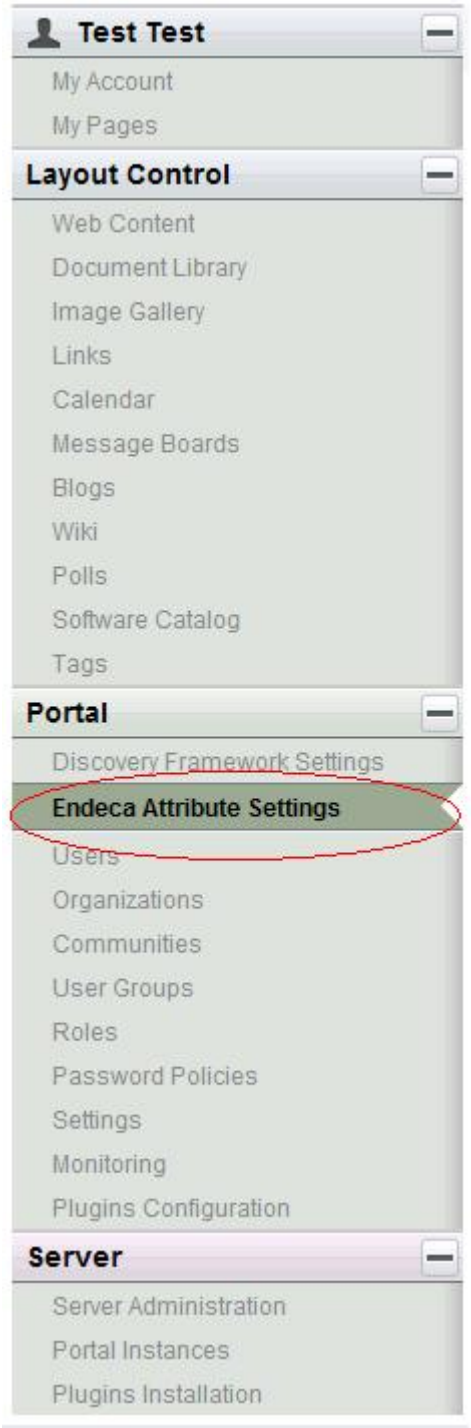


Note: Configuration of data sources themselves takes place offline.

Endeca Attribute Settings

The **Endeca Attribute Settings** component allows the power user to globally change the display name for any attribute in a selected data source.

Note: This component appears in the Liferay **Control Panel** and is not accessible from the **Add Component** menu.

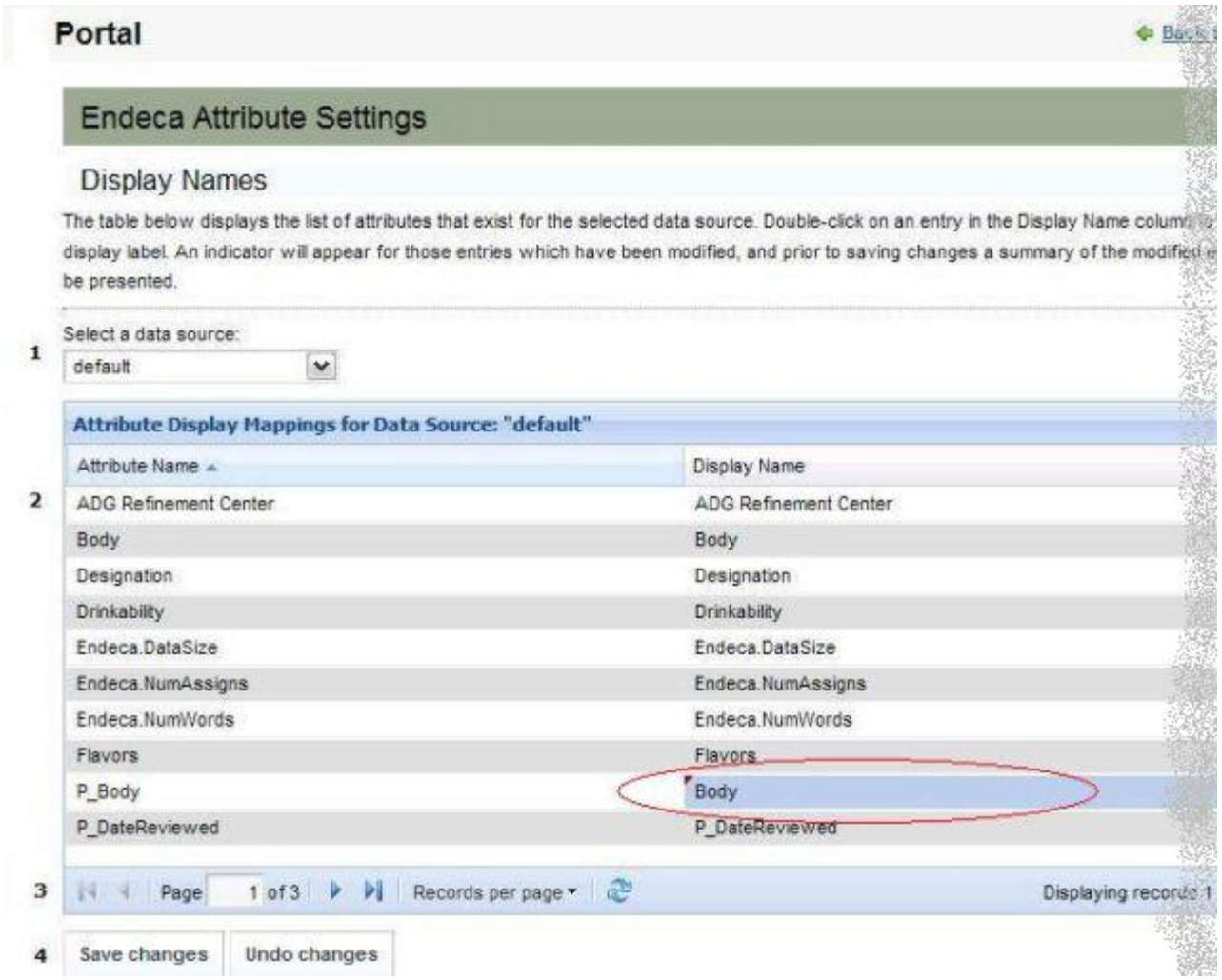


Using Endeca Attribute Settings

End users generally should not modify the information located on the **Endeca Attribute Settings** section of the **Control Panel**.

Configuring Endeca Attribute Settings

Because the **Endeca Attribute Settings** component does not display as an independent portlet, it is not configured in the same way as most Endeca standard components. Instead, you modify these settings in the **Control Panel**.



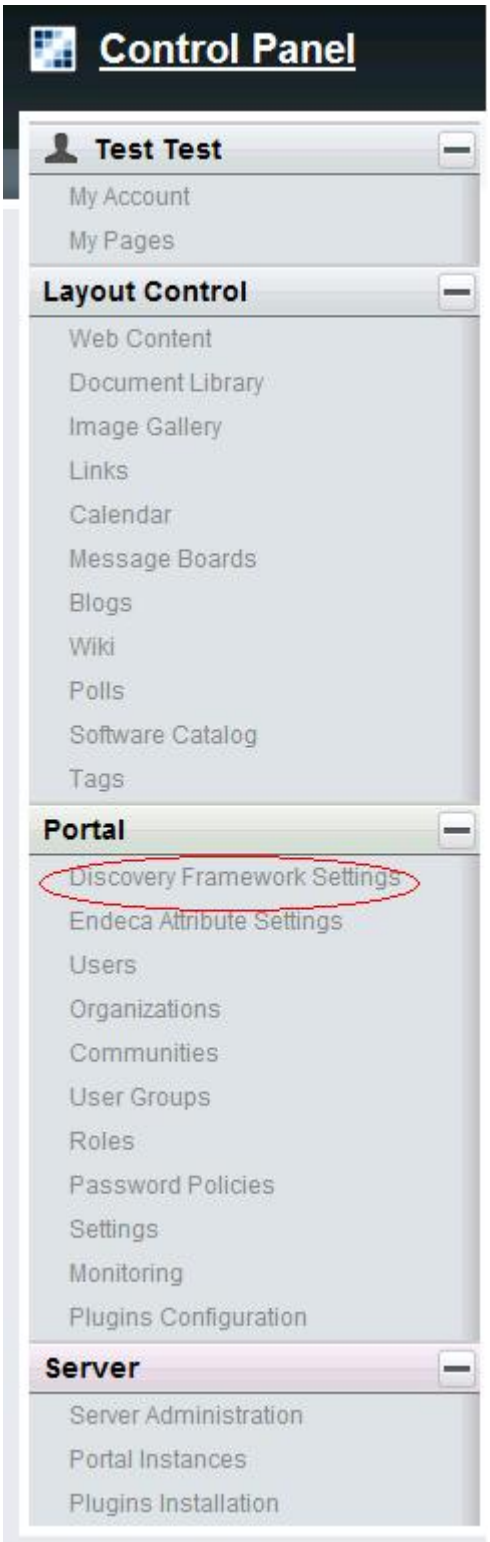
1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Attribute Display Mapping:** In the **Display Name** column, replace the display name for an attribute.
3. **Paging:** Page through all of the attributes in the data source.
4. **Save changes** and **Undo changes:** Save or discard your changes.

Framework Settings

The **Framework Settings** component provides access to state, security, and other settings.

Note: This component appears in the Liferay **Control Panel** and is not accessible from the **Add Component** menu.

Many settings related to Discovery Framework can be adjusted from the **Discovery Framework Settings** section of the **Control Panel**.



The default values of these settings are created automatically upon first use. You cannot add or delete settings from the **Control Panel**—you can only edit them. Settings only appear after the feature(s)

that use them have been executed at least once. For example, if you have never used the **Chart** component, the **Corda Server URL** settings will not appear.

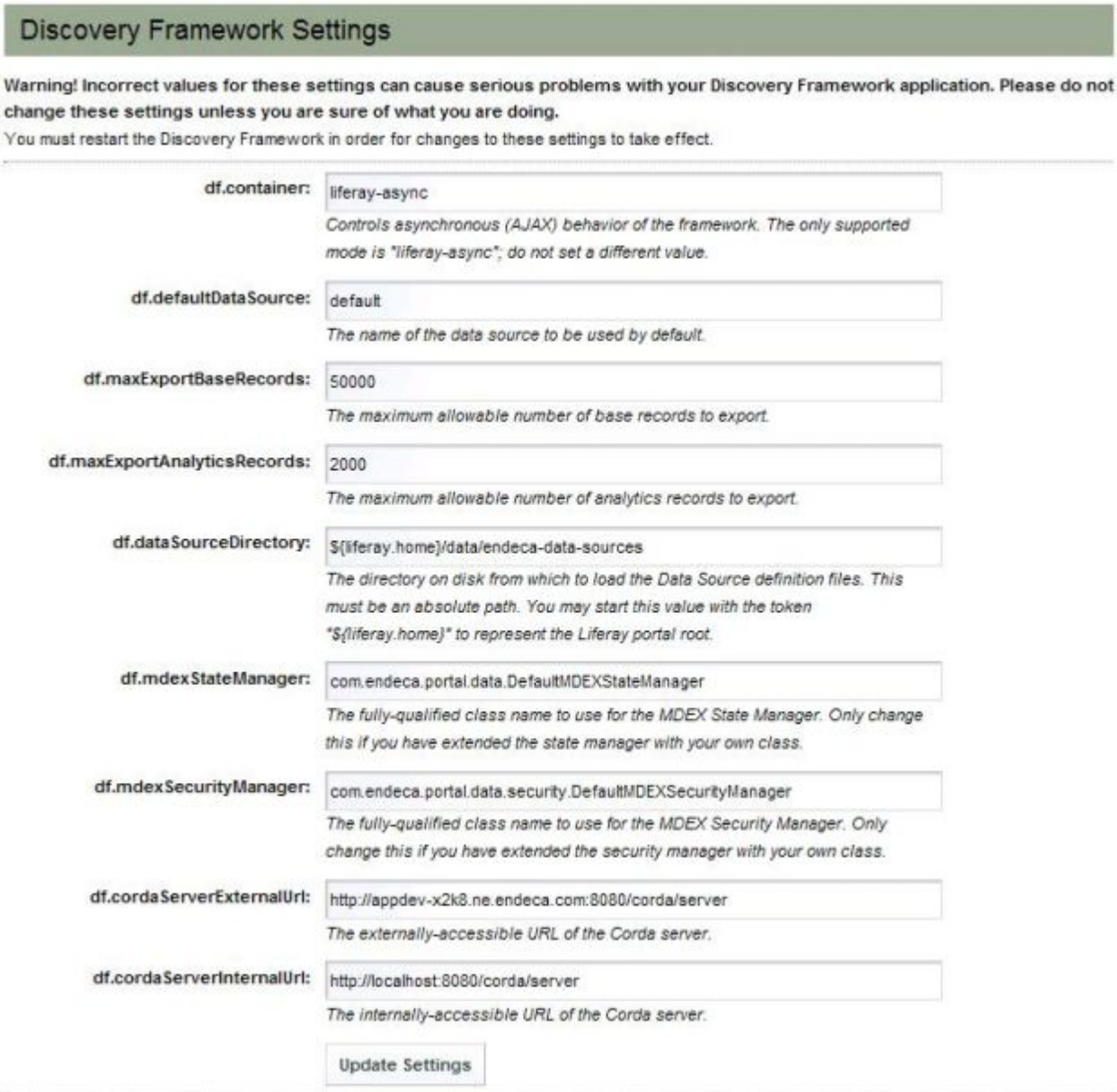
Using Framework Settings

End users generally should not modify the information located on the **Discovery Framework Settings** section of the **Control Panel**.

Configuring Framework Settings

Because the **Framework Settings** component does not display as an independent portlet, it is not configured in the same way as most Endeca standard components. Instead, you modify these settings in the **Control Panel**.

Note: Take care when modifying these settings, as incorrect values can cause problems with your Discovery Framework application.



- **df.container:** Controls AJAX behavior of the Discovery Framework. Should not be edited.
- **df.defaultDataSource:** The name of the data source to use as the default.
- **df.maxExportBaseErrors:** The maximum allowable number of non-Analytics records that can be exported.
- **df.maxExportAnalyticsRecords:**The maximum allowable number of Analytics records that can be exported.
- **df.dataSourceDirectory:** The directory on disk from which to load data source definition files.
- **df.mdexStateManager:** The fully-qualified class name to use for the MDEX State Manager.
- **df.mdexSecurityManager:** The fully-qualified class name to use for the MDEX Security Manager.
- **df.cordaServerExternalUrl** and **df.cordaServerInternalUrl:** The externally and internally accessible URLs of the Corda Server, which is used by the **Chart** component.

Note: If you do not see the **Discovery Framework Settings** in the **Control Panel**, it probably means you did not install the `endeca-framework-settings-portlet-1.2.war` file. Please review your installation settings.

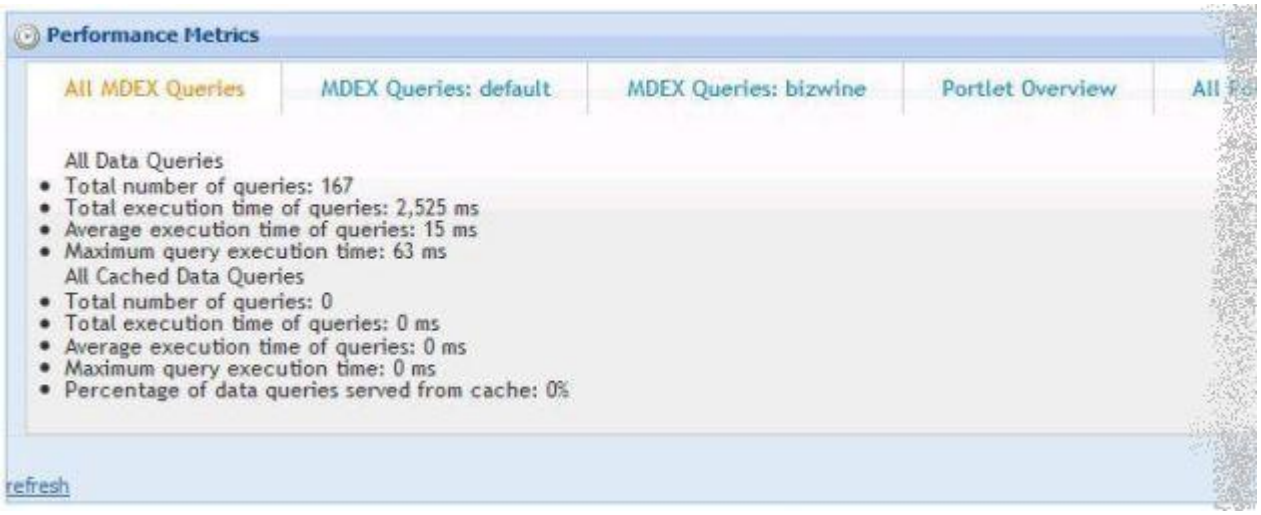
Performance Metrics

The **Performance Metrics** component displays information about component and MDEX Engine query performance.

An administrative component, **Performance Metrics** comes pre-configured and does not require a backing data source.

Using Performance Metrics

This topic describes how an end user can use the **Performance Metrics** component.



The **Performance Metrics** component tracks total MDEX Engine queries as well as queries per data source. It also contains tabs tracking the overall performance of portlet components as well as the performance of each individual component.

It contains the following tabs:

- **All MDEX Queries**
- **MDEX Queries: <data source name>**
- **Portlet Overview**
- **All Portlets**

All MDEX Queries contains the following metrics:

- **All Data Queries** metrics for the total number of queries, total execution time of queries, average execution time of queries, and maximum query execution time.
- **All Cached Data Queries** metrics for the total number of queries, the total execution time of queries, average execution time of queries, maximum query execution time, and percentage of data queries served from the cache.

The **MDEX Queries** tab for each data source provides the same metrics as the **All MDEX Queries** tab at the data source level.

The **Portlet Overview** tab tracks the total number of component executions, the total execution time of all components, the average execution time of all components, and the maximum component execution time.

The **All Portlet** tab provides the same total metrics as the **Portlet Overview** tab, along with the same results broken out by component.

Note: This component provides a view into MDEX Engine query performance, which does not correlate directly to a page view, as there are often multiple MDEX Engine queries powering a single page.

Configuring Performance Metrics

The **Performance Metrics** component requires no configuration—you simply add it to the portal workspace.

Sample Endeca Portlet

The **Sample Endeca Portlet** component provides developers with a template from which they can build their own custom components.

This component is provided as a starting point for developers who want to create their own components.

Using Sample Endeca Portlet

The **Sample Endeca Portlet** component is not intended for use by end users.

Configuring Sample Endeca Portlet

The **Sample Endeca Portlet** component is not intended for use by power users.

Layout components

The components in this section provide additional control over Discovery Framework display.

Tabbed Component Container

The **Tabbed Component Container** allows developers to create a tabbed interface within a region of a page and then store different components on various tabs.

The **Tabbed Component Container** is the only Endeca-developed layout control. This component is available under the **Layout Control** section of the **Add Component** menu, and not the **Endeca** section.

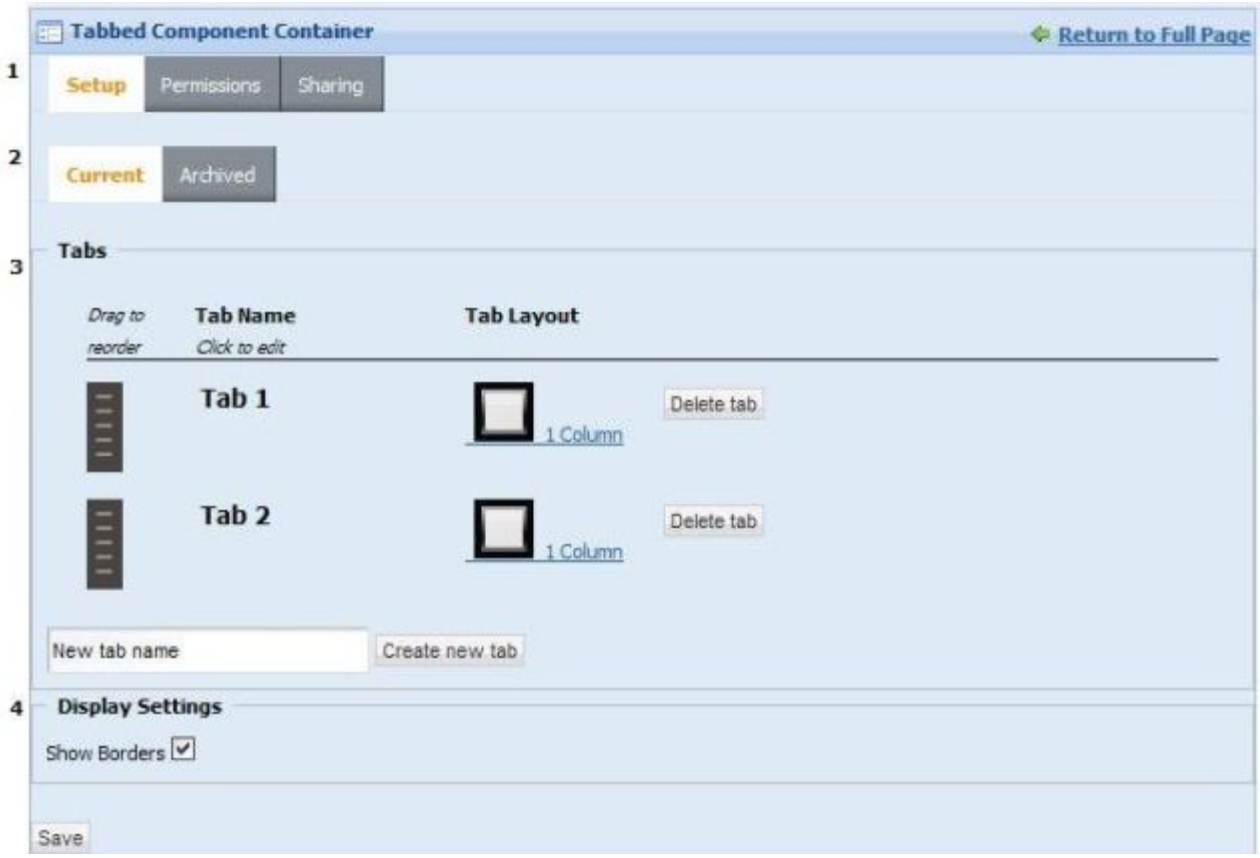
This component allows a user to create a tabbed interface within a region of a page, and then nest different components on the available tabs. For example, you might choose to put a **Results Table** component containing customer-based information on one tab, and another **Results Table** component containing product-based information on another tab.

Using the Tabbed Component Container

End users do not access the **Tabbed Component Container** directly, though a power user might include one or more instances in the end users' application.

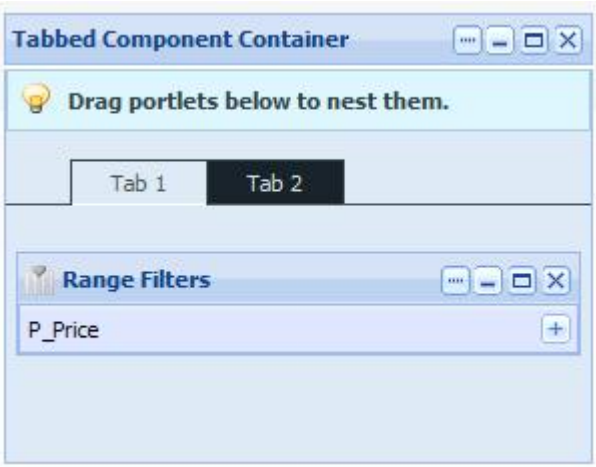
Configuring the Tabbed Component Container

The power user can set the following preferences for the **Tabbed Component Container** component.



1. Only the configuration tasks on the **Setup** tab are relevant to our purposes. You may disregard the other tabs.
2. You can edit the current tabbed component container, or select an archived version (if available).
3. **Tabs:** Add or delete tabs, as well as change their layouts, display names, and order on the page.
4. **Display Settings:** Check **Show Borders** to draw the component container around the components on each tab.

Drag the configured **Tabbed Component Container** onto the portal work area, then drag other components onto the tabs and configure them as usual. In the example below, the **Range Filter** component has been dragged onto Tab 1.



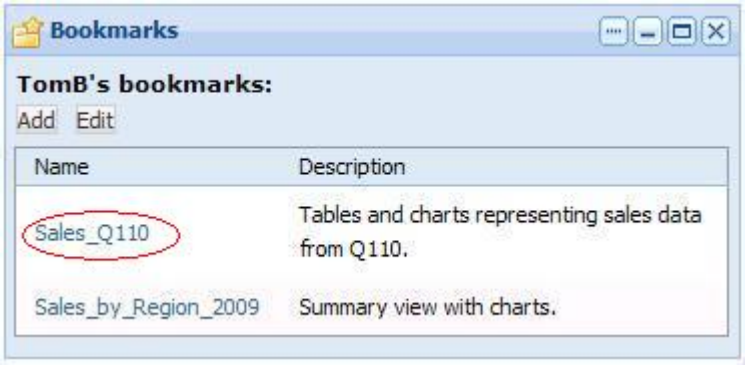
Personalization components

The components in this section allow users to customize their Discovery Framework application.

Bookmarks

Bookmarks is a personalization component that allows you to save a given navigation and component state so that you can return to them.

Once a bookmark has been created, the user can click upon it to return to that state. Bookmarks appear in the order in which they were created.



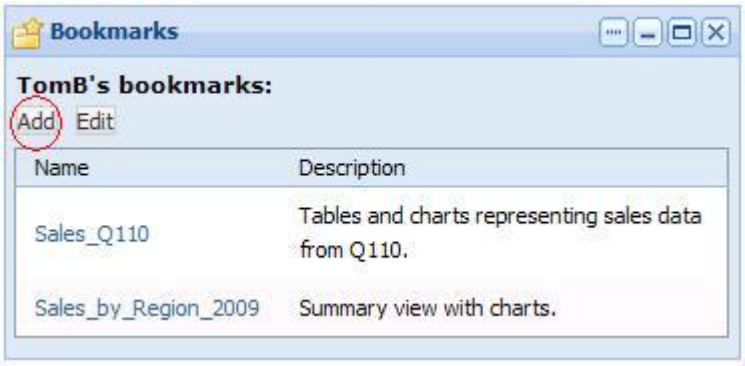
To share a bookmark, the user clicks on the bookmark to load it, then copies the browser URL and shares it with another user.

Note: The **Bookmarks** component does not require a backing data source.

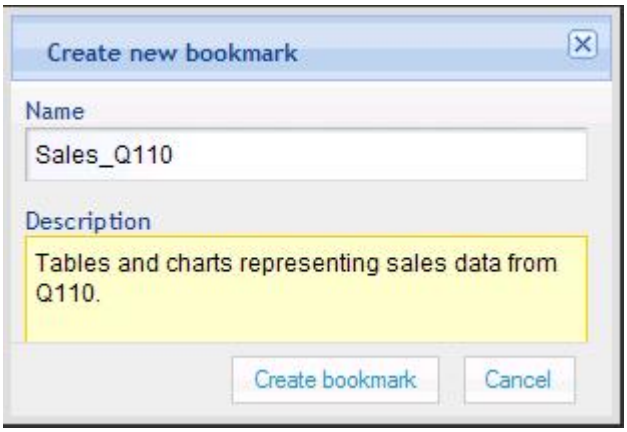
Using Bookmarks

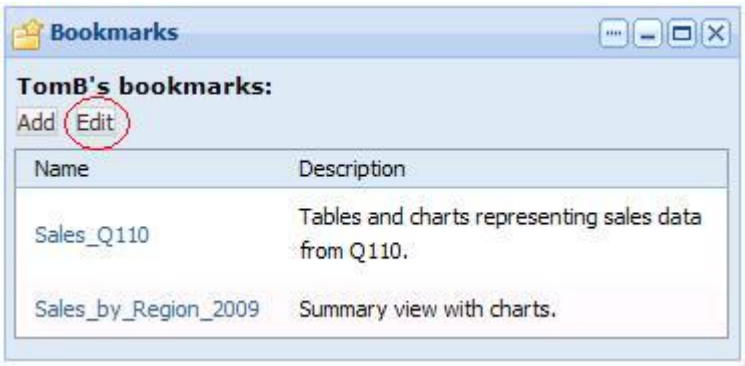
This topic describes how an end user can use the **Bookmarks** component.

The **Bookmarks** component allows the end user to create, update, and delete bookmarks.



Click **Add** to add a bookmark that will be associated with the current state.





Click **Edit** to edit the name or description of the bookmark, or to delete it.

Configuring Bookmarks

The **Bookmarks** component requires no configuration—you simply add it to the portal workspace.

Results and visualization components

The components in this section provide a more detailed view of your data.

Advanced Visualization

The **Advanced Visualization** component provides SAP Crystal Dashboard Design (Xcelsius) visualizations within your application.

This integration provides Discovery Framework end users with dynamic insight into MDEX Engine powered data.

The **Advanced Visualization** component ships with three sample Flash movies in SWF format and the associated source files in XLF format.

Dependencies

The **Advanced Visualization** component has the following dependencies:

- In order to use this component, you must purchase a license for SAP Crystal Dashboard Design 3.1. For details, contact Endeca Support.
- An experienced SAP Crystal Dashboard Design developer needs to create the Flash movies associated with your data. Once he or she has done so, it is easy to add the new movies to the Discovery Framework.
- This component requires the use of Endeca Analytics.

Using Advanced Visualization

This topic describes how an end user can use the **Advanced Visualization** component.

The **Advanced Visualization** component provides SAP Crystal Dashboard Design interactive data visualization of your Discovery Framework data. Many different chart styles are available to your SAP Crystal Dashboard Design developer.

You can mouse over elements of the chart to see the related data. In addition, you can click the **Data** tab to see the underlying data and its state.

Configuring Advanced Visualization

The power user can set the following preferences for the **Advanced Visualization** component.

1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Flash movie settings:** Choose from the available SAP Crystal Dashboard Design movies and set the component size.
3. **Reload movies:** Load all of the available movies for the selected data source. A power user can add movies to the Discovery Framework and click **Reload movies** to recognize the newly-added movies.

Note: SAP Crystal Dashboard Design movies must be supplied by an SAP Crystal Dashboard Design developer.

Chart

The **Chart** component lets you access Corda-based Analytics charting of your data.

The end user can mouse over the chart to reveal numeric data, and click on a chart element to filter results by the values displayed in the chart. In addition, the **Chart** component can be configured so that end users can switch the chart view by selecting drop-down choices. For example, an end user may switch the Metric or Group By that is summarized in the chart.

Dependencies

The **Chart** component has the following dependencies:

- In order to use this component, you must install Corda. For details, see the *Discovery Framework Installation Guide*.
- This component requires the use of Endeca Analytics.

Analytics statements supported in the Chart component

This topic describes the three types of Analytics statements that can be expressed in the **Chart** component.

The Analytics use cases are:

- **Zero GROUP BY statements, with one or more metrics** One or more metrics summarized by a single unspecified grouping (the name of which defaults to "Total").
- **One GROUP BY statement, with one or more metrics** One or more metrics summarized by a single specified categorization.
- **Two GROUP BY statement, with one metric** One metric summarized by a specified categorization, with a second GROUP BY statement specified as the *cross tab*. (Cross tabs are grouped aggregations such as cross-tabulated totals over one or more dimensions.)

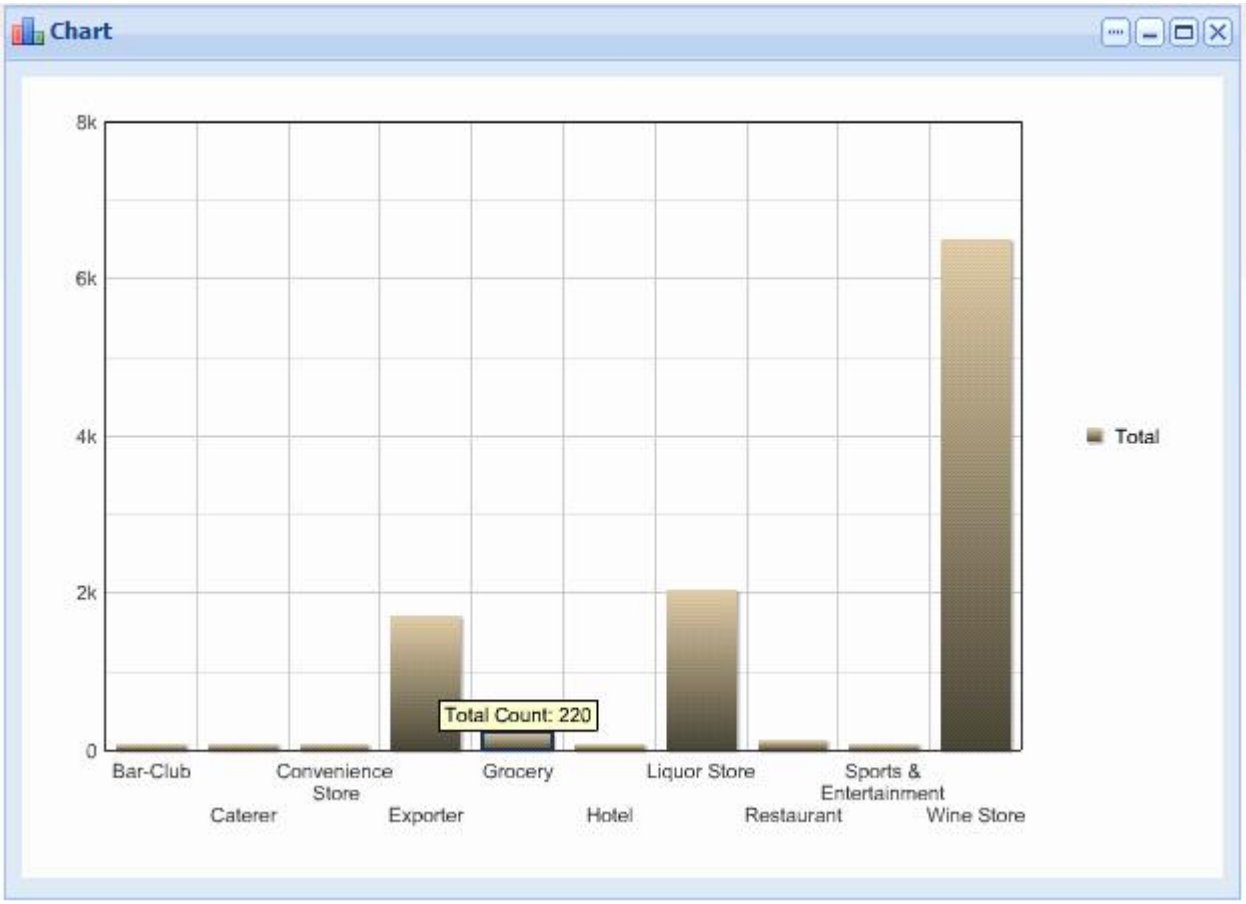
Various expressions of these types are shown in the chart style examples later in this section.

Using Chart

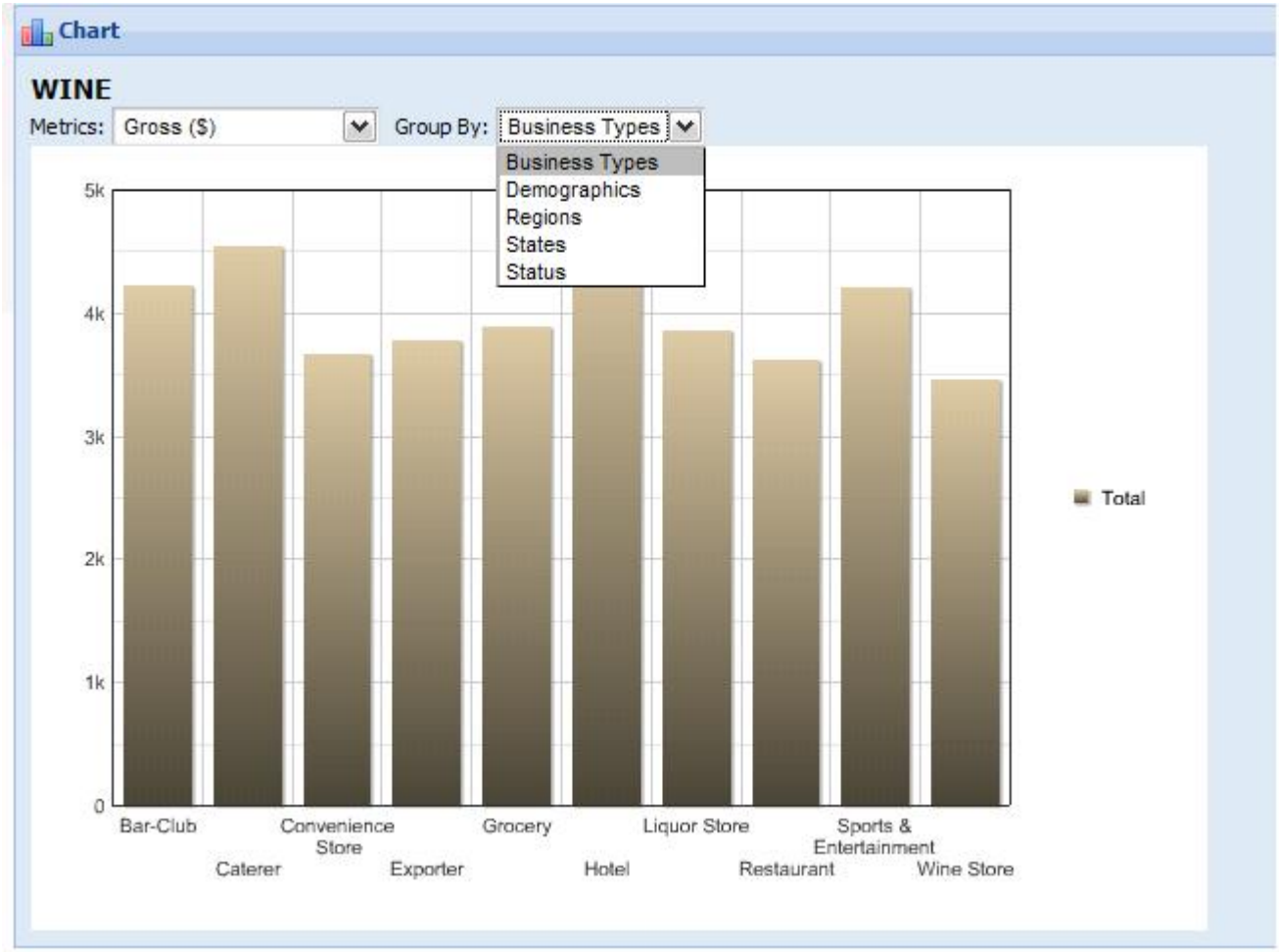
This topic describes how an end user can use the **Chart** component.

The power user who configures your Analytics statements can provide you with two kinds of charts: fixed and parametric. Examples of each are shown below.

The following chart is based on a fixed Analytics statement. You can mouse over chart elements to see the related data, or click to drill down. Drill down is supported for dimension GROUP BY statements but not for property GROUP BY statements.



The following chart is based on a parametric Analytics statement. You can modify the chart display by selecting different values from the drop-down lists at the top of the chart.

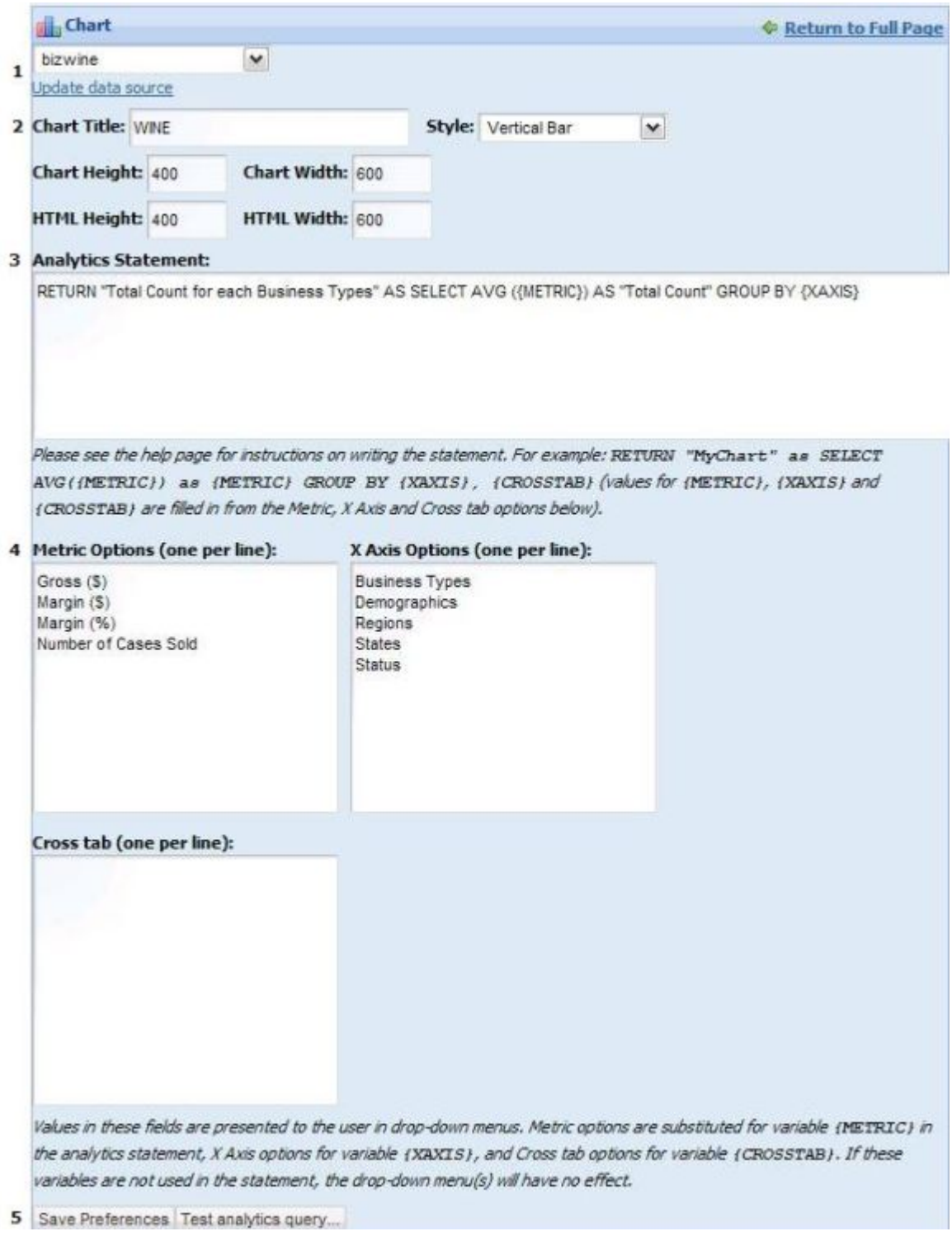


Configuring Chart

The power user can set the following preferences for the **Chart** component.

The power user can add a fixed Analytics statement to the **Chart** component, or configure a parametric Analytics statement that allows end users to see drop-down lists across the top of the chart.

Note: Unlike most components, the **Chart** component includes online help. This help, which mostly provides tips on working with Analytics statements, can be accessed from the same menu that contains the **Preferences** option. For more detailed information on the Endeca Analytics language, see the *Endeca Analytics Guide*.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Chart appearance:** Provide the chart title, select a style of chart, and define the height and width of the chart. Examples of the available chart styles appear below.
3. **Analytics Statement:** Type your Analytics statement here. Note that labels can be configured for metrics only, using the AS functionality in an Analytics statement.

4. **Metric Options**, **X Axis Options**, and **Cross tab:** For parametric Analytics charts, provide options for the drop-down lists your end users will access. Cross tabs are grouped aggregations such as cross-tabulated totals over one or more dimensions.
5. **Test analytics query:** Test and debug your Analytics statement before saving and applying it.

Chart styles provided by the Chart component

The following chart styles are supported by the **Chart** component.

- Vertical Bar
- Stacked Vertical Bar
- Horizontal Bar
- Line
- Pie
- Line Bar Combo

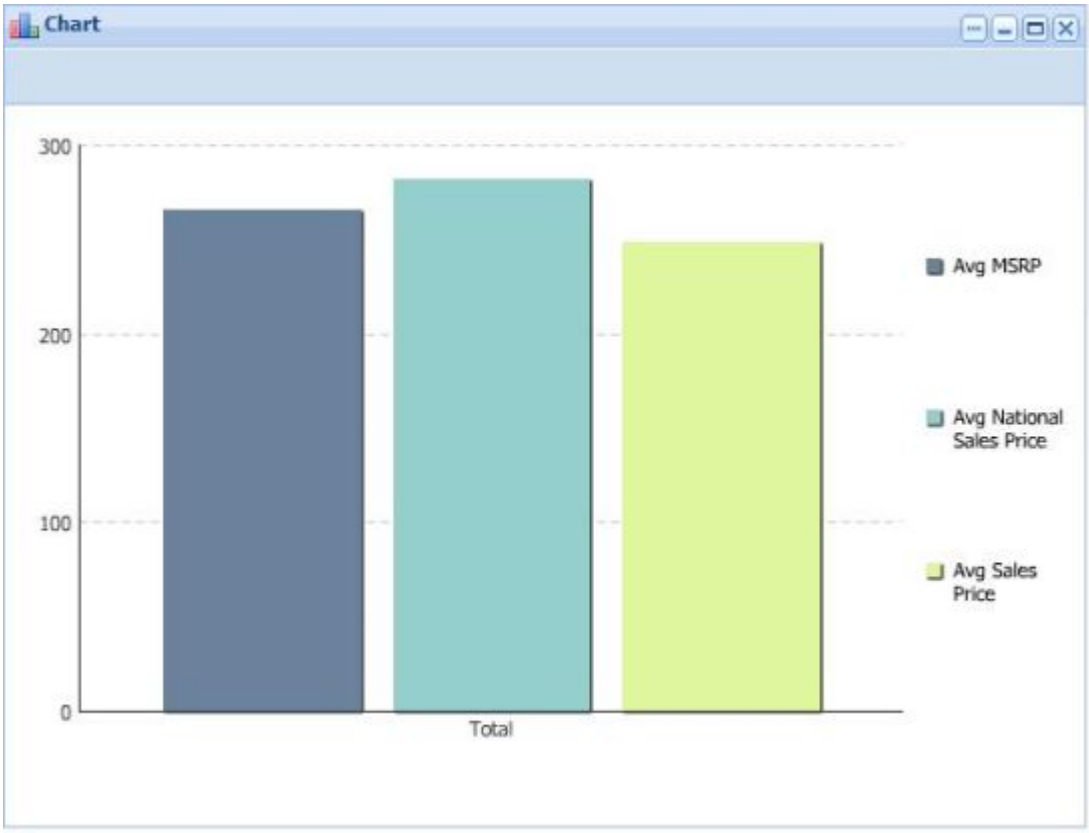
Examples of each of these chart styles appears in the following topics.

Vertical bar chart
This topic contains an example of a vertical bar chart.

The following example uses a zero GROUP BY statement with three metrics:

```
RETURN YearlyAverages AS SELECT
    AVG("Product MSRP ($)") AS "Avg MSRP",
    AVG("Product Avg National Sales Price ($)") AS "Avg National Sales
Price",
    AVG("Unit Sale Price ($)") AS "Avg Sales Price"
GROUP
```

It produces a vertical bar chart displaying “Avg MSRP”, “Avg National Sales Price” and “Avg Sales Price” metrics:



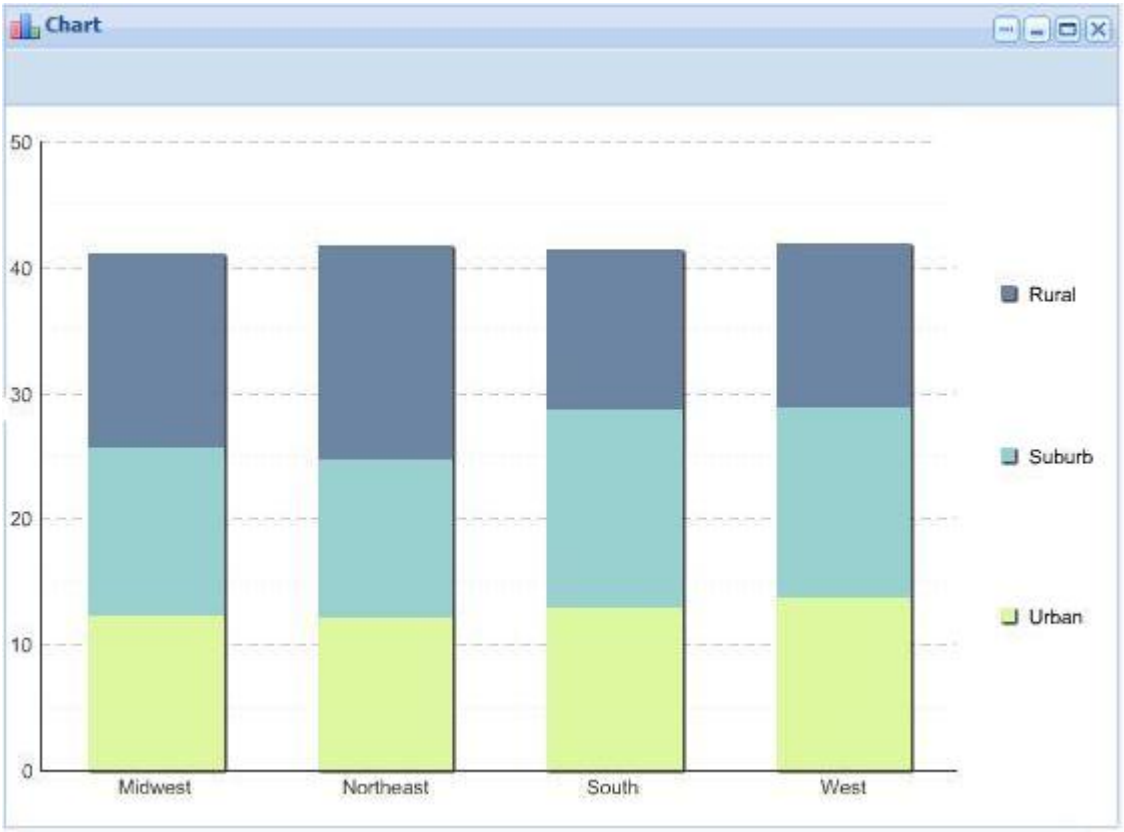
Stacked vertical bar chart

This topic contains an example of a stacked vertical bar chart.

This example uses an Analytics statement with two GROUP BY statements. One metric is summarized by a specified categorization, and the second GROUP BY is specified as the cross tab.

```
RETURN RegionalMargin AS SELECT
    SUM("Gross ($)" * "Margin (%)") / SUM("Gross ($)") AS "DollarWeighte¬
dAvgMargin"
GROUP BY "Regions", "Demographics"
```

The stacked vertical bar chart below summarizes the “DollarWeightedAvgMargin” metric for each Region (which is the first GROUP BY and therefore the primary category) and presents a cross-tabulation with each Demographic (which is the second GROUP BY and therefore the cross tab):



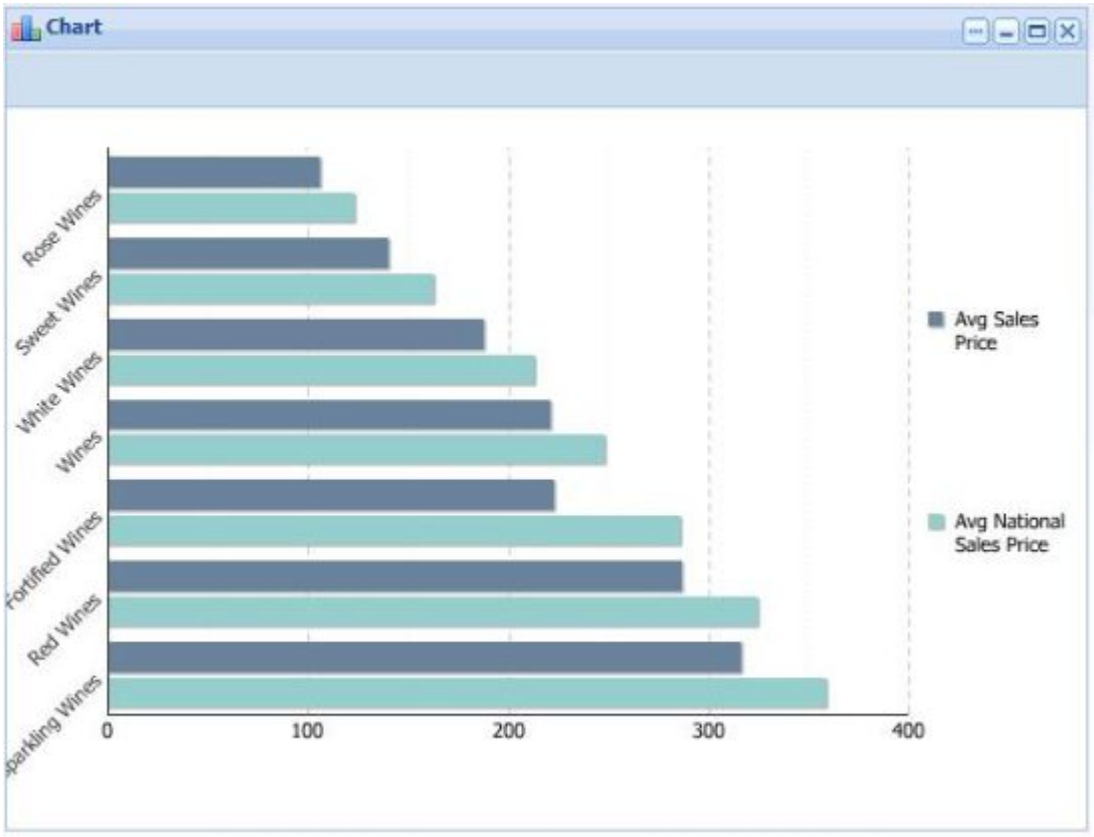
Horizontal bar chart

This topic contains an example of a horizontal bar chart.

This example uses a single GROUP BY statement with two metrics:

```
RETURN NumCases AS SELECT
    AVG("Unit Sale Price ($)") AS "Avg Sales Price",
    AVG("Product Avg National Sales Price ($)") AS "Avg National Sales
Price"
GROUP BY "Varietals" ORDER BY "Avg National Sales Price"
```

The horizontal bar chart compares the "Avg Sales Price" metric to the "Avg National Sales Price" for each varietal:



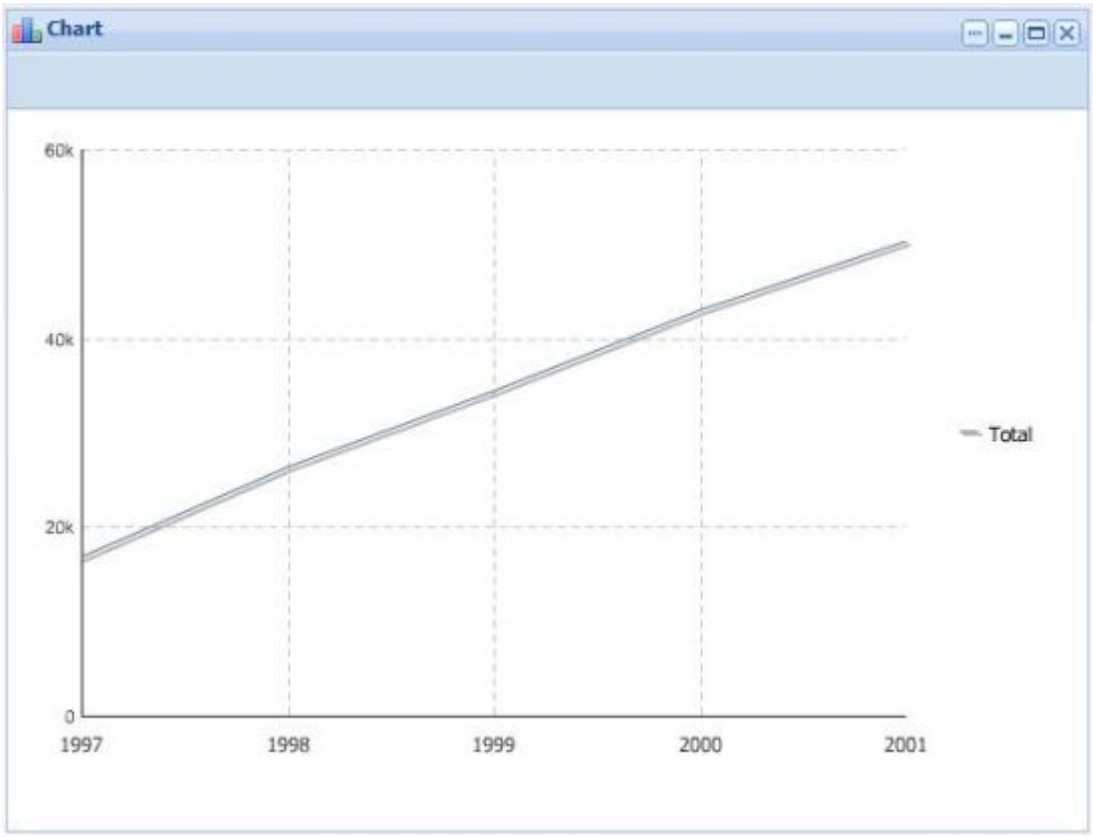
Line chart

This topic contains an example of a line chart.

The following Analytics statement has one GROUP BY and a single metric:

```
RETURN NumCases AS SELECT
    SUM("Number of Cases Sold") AS "Total Cases Sold"
GROUP BY "Booking Year"
```

It produces a line chart summarizing the “Total Cases Sold” metric for each Booking Year:



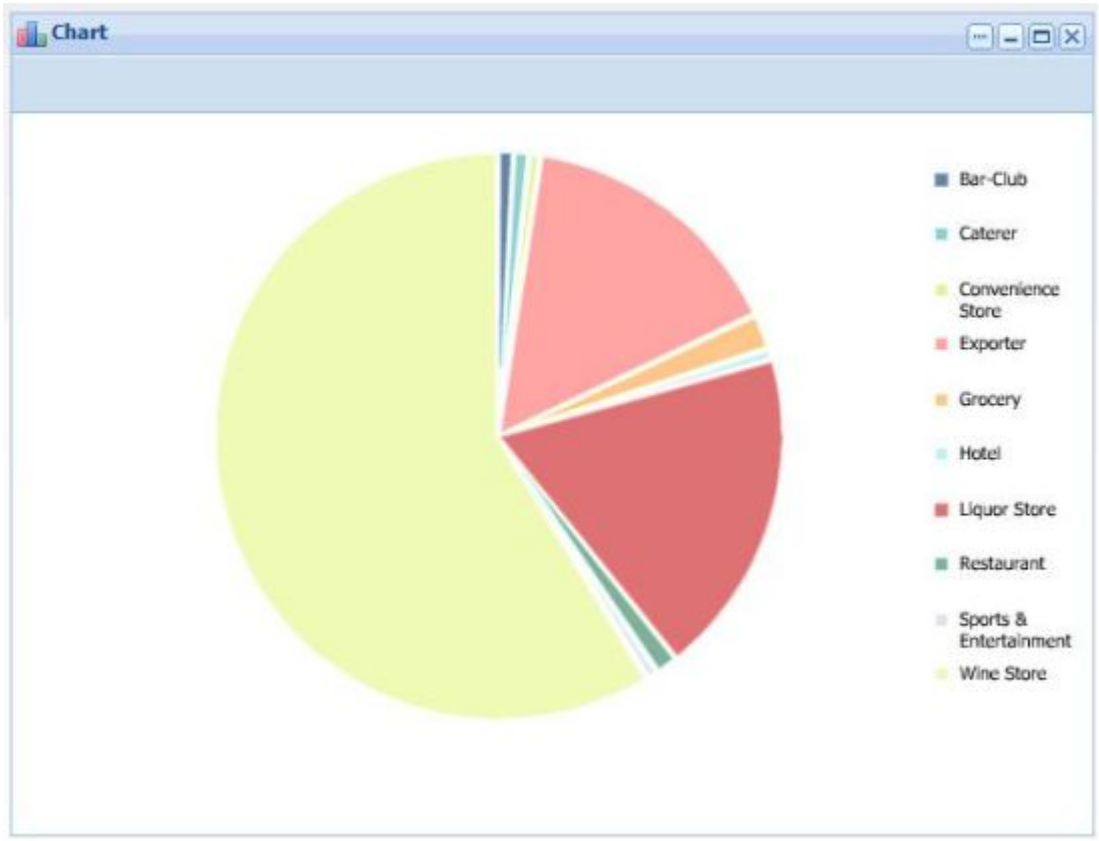
Pie chart

This topic contains an example of the pie chart type.

The following Analytics statement contains one GROUP BY and a single metric:

```
RETURN NumCases AS SELECT
    SUM("Number of Cases Sold") AS "Total Cases Sold"
GROUP BY "Business Types"
```

It produces a pie chart summarizing the "Total Cases Sold" metric for each Business Type:



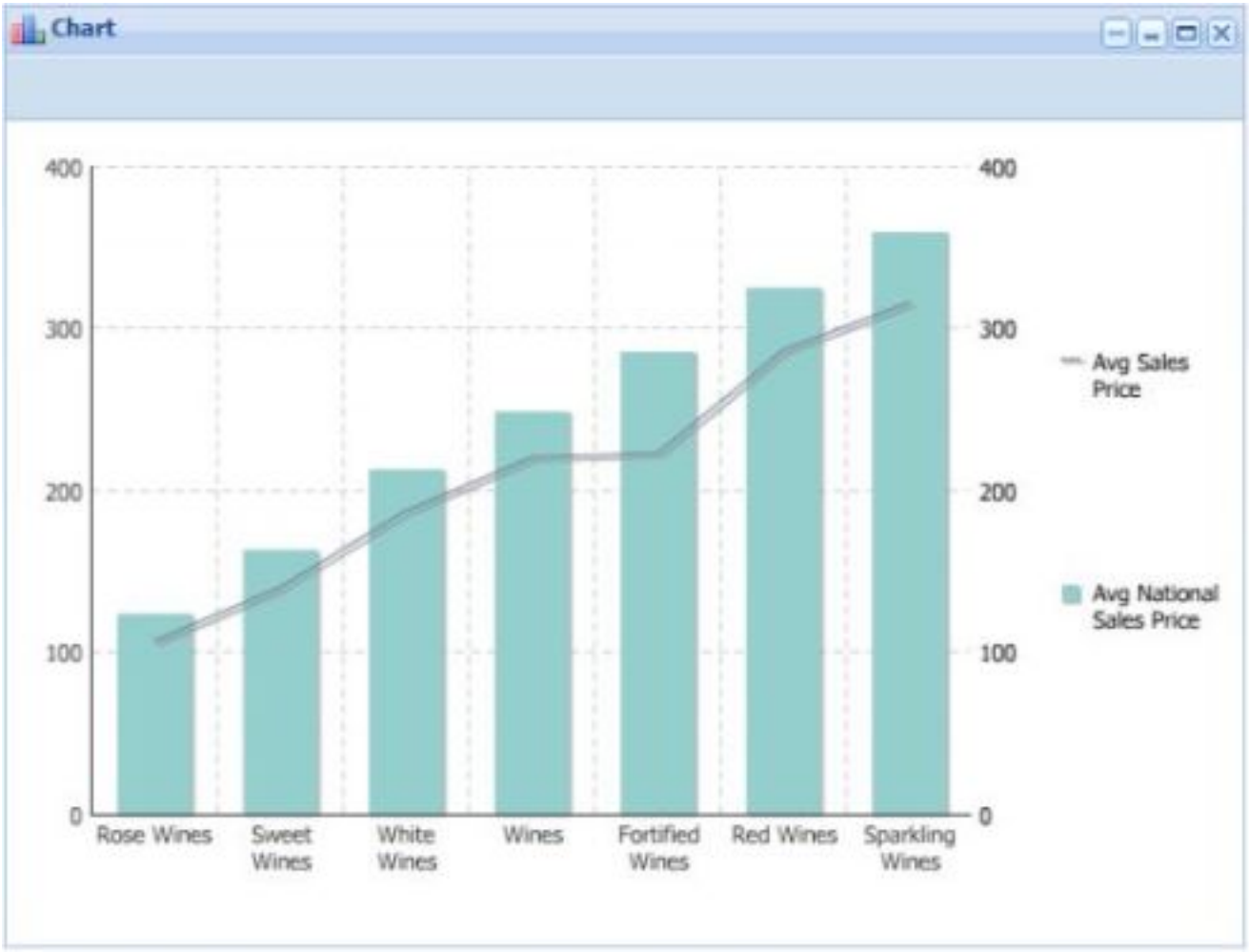
Line bar combo chart

This topic contains an example of a line bar combo chart.

The following example contains one GROUP BY statement and two metrics:

```
RETURN NumCases AS SELECT
    AVG("Unit Sale Price ($)") AS "Avg Sales Price",
    AVG("Product Avg National Sales Price ($)") AS "Avg National Sales
Price"
GROUP BY "Varietals" ORDER BY "Avg National Sales Price"
```

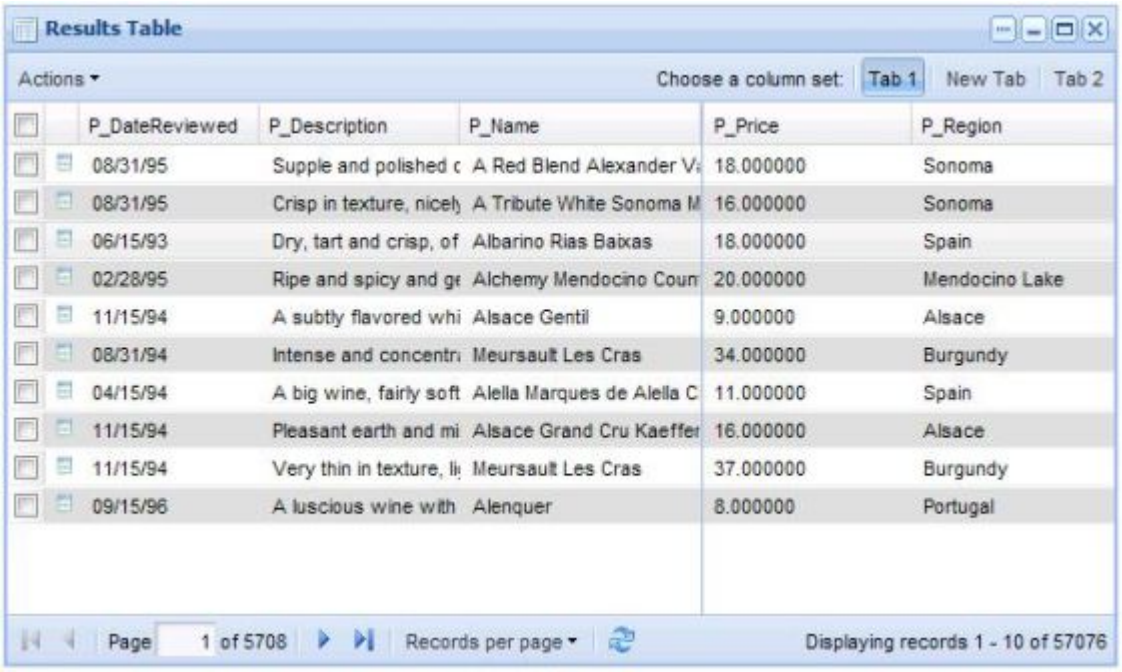
It produces a line bar combo chart comparing the "Avg Sales Price" metric to the "Avg National Sales Price" for each varietal:



Results Table

The **Results Table** component provides a simple interface for displaying results. The **Results Table** component can show results from Analytics and non-Analytics queries.

It provides a list of records in table form and enables users to view a record's details. Users can page through, sort, and scroll across large tables, switch between tabs, and drill down on selected results. Pinned columns help users keep track of the data they are viewing.



Dependencies

To see the details of a selected record, you need to have an instance of the **Record Details** component available in the application, either on the same page or on a page specified as the target.

Using Results Table

This topic describes how an end user can use the **Results Table** component.

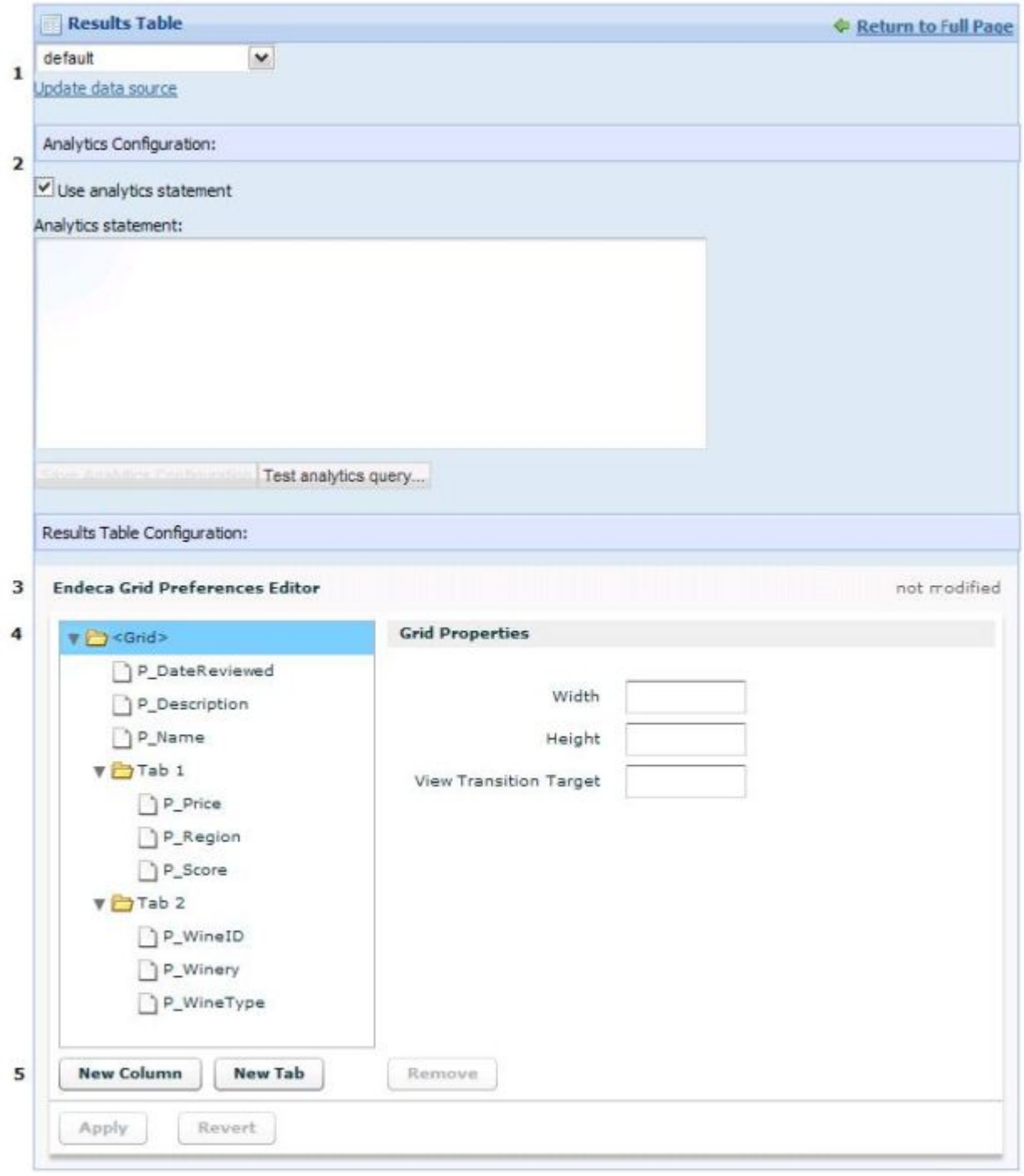
The **Results Table** component provides end users with a list of records in table form and enables them to view record details for both Analytics and non-Analytics queries. The **Results Table** component enables end users to page through records, sort them by clicking the column headers and drill-down to view a record's details in the **Record Details** component.

The example below shows the relationship between the **Results Table** and the **Record Details** components. Selecting a record in the **Results Table** component and clicking the **View record detail** icon (circled below) populates the **Record Details** component with details about the selected record.

Configuring Results Table

The power user can set the following preferences for the **Results Table** component.

You can view and sort matching results by any dimension or metric, rename and format fields for user-friendly display, and expose high volumes of information through multiple tabs.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Analytics Configuration:** Provide table-based results display for Analytics statements. If **Use analytics statement** is not selected, the remainder of this section of the editor does not appear.
3. **Grid Preferences Editor:** The grid control allows you to pin properties to ensure visibility when switching tabs, and to drag properties between tabs.
4. **Grid Properties:** Set the dimensions of the grid and indicate where the results will display. If **View Transition Target** is blank, the record detail link triggers events on the same page, causing any

Record Detail component on the same page to display the selected record. If **View Transition Target** specifies a target page, clicking the record detail link changes to the specified page, and causes any **Record Detail** component on the target page to display the selected record. The target can be specified as a relative path from `/web/guest` or an absolute path. The power user can set any column to be displayed exactly as-is ("Plain"), as HTML, as an integer, or as currency. Additionally, there are formatting options for showing or hiding the tool tip, setting the separator to use if the column has multiple values, and setting the width of the column.

5. **New Column**, **New Tab**, and **Remove** buttons: Add and format columns for additional properties, add new tabs, or remove a tab or a column for a property.

Filtering components

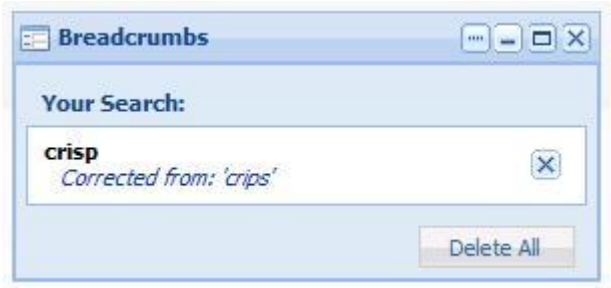
The components in this section allow you to search, navigate, and filter your data.

Breadcrumbs

The **Breadcrumbs** component provides breadcrumb navigation aid functionality.

The **Breadcrumbs** component summarizes any Guided Navigation selections, keyword searches, or range filters specified by the end user in a vertical stack of selected values. If multiple selections from single dimension are made, they are displayed separately in sequential order. Breadcrumbs support multi-select AND and OR refinements, but not record filters.

When used with keyword search, the **Breadcrumbs** component features spelling correction, as displayed in the following example:



Dependencies

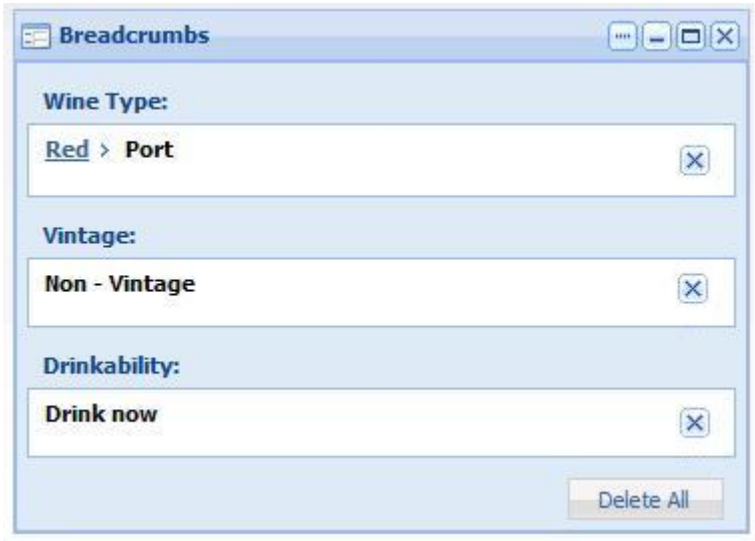
The **Breadcrumbs** component requires a backing data source.

One of the following components must also be present: **Guided Navigation**, **Search Box**, or **Range Filter**.

Using Breadcrumbs

This topic describes how an end user can use the **Breadcrumbs** component.

The following example is based on Guided Navigation selections. Note the hierarchical selection in the Wine Type dimension.

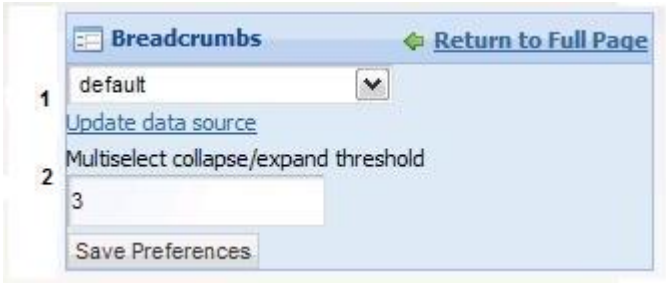


The following example is based on a range filter selection.

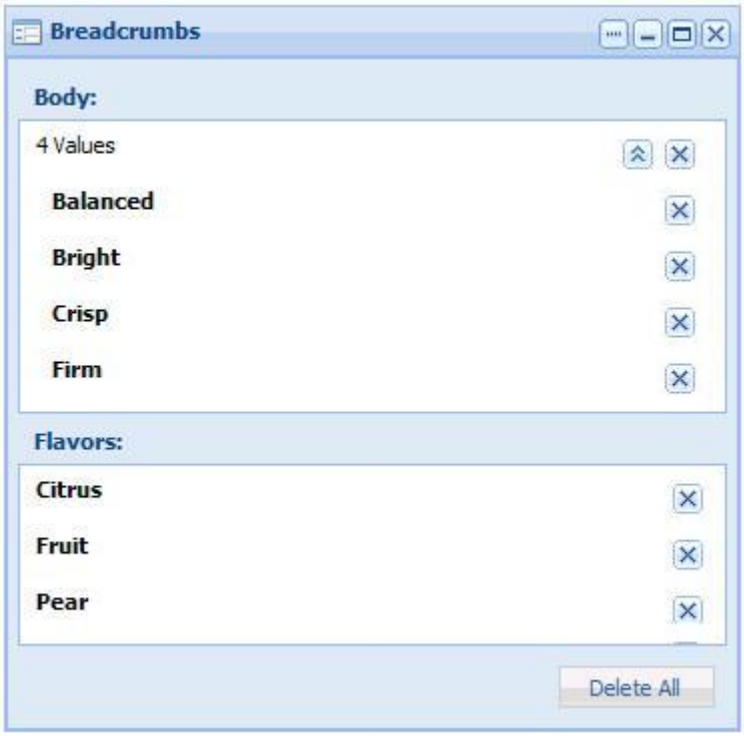
End users may remove individual selections or all selections within displayed breadcrumbs, and can also select a specific ancestor with the hierarchy for display.

Configuring Breadcrumbs

The power user can set the following preferences for the **Breadcrumbs** component.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Multiselect collapse/expand threshold:** Set the number of dimension values after which the list can be collapsed. In the example below, dimension values for the Body dimension can be collapsed, because they fall above the threshold of three. The dimension values for Flavors, on the other hand, cannot be collapsed, because there are only three of them selected.



Guided Navigation

The **Guided Navigation** component provides Endeca Guided Navigation® functionality.

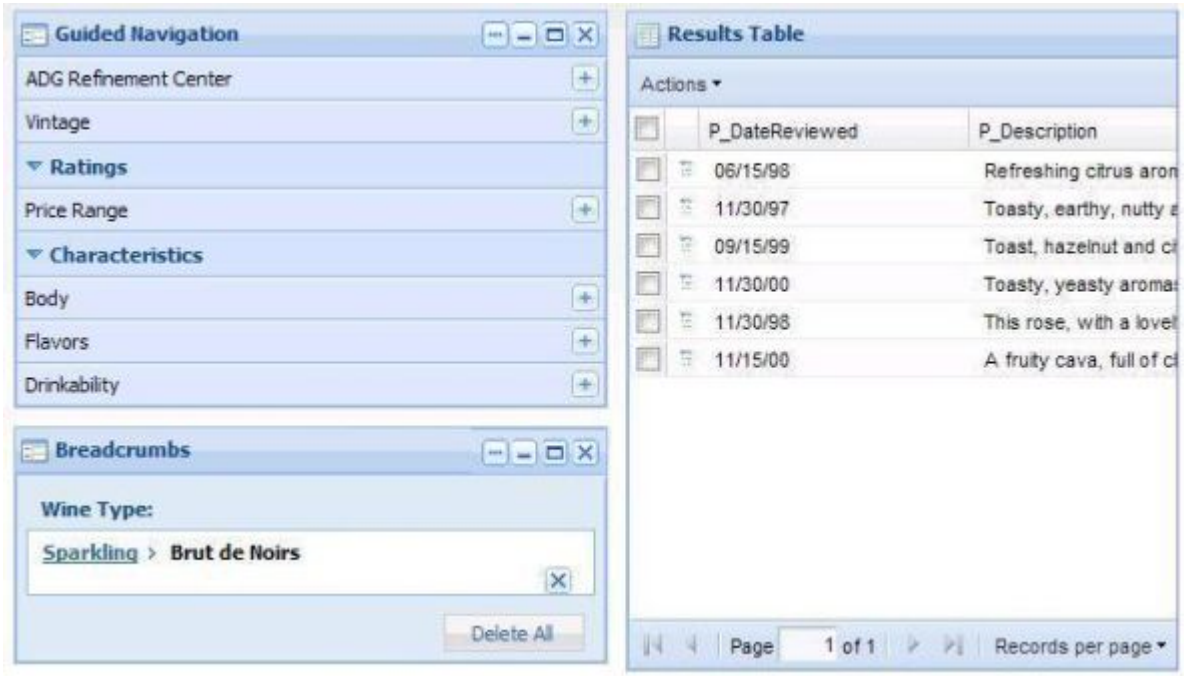
The **Guided Navigation** component provides contextual navigation across large volumes of structured MDEX Engine specific data. The user can easily locate matching fields with search. If there are no prior selections, only the top level is displayed. If a single prior selection is made, the next level of values are displayed under the same dimension heading.

The **Guided Navigation** component allows end users to expand and close multiple dimension groups, view dimension values from multiple dimension at a time, as well as select multi-AND and multi-OR dimensions. The **Guided Navigation** component displays base refinement statistics if they are enabled in the MDEX Engine. Contracted or implicit dimension values and dead ends are not shown here.

The **Guided Navigation** component shows the dimension groups that are configured in the MDEX Engine. You group dimensions by editing the MDEX Engine's dimension groups. Because aggregate records are not supported anywhere in the Discovery Framework, aggregated statistics are not supported in this component.

The **Guided Navigation** component does not support multi-select for hierarchical dimensions, nor does it support tree view controls.

The example below shows the interaction between the **Guided Navigation**, **Breadcrumbs**, and **Results Table** components. The navigation state, which is displayed in the **Breadcrumbs** component, determines what is displayed in the **Results Table** component. If the user navigated to a different state in the **Guided Navigation** component, the other two components would dynamically update to reflect the change.



Dependencies

The **Breadcrumbs** component is required in order to view or clear**Guided Navigation** component selections.

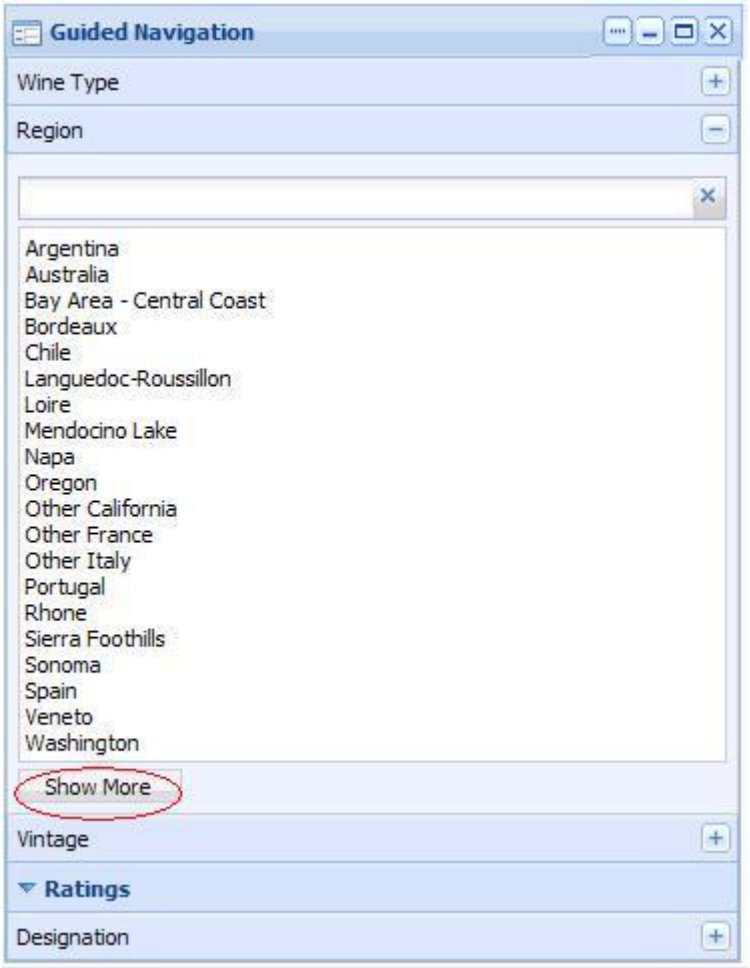
Using Guided Navigation

This topic describes how an end user can use the **Guided Navigation** component.

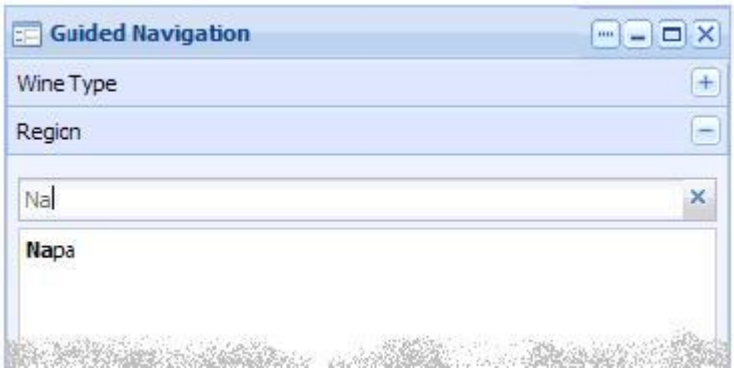
Note: The appearance of the Guided Navigation display varies depending on the dimension data and hierarchy.

The **Guided Navigation** component can feature dimension hierarchy:

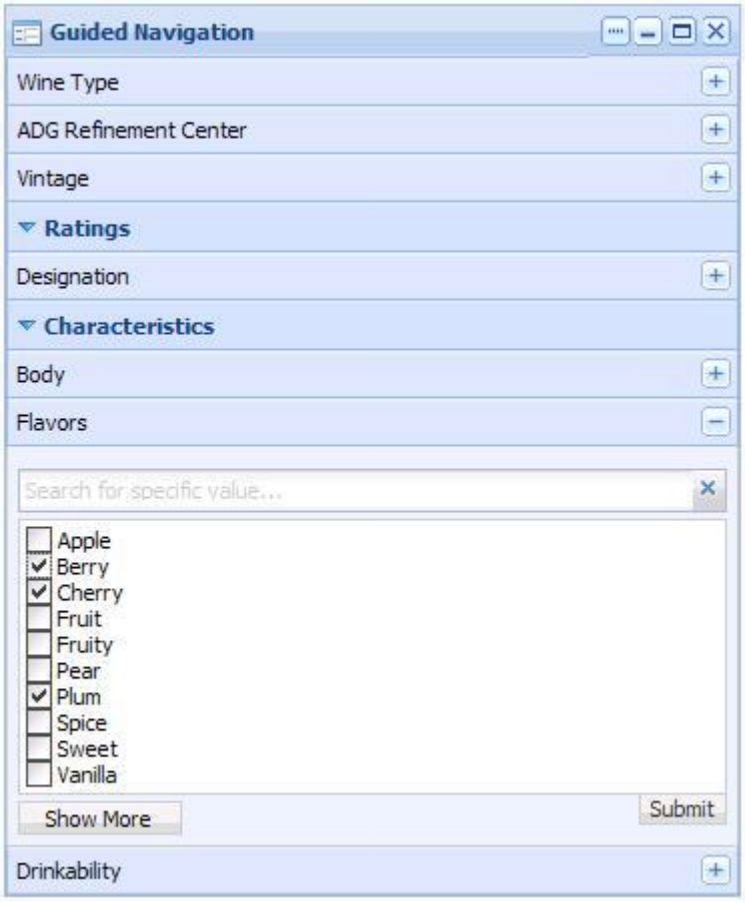
It features **Show More** functionality for large data sets:



It can include type-ahead:



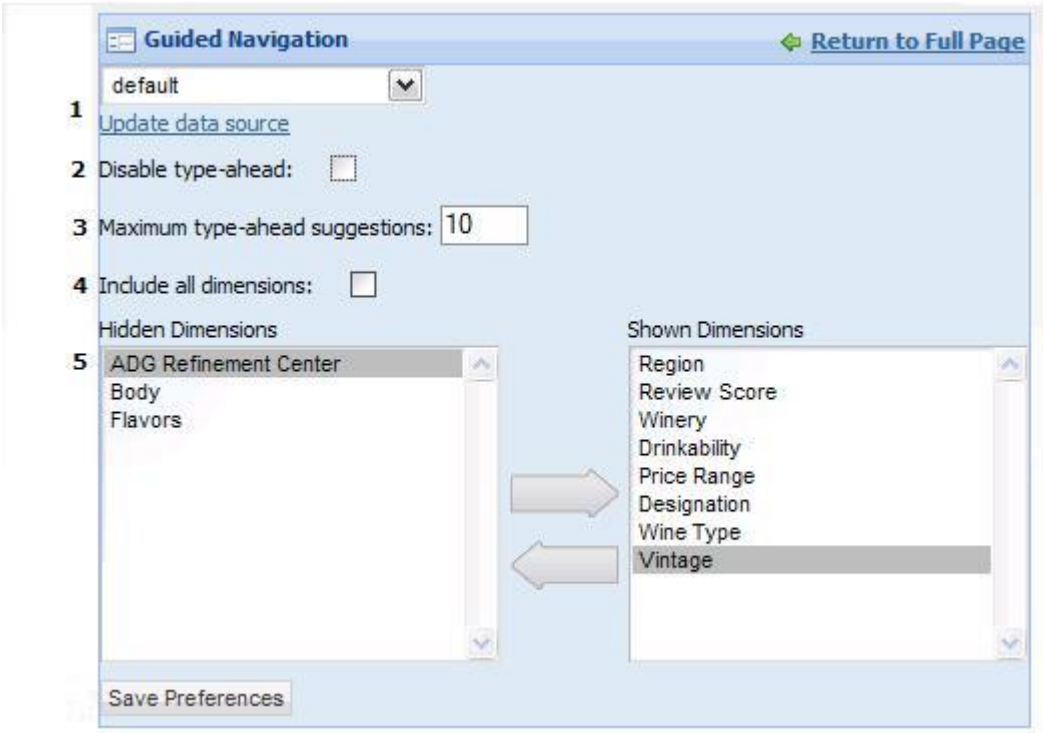
It can incorporate multi-select OR dimensions through a check-box interface:



Configuring Guided Navigation

The power user can set the following preferences for the **Guided Navigation** component.

The edit controls on the **Guided Navigation** component allow you to configure the layout so only facets relevant to the end user are exposed.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Disable type-ahead:** Check to remove the **Type-ahead** search box from dimensions with many dimension values.
3. **Maximum type-ahead suggestions:** Set the maximum total number of type-ahead suggestions the MDEX Engine will offer. If fewer results are available, the number returned will be less than this maximum. Note that this control is only visible if **Disable type-ahead** is not selected.
4. **Include all dimensions:** Include all dimensions in the results visible to the end user.
5. **Hidden Dimensions** and **Shown Dimensions:** Use the arrows to add dimensions to the **Hidden Dimension** list. Note that this control is only visible if **Include all dimensions** is not selected.

Range Filter

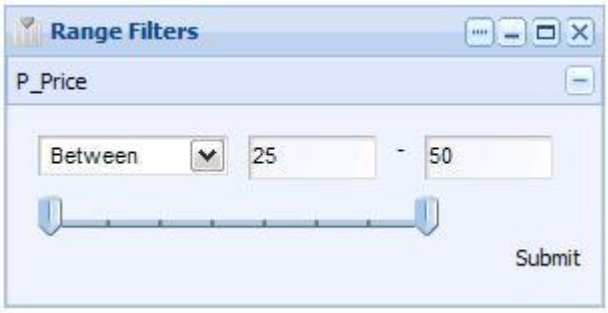
The **Range Filter** component allows you to add and modify range filters.

Range filters appear in the order in which they were created. The **Range Filter** component provides numeric and date filtering, but not geocode filtering.

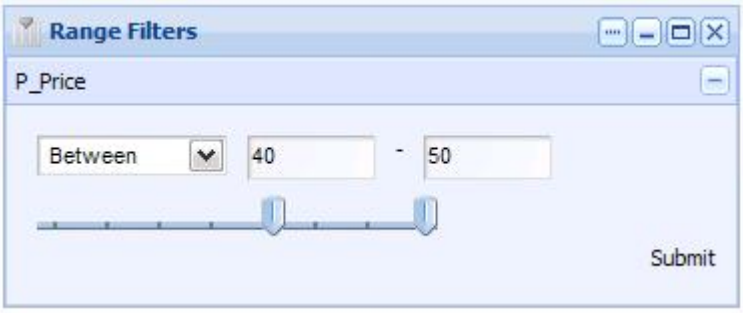
Using Range Filter

This topic describes how an end user can use the **Range Filter** component.

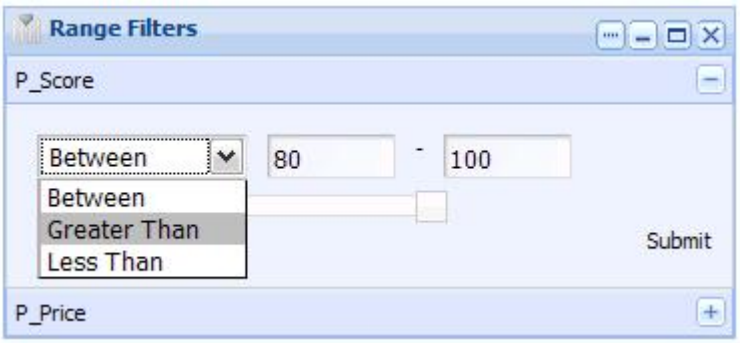
If the power user has configured a range filter for a property, the end user sees something like this:



The end user can use the slider bar to refine the filter.

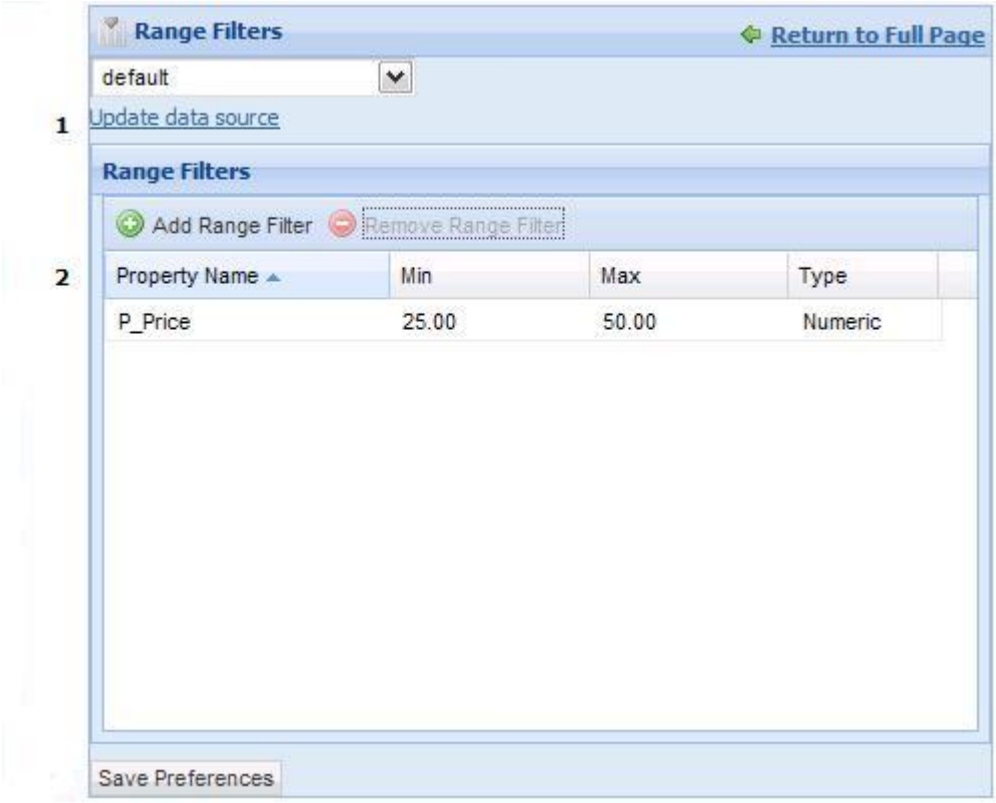


Alternatively, the end user can choose Greater Than or Less Than from the drop down list:



Configuring Range Filter

The power user can add and remove range filters on existing properties in the data set in the **Range Filters** component.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Range Filters:** Establish numeric or date range filters for existing properties. You can enter values for both Min and Max to provide a range, or enter a single value to allow Greater Than or Less Than filtering by end users.

Note: You need to know the name of the property and type it in. (You can consult the **Endeca Attribute Settings** component if you are unsure of a property's name.) If you attempt to add a range filter based on a property that does not exist, when you return to the full page, you will see the following error message:

Search Box

The **Search Box** component provides record and dimension search functionality.

It allows end users to submit keyword searches, based on available properties in the data source selected for that component. Power users can choose from multiple search interfaces and match modes when configuring this component, to further control the information that is displayed to the end

user. The **Search Box** component can also be configured to provide type-ahead suggestions populated with matching dimension values.

Dependencies

The **Search Box** component works in conjunction with the **Breadcrumbs** component, as well as the **Results Table** and **Guided Navigation** components.

Using Search Box

This topic describes how an end user can use the **Search Box** component.

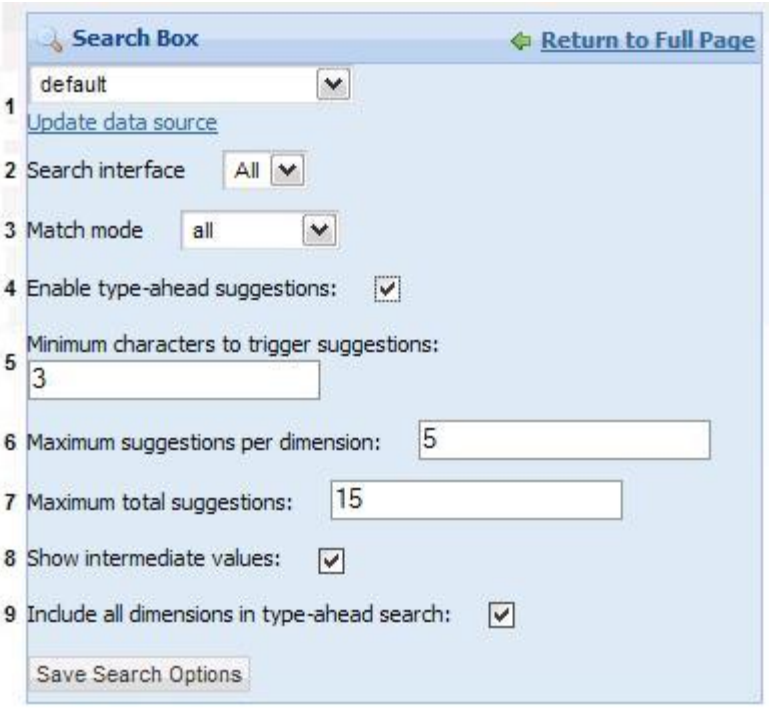
The end user can enter a search term in the **Search Box** component. In the example below, the end user typed the term *red*. The **Wine Type**, **Winery**, and **Drinkability** dimensions, along with matching dimension values, are made available as suggestions.

If the power user has enabled type ahead, the MDEX Engine will start offering dimension value suggestions before the user has typed a complete search term.

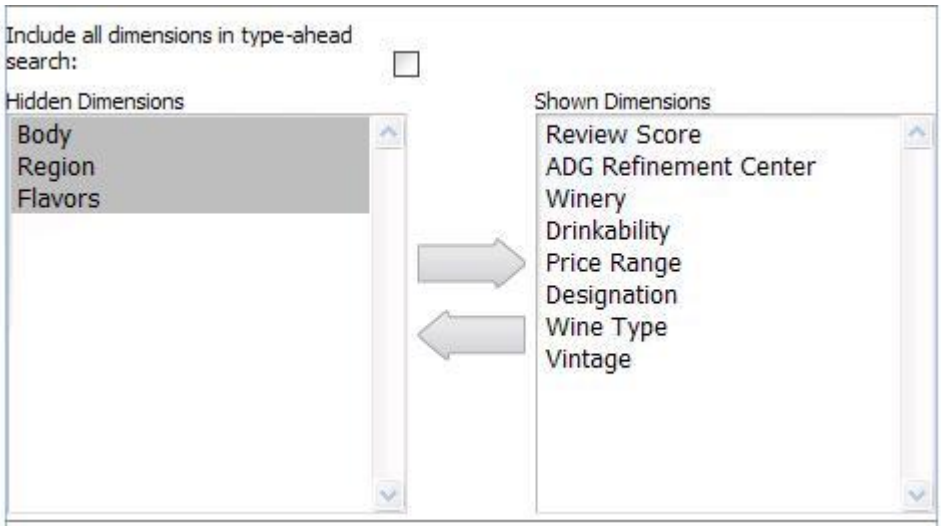
To restricts the results displayed to those within the current navigation state, the end user can check **Search within results**. (This check box appears under the text box but is temporarily hidden by the results list in the images above.)

Configuring Search Box

The power user can set the following preferences for the **Search Box** component.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Search interface:** Select an existing search interface with which you can limit the end user's search. Search interfaces allow you to control record search behavior for groupings of some number of dimensions, properties, attributes, and ranking strategies.
3. **Match mode:** Select a match mode from the drop-down list. Match modes allow you to specify a less restrictive matching strategy than the default conjunctive `MatchAll`.
4. **Enable type-ahead suggestions:** Check to enable the MDEX Engine to start offering suggestions before the user has typed a complete search term. If **Enable type-ahead suggestions** is not selected, none of the remaining controls appear in the **Search Box** preferences.
5. **Minimum characters to trigger suggestions:** Set the minimum number of characters needed before type-ahead suggestions are offered.
6. **Maximum suggestions per dimension:** Set the maximum number of type-ahead suggestions the MDEX Engine will offer for each dimension.
7. **Maximum total suggestions:** Set the maximum total number of type-ahead suggestions the MDEX Engine will offer. If fewer results are available, the number returned will be less than this maximum.
8. **Show intermediate values:** Check this box to display the full path for hierarchical results.
9. **Include all dimensions in type-ahead search:** Check this box to include all dimensions in the type-ahead results. If this box is not selected, the dimension selector is displayed, allowing the power user to customize which dimensions will be included:



Record detail components

The components in this section allow you to focus on the details in your data.

Record Details

The **Record Details** component displays all of the properties and dimensions for a record in the **Results Table** component.

The **Record Details** component shows all properties first, followed by all dimensions, in the order they are returned from the Presentation API (that is, alphabetically). The user cannot change this order. However, the user can edit the render configuration part of the pipeline to control which properties and dimensions are displayed.

The example below shows the relationship between the **Results Table** and the **Record Details** components. Selecting a record in the **Results Table** component and clicking the **View record detail** icon (circled below) populates the **Record Details** component with details about the selected record.

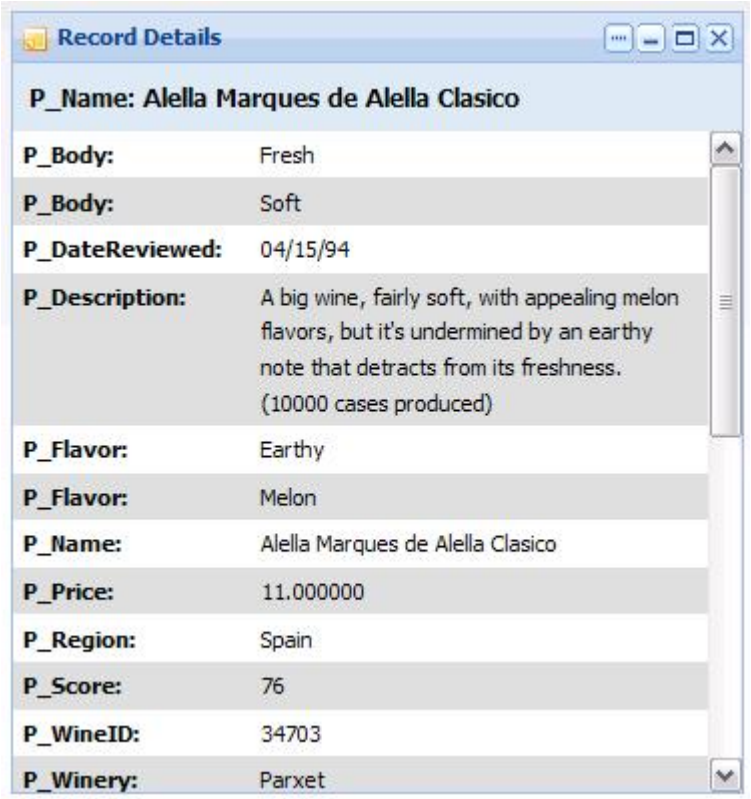
Dependencies

The **Record Details** component must be used with the **Results Table** component, because only the **Results Table** provides the required detail links. However, as long as a page transition is specified, the two components do not have to reside on the same page.

Using Record Details

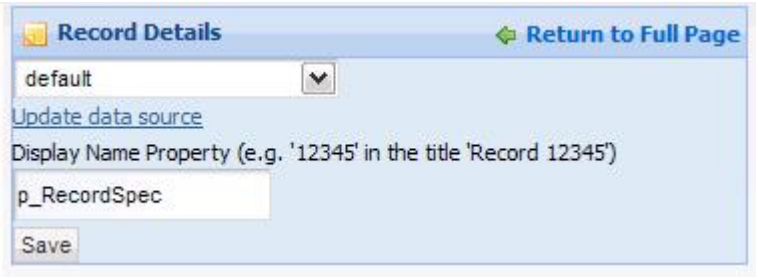
This topic describes how an end user can use the **Record Details** component.

You can use the **Record Details** component to view all properties associated with the selected record.



Configuring Record Details

The power user can set the following preferences for the **Record Details** component.



1. **Data source controls:** Select from the available data sources in the drop-down list, and then click **Update data source** to bind your selection to the component.
2. **Display Name Property:** Set the property to be used as the display name in the end user's view of the record.

Chapter 3

About Liferay components

The Discovery Framework includes a number of Liferay components in its installation by default. These components can be integrated with Endeca components to allow you to build richer applications.

Liferay component support

The level of documentation and support Endeca provides for the Liferay components included in the Discovery Framework differs from that provided for our own standard components.

Because these components were not developed by Endeca, Endeca cannot control their interface or guarantee that they will be available in subsequent versions. Endeca provides only high-level documentation for Liferay components.

For more detailed information, consult the Liferay documentation and forums, available at *http://www.liferay.com.*

The Component Container

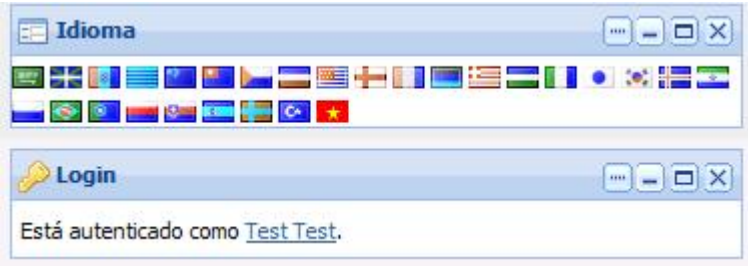
The **Component Container** allows power users to organize components by grouping them together in a single container.

The power user can choose from several layout templates in order to customize the display to the needs of the application.

The Languages component

The **Language** component can be used to change the locale of the server.

To select an alternate language in the **Language** component, click the flag associated with your target language. In the example below, we have chosen Spanish.



The Discovery Framework displays the component messages from your resource bundle in your target language. In addition, because the portal itself is also localized, menus and other portal controls also appear in your target language.

Note: For more information about localizing the Discovery Framework, see the *Discovery Framework Extension Guide*.

About Liferay Web Content Management components

Liferay Web Content Management (WCM) components can be integrated into your application to provide document management and publishing capabilities.

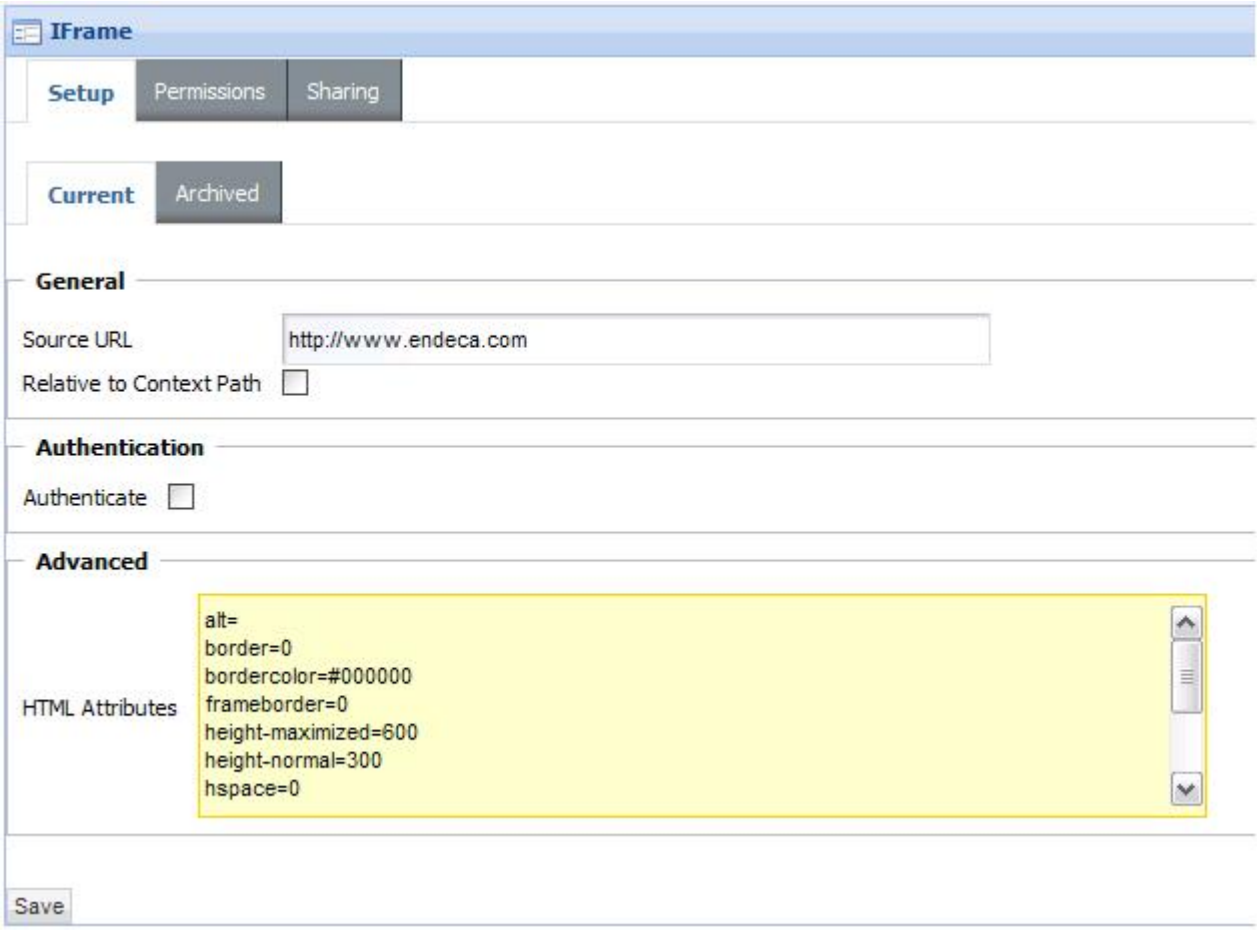
These components are often used together to configure, display, and save links to web content.

The IFrame component

The **IFrame** component provides an inline frame that can embed a separate Web document.

The power user can configure access and authentication, as well as modify HTML attributes that control the appearance of the output.

In the example below, the source URL is pointed at the Endeca website.



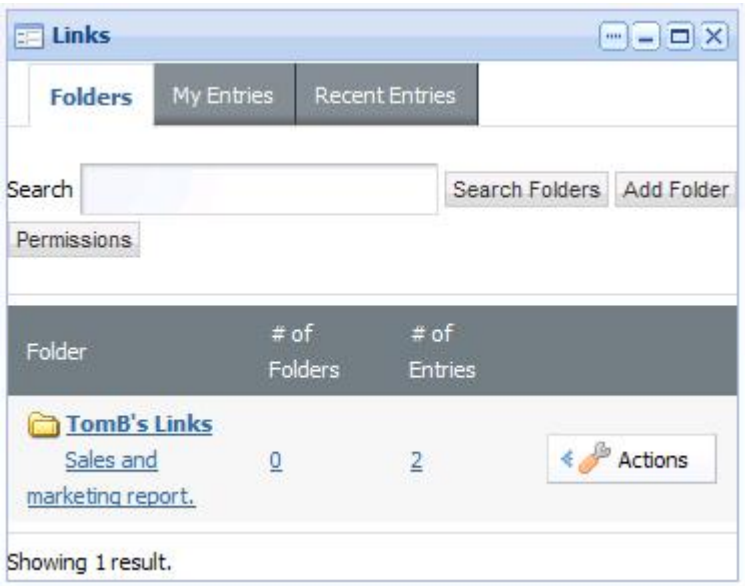
The end user sees the following:

Note: Click *here* for Liferay documentation on this component.

The Links component

The **Links** component allows users to save and manage their own Web content links in folders.

These links can be tagged for later search and shared with other users.



The Web Content component

The **Web Content** component allows the power user to configure and manage the adminstrative aspects of Liferay Web Content Management.

This includes the following:

- Enabling users to write and publish articles to the site.
- Creating article templates.
- Controlling article-creation workflow and versioning.
- Managing article search and metadata.

The content is displayed in the **Web Content Display** component.

Note: Click *here* for Liferay documentation on this component.

The Web Content Display component

The **Web Content Display** component allows you to request and display articles in your application.

The appearance of the articles can be controlled by WCM templates, as configured in **Web Content** component.

The Web Content List component

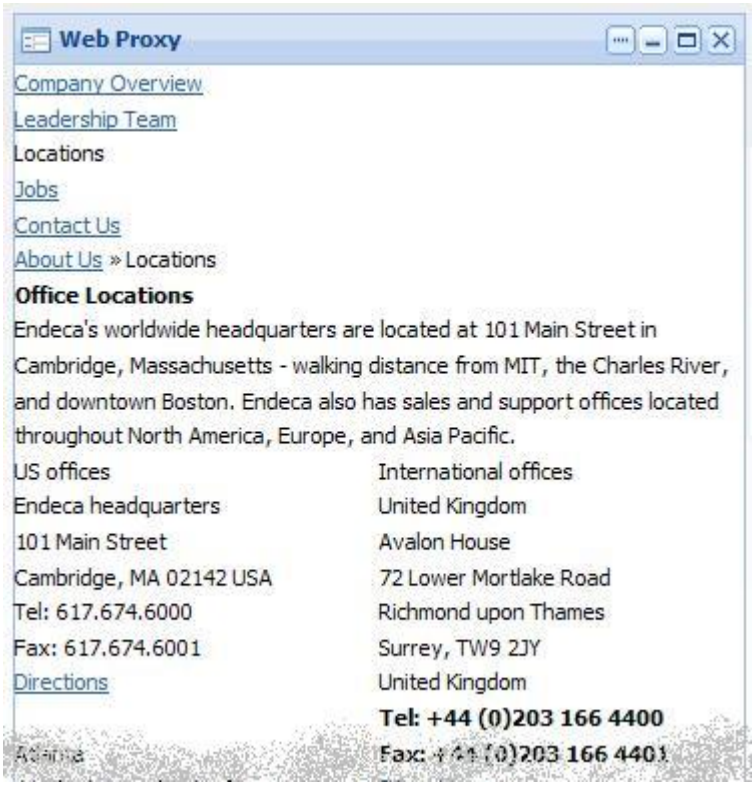
The **Web Content List** component displays a list of all Web content articles that are available in the application.

The article list is automatically updated when new articles are made available, and can be sorted by various criteria.

The Web Proxy component

The **Web Proxy** component makes it possible to show any Web site as if it were a component.

The power user can configure the appearance and authentication of the content.


Web Proxy
Company Overview
Leadership Team
Locations
Jobs
Contact Us
About Us » Locations
Office Locations
Endeca's worldwide headquarters are located at 101 Main Street in Cambridge, Massachusetts - walking distance from MIT, the Charles River, and downtown Boston. Endeca also has sales and support offices located throughout North America, Europe, and Asia Pacific.
US offices
Endeca headquarters
101 Main Street
Cambridge, MA 02142 USA
Tel: 617.674.6000
Fax: 617.674.6001
Directions
International offices
United Kingdom
Avalon House
72 Lower Mortlake Road
Richmond upon Thames
Surrey, TW9 2JY
United Kingdom
Tel: +44 (0)203 166 4400

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